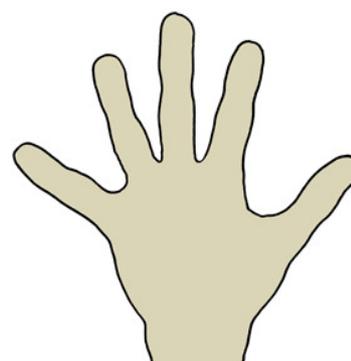# HANDS DELIVERABLE 4.2.1

Grant Agreement number:
224216

Project acronym:
HANDS

Project title:
Helping Autism-diagnosed teenagers
Navigate and Develop Socially

Funding Scheme:
Collaborative Project

Deliverable description

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Authors:	Morten Aagaard, Ulrik Sandborg, Henrik Schärfe and Anders Albretchlund

Public Summary(max 350 characters)
This Delivarable contains Aalborg University' set of requirements. The specification method is use cases. To make it understandable to non-software engineers, a rich introductionary description is given and each part of HANDS toolset is followed by a explanation part.

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Content

1. Section Overall Design

This document contains the AAU input to the specifications of the HANDS tool set. The document structure is as follows.

In section 1 we discuss general guidelines in terms of design principles for the HANDS suite of tools and for the platform. Section 2 (to be written) concerns the pupil's interface. Sections 4-8 concerns the individual parts of the HANDS tool set. And section 9 addresses ethical concerns.

The specifications here are based on interviews with teachers and pupils. Furthermore, the requirements are based on our intuition about persuasive strategies and techniques, relevant to our research. As such, this overview can be read alone, or as introduction to the actual requirements described in use cases.

The Slogan "One for each" is a core principle in caretaking of individuals with an autism diagnosis, especially emphasized in the TEACCH pedagogical methods, known to and used by the involved schools. In a design process this means that both functional and aesthetical aspects of persuasive contexts should be formed with emphasis on a high degree of individual needs. This goes for off-line persuasive strategies as well as for ICT based solutions.

The Persuasive challenges

The overall goal of the HANDS tool set is to enable "….high-functioning young people diagnosed with autism to improve their social skills and self management skills". (HANDS, Annex I, p15). To do so, we have to be more accurate about the overall goal. First of all, we have two groups of persuadees: Teachers and pupils. In relation to persuasive activities on improvement of social skills and self management, three areas stand out:

Social skills (going by public transportation, do shopping, etc).
Emotional skills (controlling temper, insight in own emotional reactions patterns and the like).
Time management and motivation.

These 3 areas are not exclusive; especially 1 and 2 are overlapping. The point in naming these 3 areas is not, that every pupil should use HANDS for all three areas rather the opposite, but rather to focus on the fact that the teachers will be able to decide where and when individual parts of the tool set should be applied. The actual choices thus depend exactly on the competences, potential and needs of the pupil in question. We do believe, however, that in order for the HANDS toolset to reach "experienced credibility" all pupils should us the tool set for time management.

In the overall project is seems natural (and good) to focus on the pupils. But obviously, the first users of HANDS are the teachers, and it must therefore be considered that the HANDS tool set may persuade the teachers to change attitudes towards teaching and towards the use of ICT in teaching. Teaching and caretaking of teenagers with ASD calls for high standards of observation and analysis, and the HANDS toolset can support the teachers to do more observations and give them a better foundation for analysis of pedagogical initiatives.

Design hierarchy

The "One for each" idea demands, that we design highly customisable software. Therefore we understand the designer- subject divided into three

Designsubject	Actor in HANDS
Metadesigners	SW-developers, researchers
Designers	Teachers
Users	The pupils

The design hierarchy of HANDS

The meta-designers thus create the foundation for the process of teachers designing for their pupils. In order to assist the teachers to do so, the notion of templates is very important. A teacher will be able to adapt existing templates, create his own templates, modify them and make them available for other teachers on his own school or at other schools.

The users are to be considered as designers when it gives them ownership, involvement and motivation. But again it depends on the competences of the individual with an autism diagnosis and they vary a lot.

Spectrum of persuasive roles for the HANDS toolset

Individuals with an autism diagnosis are *very* individual. That is the starting point for all design considerations in HANDS. The persuasive function of the technology will therefore be individualized in a spectrum from a *coaching role* to a *instructor role*. This role is not determined once and for all, but may differ from situation to situation, and may also change over time. Extremities in the roles of Persuasive strategies which can be seen in the table below.

Coach	Instructor
Guidelines	Instructions
Suggestions	Rewards
Support of self reflexion	Surveillance

Persuasive strategies supporting
the extremities in the roles of the persuasive technology

Again, the teachers should be able to use the HANDS tool in order to implement a suitable persuasive strategy applicable to the individual pupil.

Teachers work situations and working habits are foreseen

In designing the HANDS tool set we strive to reflect the usual workflow of the teachers. The typical work situations where teachers will make use of the HANDS toolset are:

Meeting within the team, responsibility of the pupil
Use of CoMe:
Status of the pupil use of the HANDS toolset
Status on the progress of running initiatives.
1-2 teachers preparing a new initiative.
E.g. going by public transport, focusing on management of mood etc.
1-2 teachers are planning future work.
The planning will have consequences for the content of HIPD.
1-2 teachers making evaluating and adjusting initiatives.
E.g. is the pupil actually using the HANDS-toolset? Does he manage activities such as shopping?
A teacher evaluates the effect of an initiative.
The teacher is prompted to answer questions about the pupil's behavior.

1-2 teachers are prepare an introduction to the HANDS toolset
They create an introduction especially for the one child. The introduction activity is a longer period, where the smart phone exhibit more and more features over time
1-2 teachers have a meeting with the pupil (once a week).
 Within the meeting they agree to change or add something in the HANDS tool set.
Meetings with the pupil's parents.
The agenda includes the status of the pupil's use of the HANDS tool set, and possibly agreements on new initiatives.

The basic work situations are: overall planning and evaluation of the work with the pupil, starting new initiatives, monitoring the initiatives, and evaluating the initiatives. All of these work situations are to be supported in the teacher's part of the HANDS toolset.

Persuasive technology principles in use

Persuasive technology offers a long set of principles that can be used to make the persuasion as effective as possible. The following list is adapted from B.J. Fogg: "Persuasive Technology".

PT AS PERSUASIVE TOOLS
Principle of Reduction: Reduce complex behaviour to simple tasks
Principle of Tunnelling: Guide through a process
Principle of Tailoring: Designing for individual needs, interests, personality and usage context
Principle of Suggestion: Offering suggestions at opportune moments
Principle of Self-Monitoring: Tracking performance or status
Principle of Surveillance: Observing other's behaviour
Principle of Conditioning: Applying positive reinforcement

PT AS PERSUASIVE MEDIA: SIMULATION
Principle of Cause and Effect: Enabling to observe immediately causal relationships
Principle of Rehearsal: Providing motivating environments in which to rehearse
Principle of Virtual Rewards: Giving virtual rewards for target behaviour
Principle of Simulation in Real-World Context: Simulating something in the context to which it belongs

PT AS PERSUASIVE SOCIAL ACTORS
Principle of Attractiveness: Providing visual attracting technology

Principle of Similarity: Resembling the user in some way
Principle of Praise: Providing praise in any modality
Principle of Reciprocity: Users tend to reciprocate favours
Principle of Authority: Assuming a role of authority

All Persuasive Technology principles can be put into use by using the HANDS tool set by using the requirements described in this document. In the following sections, we chart out the functionalities of the all the different parts of the Tool set, but here, we would like to emphasise the design of the two parts of the tool set we find is most important, and thus prioritise the highest in our set of requirements.

SSSI
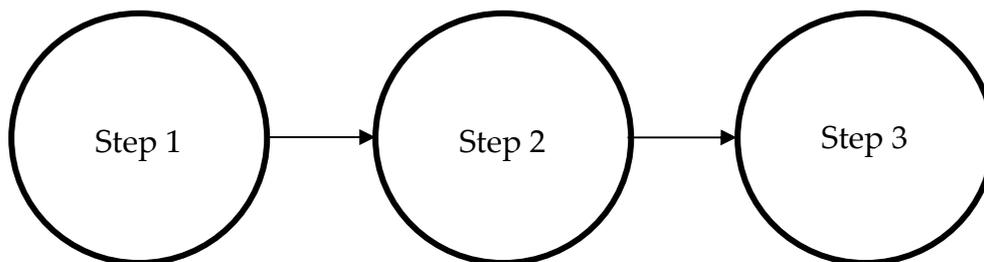
The Simple Safe Success Instructor (SSSI) is a part of the HANDS tool set that offers instructions on how to solve a given problem. The problem is simplified by decomposing the problem into smaller tasks and presented in sequential order to the pupil. SSSI draws on various pedagogical methods such as Social Stories (with emphasis on scripts in the shape of text) and PECS (with emphasis on visual representations of order). The cases that teachers wish to represent, as well as the preferred modality may vary a great deal, and the persuasive strategy may move between the poles of instructor and coach. The SSSI may be a private thing, or the use of the SSSI might be under surveillance, be shared and rewarded by others. All these choices depend on the needs of the individual pupil. Therefore this part of the HANDS tool set must aid the construction of very different types of outputs.

The SSSI will illustrate several persuasive principles:

Reduction (sequences of actions are simplified)
Tunneling (the pupil is normally guided through an event structure with just one path)

Tailoring (the content is designed specifically to one student with regard to both content and form)
Real-world context (the simulations may be brought to the very context in which they are to be applied)

In addition to these core functionalities of the SSSI, more advanced features may also be build into the system to heighten the persuasive potential, for example:

Surveillance (the system may log information about where and when SSSIs are used and the findings may be discussed between teachers and pupils)
Conditioning, Rewards, and Praise may be associated with use of the SSSI. This may take place more or less automatically)

HIPD

The Handy Interactive Persuasive Diary (HIPD) is a diary that may well function as a calendar as well. Often, individuals with an autism diagnosis lack a good understanding of time and they have to be persuaded to take time management serious. Furthermore, the HIPD facilitate timing of Kairos interventions and convenient moment interventions that targets social skills and emotional skills. The HIPD is categorized as a diary but do indeed have the ability to function as calendar. It is named diary, because it emphasise the process of development that HIPD should facilitate.
Like the SSSI, HIPD is capable of constructing a number of different types of diaries adapted to the single individual using basically the same principles of persuasion as mentioned above. In addition we should mention the principle of 'Authority' because of the nature of appointments in the diary.

An example of how the HIPD could be useful in a didactical context is what we may tentatively label: *Persuasive flow*. Imagine a sequence of prompts that reflect a temporally organised pattern of intervention. A typical example could be the intention of persuading a pupil to act more appropriately in difficult situations. The flow of persuasion is cyclic flow illustrated like this:

Warning

Reflection

Action

Evaluation
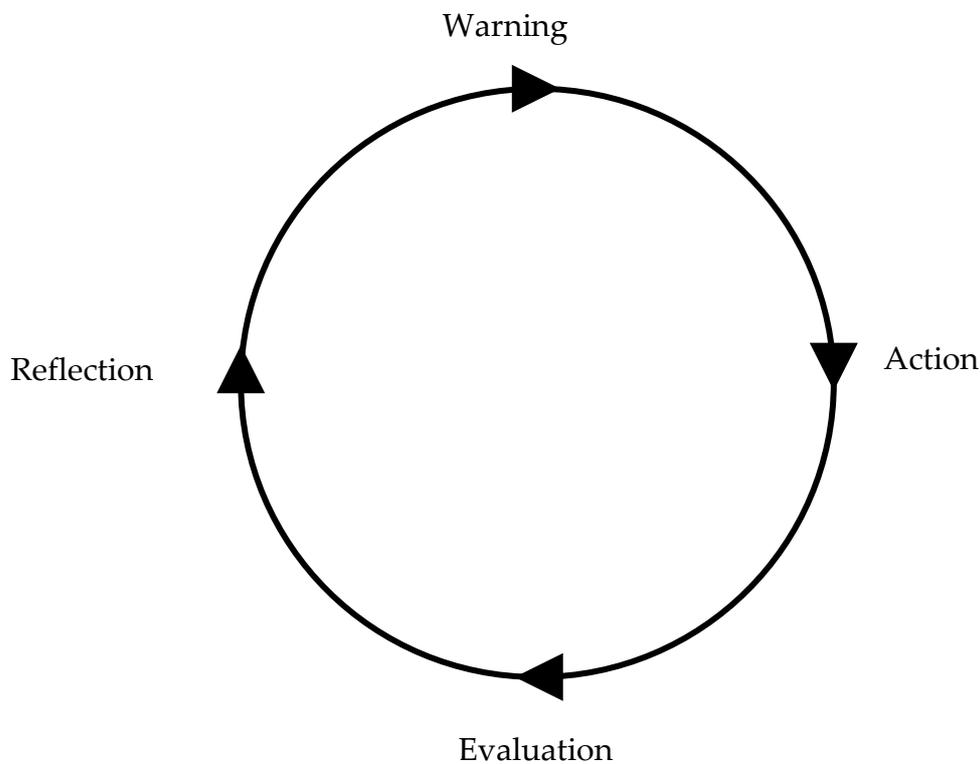
The reflection phase is a therapeutic setting and the action phase is problematic situations where the unwanted behaviour might occur. In the warning phase the pupil is prompted with questions, alerts, reminders that remind them of the behavioural recommendations given in the therapeutic setting. In the evaluation phase the pupil is promted to consider the problematic situation and his/her behaviour.

The flow of persuasion prompt or influence the pupil in a chain of Kairos moments that make the pupil aware of the problematic behaviour as well as of suggestions for proper behaviour.

Flow of persuasion illustrates tailoring, conditioning, and in addition the principle of self monitoring.

Customisation as an overall property of the design

Customisation is a thorough design principle in these requirements. TEACCH emphasize the individual treatment and design of individually programs.

These requirements support that pedagogical work is customised to as high a degree as possible. All elements in the HANDS toolset can be customised to suit the individual pupil.

Discussion: Assistive Technology vs. Persuasive Technology

Individuals with an autism diagnosis understand the world very concrete and have difficulties in generalising their experiences, and therefore they need different kinds of repetitive assistance to cope with the world. In many cases, the need for various kinds of technological assistance will remain throughout their lives to various degrees. The practitioners are generally speaking focused on behaviour change, but accept that the technology is a life long cognitive support system.

It is conceivable that behavioural changes in some cases are not detected within the three years, or that only small change can be detected in. This means that throughout the project, we have to rely on the practitioner's willingness to experiment and on their judgement regarding the progress of the persuasion. These views are elaborated in D.4.1.1 on evaluation of Persuasive Technologies.

Deployment model of the HANDS toolset

This chapter describes the overall architecture of the HANDS system, seen from a "birds-eye" perspective (also known as systems engineering perspective). The following entities and their interrelationships are described:

The central HANDS server
The teacher-oriented customization software
The mobile devices (Smartphones)
The software used to analyze the log files on the HANDS server

The rest of the chapter is laid out as follows. First, we enumerate some functionalities which the system is required to support. Second, we describe the four entities enumerated above as to their purpose, their functionality, and their place of ownership among the stakeholders. Third, we describe the interrelationships among the entities in the HANDS system. Fourth, we enumerate and describe the data flows inside the system. Finally, we conclude the chapter.

Required functionality

Seen from a systems engineering perspective, the following functionalities are required of the system:

Support the teacher in creating customized content for each pupil, including the usage of templates and sharing of templates between teachers.
Support the teacher in transferring content to the mobile device of a pupil, either via a local connection – such as a USB cable or infrared connection or Bluetooth connection – or via the Internet (push technology).
Support the teacher in monitoring the location of the pupil, if the pupil is out in the public areas, away from the school.
Allow the pupil to play back and interact with the content created by the teacher, on a mobile device.
Back up all important data on a central server, including customized content, templates, user information, etc.
Log all activity generated on a mobile device belonging to a pupil.

In the following, the entities necessary for the implementation of these required functionalities will be described.
System entities or components

The central HANDS server

(note: This section is currently being debated and awaits a final decision.)
A central HANDS server must be put in place. It will probably be located at AAU, and will most likely be running a variant of RedHat Enterprise Linux, since that is what the ICT department at AAU is willing to support. The purpose of the HANDS server is three-fold. First, to collect logs from all mobile units. Second, to function as a backup server for all information necessary to regenerate any information lost from either a mobile device or a computer used for customization by a teacher (the data on the server itself will be backed up on external storage by the ICT staff). Third, it is to function as the central server for the Sharing Point (SPo) coordinating all communication between the pupils. The following software will be running on the server:

General-purpose software:
A database server (probably PostgreSQL or MySQL).
A general-purpose webserver (probably Apache, otherwise, probably Tomcat).
A service which will implement WebDAV – this will be used for backing up information from the teachers' computers onto the server.

Maybe a Jabber server for instant messaging, to be used for the Sharing Point. Instant Messaging is not a must, but would be nice to have for the Sharing Point.

Special-purpose software:

A small web service on top of the webserver, probably implemented using SOAP, which will take care of logging.

A location-based web service which supports the teacher in monitoring the location of the pupil, and which allows the software on the mobile unit to autonomously start a user session based on the location. This will probably be based on the StreamSpin technology produced by Professor Christian Søndergaard Jensen and his team at the Department of Computer Science at Aalborg University.

A website or web service running on top of the StreamSpin-like web service and on top of the general-purpose web server, which will provide the teacher of a given pupil with the means for monitoring the pupil's location, and for sending messages and other content to the pupil's mobile device.

A website running on top of the webserver, which will be running the Sharing Point. The pupils will access this through the web browser on the mobile device.

Notice that the four items under "General-purpose software" can be implemented with standards-based, Open Source software requiring no programming on the part of the HANDS consortium.

The teacher-oriented customization software

The teacher-oriented customization software is a piece of software intended for running on a computer located at a school. It is to be operated by a teacher who takes care of pupils with an autism diagnosis. The purpose of the software is four-fold:

First, to assist the teacher in creating customized content for each pupil.

Second, to assist the teacher in managing the software on the mobile device of a pupil, that is, to assist in downloading software and content to the pupil's mobile device.

Third, to collect logs from the pupil's handheld device, and to upload these logs to the HANDS server.

And fourth, to upload backups of all content and other important, locally generated information to the HANDS server, and to be able to restore these backups if need be.

The mobile device

The pupils with an autism diagnosis are each to have a personal mobile device that they can carry with them wherever they go. The purpose of the unit is to assist the pupil in tasks or situations which they find difficult to master, and to persuade them to learn how

to master these tasks or situations. The mobile units must have the following functionality:

Let the pupil play back and interact with the various pupil-oriented sub-components of the HANDS toolset:
the Handy Interactive Persuasive Diary (HIPD),
the Simple Safe Success Instructor (SSSI),
the Personal Trainer (PT),
the Individualizer (TIn),
and the Sharing Point (SPo), which is a meeting point for teenagers with autism where they can share personal opinions, feelings, and other expressions of themselves in written form.
Log all activity that the pupil generates within the HANDS toolset and store it on the mobile device for later upload to the teacher's computer.
Upload logs to the teacher's computer.
Download content and individualization parameters from the teacher's computer.
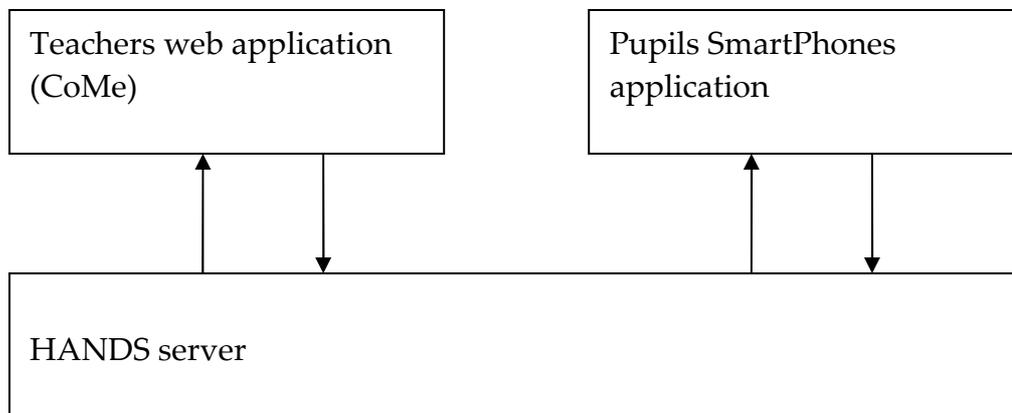Log analysis software
The purpose of the logs is to provide information for two purposes: First, for the teacher to monitor and test whether the HANDS toolset on the pupil's mobile device is credible to the pupil. And second, for the teacher and the researchers to monitor and test whether the HANDS toolset is effective in persuading the pupil to change behavior and/or attitudes.
The Credibility O'Meter (CoMe) is part of the suite of software that the teacher may use on the computer located at the school. It should connect with the HANDS server in order to upload logs every time logs are uploaded from the pupil's mobile device to the teacher's computer. And it should be able to download and analyze the logs from the server in order to monitor and test the credibility and persuasion of the HANDS toolset.
There should also be some software to be used by the researchers in persuasion and psychology, which should have access to the logs. The purpose of this software is to support the researchers in persuasion and psychology to test the effectiveness of the HANDS toolset in persuading the pupils to acquire life management skills, and the effectiveness of the HANDS toolset in assisting the pupils to acquire the life management skills which they desire.

System component interrelationships

The following diagram illustrates the interrelationships among the components of the system.

```
┌─────────────────────────────┐       ┌─────────────────────────────┐
│ Teachers web application    │       │ Pupils SmartPhones          │
│ (CoMe)                      │       │ application                 │
└─────────────────────────────┘       └─────────────────────────────┘

┌──────────────────────────────────────────────────────────────────────┐
│                                                                        │
│  HANDS server                                                          │
│                                                                        │
└──────────────────────────────────────────────────────────────────────┘
```

Dataflows

The synchronisation of the server and smartphone takes place both ways. The one way – from smartphone to server has to done without any questions. Any change on the smartphone(new logdata, new promptdata, change in visual or audio skins and in toolbox) as to be transferred to the server to ensure the possibility of datarecover. The other way around – from server to smartphone has to be user controlled. The syncronisation varies from

Immediate synchronisation

The teachers forces the content of the server to be syncronised regardless to the price in terms of networkcosts.

Immediate synchronisation

Auto synchronisation

The synchronisation takes place when network free of charge is available.

Manual synchronisation

The syncronisation takes place when the smartphone user asks for it.

Logging

Logging of the user interactions are of vital importance to the research project HANDS and to the teachers using HANDS.

The price for logging is very cheap in terms of memory and cpu demands. The limit in logging is logging GPS data, that consumes a significant amount of power. A powersaving strategy for collecting GPS data has to be designed.

The log consist of
Userid, time and date, HANDS application, user_application interaction and the GPS.

The single teacher should be able to turn of the logging for the single pupil if it is of
negative pedagogical value.

2. Section General UI for pupil

3. Section Credibilty Ometer – CoMe

Use cases

A. Customisation to the school

Use case: Create a department(schoolname, department, language)
WHAT?
1. Primary actor:
Schooladministrator.
2. Secondary actor(s):
None.
3. Level:
User goals⤳/

WHY?
4. Scope:
A department and school start using the HANDS toolset.
5. Goal(s) and motivation:
Obvious.
6. Stakeholder(s) and interests:
School, teachers, parents and pupils.

HOW?
7. Precondition(s):
The user(schooladministrator) is created as user and logged in.
8. Persuasive tool(s):
None.

9. Main Success Scenario:
1. The schooladministrator creates a school, department and specify language.

2. The schooladministrator creates an user on the school. The user is an departmentadministrator, that has privelliges to create other users on the school. An departmentadministrator is described with firstname, lastname, mailadress, login, psw and naturally the userright as a administrator.
(after creating the departmentadministrator the schooladministrator he mails the login+psw)

13. **Priority:**
     high.
19. **Minimal Guarantees:**
      Startdate is registered.

Use case: Delete a department(schoolname, department)

WHAT?

1. Primary actor:

Schooladministrator

2. Secondary actor(s):

None

3. Level:

User goals᠁.

WHY?

4. Scope:

By mistake has a department or school been created or a school/departments stops using HANDS.

5. Goal(s) and motivation:

Obvious.

6. Stakeholder(s) and interests:

Schools.

HOW?

7. Precondition(s):

The user(schooladministrator) is created as user and logged in.

8. Persuasive tool(s):

 None.

9. Main Success Scenario:

1. The schooladministrator see the list of departments/schools participating in HANDS.

2. The schooladministrator selects one school/department and deletes the one. He is asked to confirm his action.

13. Priority:

   Medium.

19. **Minimal Guarantees:**

The school/departments data is not deleted. The school is just deactivated.

Enddate is registred.

Use case: Create a user(firstname, lastname, mailadress, login, psw, userrights)

WHAT?

1. Primary actor:

Schooladministrator or departmentadministrator.

2. Secondary actor(s):

Teachers.

3. Level:

User goals.

WHY?

4. Scope:

The teacher are going to use the HANDS toolset. If schooladministrator is the active one, he may create an Researcher.

5. Goal(s) and motivation:

The department and teachers asks for it. Or an researcher ask for it.

6. Stakeholder(s) and interests:

The teacher and the department. Researcher.

HOW?

7. Precondition(s):

The schooladministrator or departmentadministrator is logged on.

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1. The schooladministrator or departmentadministrator creates a user. If the user is a teacher these data has to be supplied: school, department, firstname, lastname, login, psw, userrights. If the user is a researcher these data has to be given: , firstname, lastname, academic title, login, psw, research organisation, department.

13. Priority:

High.

Use case: Delete a user(mailadress, login)

WHAT?

1. Primary actor:

Schooladministrator or departmentadministrator.

2. Secondary actor(s):

Teachers, researcher

3. Level:

User goals﹏.

WHY?

4. Scope:

The user is not a part of the HANDS project anymore. PB or schools has decided and the decision is going to be executed.

5. Goal(s) and motivation:

The department or PB has asked for it.

6. Stakeholder(s) and interests:

The teacher and the department. Researcher.

HOW?

7. Precondition(s):

The schooladministrator or departmentadministrator is logged on.

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1. The schooladministrator or departmentadministrator deletes a user. The schooladministrator or departmentadministrator knows login or mailadress..

13. Priority:

Low.

Use case: Give user new psw(login or mailadress)

WHAT?

1. Primary actor:

Schooladministrator or departmentadministrator.

2. Secondary actor(s):

The user.

3. Level:

User goals᷍.

WHY?

4. Scope:

The user has forgotten his psw/login.

5. Goal(s) and motivation:

Obvious.

(Of the primary actor. Alternatives:)

6. Stakeholder(s) and interests:

The user.

HOW?

7. Precondition(s):

The schooladministrator or departmentadministrator is logged in.

8. Persuasive tool(s):

None.

9. Main Success Scenario:

The schooladministrator or departmentadministrator browses a list of users which can be sorted from various criterias. He finds it and clears the psw.

Afterwards the schooladministrator or departmentadministrator mails the user the login and psw.

13. Priority:

High.

Use case: Change user department(fromdepartment todepartment)

WHAT?

1. Primary actor:

Departmentadministrator.

2. Secondary actor(s):

The teacher.

3. Level:

User goals.

WHY?

4. Scope:

The teacher is changing from one department of the school to another.

5. Goal(s) and motivation:

Obvious.

6. Stakeholder(s) and interests:

Teacher.

HOW?

7. Precondition(s):

The departmentadministrator is logged on.

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1. The departmentadministrator selects the user who changes department.

2. Selects the new deparments and demands a transfer. He is asked to confirm the transfer. When the transfer takes place the user keeps his smartphone, but the Internventions that takes part in his old department is he not involved in and the pupils and the same happens with the pupils, that they have contact to.

13. Priority:

Low.

Use case: Delete a user(login or mailadress)
WHAT?
1. Primary actor:
Schooladministrator or departmentadministrator.
2. Secondary actor(s):
User.
3. Level:
User goals.

WHY?
4. Scope:
The teachers stop working on a school, a researcher stops researching.
5. Goal(s) and motivation:
Obvious.
6. Stakeholder(s) and interests:
The school, the HANDS(security) and the teacher

HOW?
7. Precondition(s):
The schooladministrator or departmentadministrator is logged on.
8. Persuasive tool(s):
None.
9. Main Success Scenario:
The schooladministrator or departmentadministrator selects from a list(which can be indexed from several criterias) of users the user who is going to be deleted. He deletes the user but is asked to confirm his action.

The user data is still in HANDS, but he cannot login.

13. Priority:
Low.

Use case: Modify a user(login or mailadress, all userdata)

WHAT?

1. Primary actor:

Teacher, researcher, departmentadministrator

2. Secondary actor(s):

Teacher

3. Level:

User goals~.

WHY?

4. Scope:

The user want to modify the data about him/herself. He/she manage it by himself/herself or let the departmentadministrator do it.

5. Goal(s) and motivation:

Obvious.

6. Stakeholder(s) and interests:

The user.

HOW?

7. Precondition(s):

The one who want to make the modification is logged on.

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1. If the user is departmentadministrator he/she finds a list of the users and selects the user by login or mailadress. If the user himself want to change it he just selects "Modify user data".

2. Do the modification and save.

13. Priority:

Medium.

Use case: Modify language(language,)
WHAT?
1. Primary actor:
Teacher.
2. Secondary actor(s):
Teachers.
3. Level:
User goals~~.

WHY?
4. Scope:
The school has started using HANS and wants to adapt the language to their use.

5. Goal(s) and motivation:
To improve the use of the PTs.

6. Stakeholder(s) and interests:
Teachers.

HOW?
7. Precondition(s):
The teacher is logged in
8. Persuasive tool(s):
None.

9. Main Success Scenario:
1. The teacher selects "Setup of language"
2. The teacher do eventually downloads a version.
3. The teacher modifies the terms.
4. The teacher saves the version.
5. The teacher do eventually save it as a a template.

13. Priority:
High.

14. Minimal Guarantees:
All except for 2 and 5.

Use case: Status of the use – a schoolview(schoolname, department)

WHAT?

1. Primary actor:

Teacher(can be departmentadministrator or leader).

2. Secondary actor(s):

Other teachers.

3. Level:

User goals⁓.

WHY?

4. Scope:

The departments may be having a meeting where they need an overview of the use of the HANDS tools. Overall and for the single individual.

5. Goal(s) and motivation:

Know the use of the HANDS-toolset and understand it.

6. Stakeholder(s) and interests:

The school, the HANDS consortium

HOW?

7. Precondition(s):

The departmentadministrator or teacher is logged in.

The data that is available is based on logdata[1].

The pupils use of the system I logged: every interaction is logged. An interaction is logged with: pupil, time, HANDS-tool, interaction. Eventually GPS-data.

The teachers use of the HANDS toolset set is logged too. Name, logintime, logouttime, action(which pupil, which HANDS tool)

8. Persuasive tool(s):

Just infograhics.

9. Main Success Scenario:

1. The user selects "Get department activity".

---

[1] The logdata is very interesting. For the schools, teachers and researchers. The price for logging interactions are very little and the future need is not well understood. With other words – the logdata should be as precise and detailrich as possible.

2. He gets several oppurtunities, where he can see periods, all pupils, one pupil all teachers, one teacher. What is possible to see is how much time, they have been actively using the HANDS-toolset.

3. He does eventually make a print of the view.

13. Priority:

High.

B. Customisation to the pupil

Use case: Create a pupil(firstname, lastname, photo, pupilid, birthday, sex, startdate)
WHAT?
1. Primary actor:
Teacher
2. Secondary actor(s):
Pupil
3. Level:
User goals.

WHY?
4. Scope:
The department has decided that a pupil is going to use the HANDS toolset and one teacher does the job.
5. Goal(s) and motivation:
To involve the pupil.
6. Stakeholder(s) and interests:
School, parents.

HOW?
7. Precondition(s):
A teacher is logged in.
8. Persuasive tool(s):
None.

9. Main Success Scenario:
1. The teacher selects "New pupil" or "New pupil template". If the last option is chosen the teachers selects between already created pupil templates. A pupil template contains: a specific smartphonemodel, a specific setup of the calendar, and a specific setup of the part of the Tin, that consist of Introduction.
2. The teacher insert pupildata(firstname, lastname, photo, pupilid, birthday, sex). Saves or selects "New smartphone" or "Find Smartphone template"(if any exists).
3. The teacher creates the pupil eventually with smartphonetemplate,calendar and specific setup of the part of the Tin.
4. The teachers may save the pupil+smartphone as template.

13. Priority:
High.

14. Minimal Guarantees:
Creating of the pupil only with pupildata.

Use case: Modify a pupil (pupilid, all pupildata)

WHAT?

1. Primary actor:

Teacher

2. Secondary actor(s):

Pupil

3. Level:

User goals⁓.

WHY?

4. Scope:

Teacher and pupil agree, that the pupildata should be modified.

5. Goal(s) and motivation:

The data of the pupil has to be correct. The pupil likes it the best.

6. Stakeholder(s) and interests:

Pupil.

HOW?

7. Precondition(s):

The teacher is logged in.

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1.The teacher selects the specific pupil and opens the pupil with the aim to modify the ordinary data(firstname, lastname, pupilid, birthday, sex, startdate).

2. The teachers modify and saves the pupils ordinary data.

13. Priority:

Medium.

Use case: Create Action Reward(pupilid)

WHAT?

1. Primary actor:

Teacher

2. Secondary actor(s):

Pupil

3. Level:

Subfunctions.

WHY?

4. Scope:

Teacher have agreed to reward a specific type of HANDS-pupil interaction

5. Goal(s) and motivation:

The data of the pupil has to be correct. The pupil likes it the best.

6. Stakeholder(s) and interests:

Pupil.

HOW?

7. Precondition(s):

The teacher is logged in.

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1.The teacher selects the specific pupil.

2. The teacher selects "Reward Interaction with" and chooses HIPD/SSSI/PT/TiN or SPo.

3. The teacher specifies the action, that should be rewarded and when the reward should be given(every time, 10th time,25 th time, or ?)

4. The teacher saves the Reward Action.

5. The teacher do eventually saves the Reward Action as template.

13. Priority:

High.

Use case: Create Action Reward(pupilid)

WHAT?

1. Primary actor:

Teacher

2. Secondary actor(s):

Pupil

3. Level:

Subfunctions $\nearrow$.

WHY?

4. Scope:

Teacher have agreed to reward a specific type of HANDS-pupil interaction

5. Goal(s) and motivation:

The data of the pupil has to be correct. The pupil likes it the best.

6. Stakeholder(s) and interests:

Pupil.

HOW?

7. Precondition(s):

The teacher is logged in.

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1.The teacher selects the specific pupil.

2. The teacher selects "Reward Interaction with" and chooses HIPD/SSSI/PT/TiN or SPo.

3. The teacher specifies the action, that should be rewarded and when the reward should be given(every time, 10th time,25 th time, or ?)

4. The teacher saves the Reward Action.

5. The teacher do eventually saves the Reward Action as template.

13. Priority:

High.

Use case: Print a pupillog(pupilid, all pupildata, extraction of log)

WHAT?

1. Primary actor:

Teacher

2. Secondary actor(s):

School, pupil.

3. Level:

User goals∿/ Subfunctions⌐

WHY?

4. Scope:

More oppurtunities are available:

A. For a meeting at the department or a meeting with parents

B. Using the HANDS tool and having a need to see what HANDS actually knows about the pupil.

5. Goal(s) and motivation:

Documentation of the use of the HANDS toolset. Effect.

6. Stakeholder(s) and interests:

Teacher/Pupil/Relatives.

HOW?

7. Precondition(s):

The teacher is logged in. In scope B has the teacher selected the specific pupil.

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1. (Scope A): the teachers select the specific pupil.

2. The teacher selects print pupil. The teacher may select printactivity period(from 1 week, 1 month, 3 month, 1 year, overall activity(number of interactions with HANDS toolset) and specific tools activity(HIPD, SSSI, PT, TiN ans SPo).

3. Prints.

13. Priority:

High.

Use case: Delete a pupil(pupilid)

WHAT?

1. Primary actor:

Teacher.

2. Secondary actor(s):

Pupil.

3. Level:

User goals〰.

WHY?

4. Scope:

The pupil stops using the HANDS toolset. For one reason or the other.

5. Goal(s) and motivation:

No good reason for doing so.

6. Stakeholder(s) and interests:

Departmentadministrator.

HOW?

7. Precondition(s):

The teacher is logged in.

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1.The teacher selects "Delete pupil".

2. The teacher see the pupil for the last time.

3. The teacher confirms the deleting of the pupil.

13. Priority:

Low.

14. Minimal Guarantees:

The HANDS toolset does actually not delete the pupil but makes him inactive.

Use case: View a pupillog(pupilid)

WHAT?

1. Primary actor:

Teacher

2. Secondary actor(s):

School, pupil.

3. Level:

User goals⁓.

WHY?

4. Scope:

More oppurtunities are available:

A. For a meeting at the department or a meeting with parents

B. Using the HANDS tool and having a need to see what HANDS actually knows about the pupil.

5. Goal(s) and motivation:

Documentation of the use of the HANDS toolset. Effect.

6. Stakeholder(s) and interests:

Teacher/Pupil/Relatives.

HOW?

7. Precondition(s):

The teacher is logged in. In scope B has the teacher selected the specific pupil.

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1. (Scope A): the teachers select the specific pupil.

2. The teacher may select activity period(from 1 week, 1 month, 3 month, 1 year, overall activity(number of interactions with HANDS toolset) and specific tools activity(HIPD, SSSI, PT, TiN ans SPo).

13. Priority:

High.

Use case: Create pupilreward(pupilid)

WHAT?

1. Primary actor:

Teacher

2. Secondary actor(s):

School, pupil.

3. Level:

User goals⌇.

WHY?

4. Scope:

To make it possible to give rewards for the use of HANDS to the single individual.

5. Goal(s) and motivation:

To improve the motivation of the pupil.

6. Stakeholder(s) and interests:

Teacher/Pupil/Relatives.

HOW?

7. Precondition(s):

The teacher is logged in.

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1. The teachers select the specific pupil.

2. The teacher select "Specify Rewardsystem"

3. The teacher specifies big rewards, small rewards, evt he gives an start sum of points.

4. The teacher do eventually save the rewardsystem.

5. The teacher do save the rewardsystem as a template.

13. Priority:

High.

Use case: Modify pupilreward(pupilid)

WHAT?

1. Primary actor:

Teacher

2. Secondary actor(s):

School, pupil.

3. Level:

User goals~.

WHY?

4. Scope:

To adjust the settings of a pupil to a newly confirmed level.

5. Goal(s) and motivation:

To keep the HANDS toolset updated.

6. Stakeholder(s) and interests:

Teacher/Pupil/Relatives.

HOW?

7. Precondition(s):

The teacher is logged in.

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1. The teachers select the specific pupil.

2. The teacher select "Modify Rewardsystem"

3. The teacher specifies the new set of pointsum or the other properties.

4. The teacher do eventually save the rewardsystem.

5. The teacher do save the rewardsystem as a template.

13. Priority:

High.

Use case: Save a pupil as template(pupilid, pupiltemplatename, subsection of pupil)

WHAT?

1. Primary actor:

Teacher.

2. Secondary actor(s):

Other teachers.

3. Level:

Subfunctions⤴.

WHY?

4. Scope:

While the teacher is creating one pupil, he or she knows, that the pupils data I generic and can be reused with other pupils. What she/he does is: she/he creates one pupil and saves it as a pupil and a pupiltemplate. A pupiltemplate consist of smartphonedescription, pupil eventually calendar and TiN template.

5. Goal(s) and motivation:

Save time. Be smarter.

6. Stakeholder(s) and interests:

Other teachers.

HOW?

7. Precondition(s):

The teacher is logged in. The teacher has created a pupil, smartphone, parts of TiN(Toolbox, Introduction) and Calendar.

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1. The teacher selects SavePupilastemplate. Selects the parts that the template consists of, give a name for the template and description.

13. Priority:

High.

Use case: Download pupil templates(all pupiltemplates)

WHAT?

1. Primary actor:

Teacher.

2. Secondary actor(s):

Teachers.

3. Level:

Subfunctions.

WHY?

4. Scope:

The teacher is about to create a new pupiluser. He wants to eventually to make use of templates that exists.

5. Goal(s) and motivation:

The teacher might save some time.

6. Stakeholder(s) and interests:

Teachers.

HOW?

7. Precondition(s):

The teacher is logged in.

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1. The teacher selects view pupil templates.

2. The teacher see a list of pupil templates, that is described with 4 properties:

Name, description, list of hands tools, that are included in the template and author.

3. The teacher downloads a template.

13. Priority:

Medium.

Use case: Delete pupil template(pupiltemplatename)

WHAT?

1. Primary actor:

Teacher.

2. Secondary actor(s):

One or more: Teacher/Pupil/Relatives.

3. Level:

Subfunctions.

WHY?

4. Scope:

The teachers is in the templatearea of the CoMe and for some reason he finds it relevant to delete a template.

5. Goal(s) and motivation:

When there is too many templates, the unused ones might have to be deleted.

6. Stakeholder(s) and interests:

Teachers.

HOW?

7. Precondition(s):

The teacher is logged in. The teacher has selected "view pupil templates".

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1. While "Browsing the pupil templates" the teachers decides to delete a pupil template.

2. He does so and are prompted to confirm his decision.

13. Priority:

Medium.

Use case: Add Smartphone to pupil(pupilid, smartphoneid)

WHAT?

1. Primary actor:

Teacher.

2. Secondary actor(s):

Pupil.

3. Level:

User goals⁓.

WHY?

4. Scope:

The teacher is about creating a new pupil or the pupil has received a new smartphone.

5. Goal(s) and motivation:

Obvious.

6. Stakeholder(s) and interests:

Other teachers and pupil.

HOW?

7. Precondition(s):

The teacher is logged in and the teacher has selected a specific child. The teachers knows which smartphone should be used(he is possibly having the smartphone at his desk).

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1. The teachers chooses either "Specify new SmartPhone" or "Replace SmartPhone".

2. The teachers may specify the new SmartPhone(smartphoneid, macid,brand, model, comment) or choose "Choose Smartphonetemplate".

3. He eventually chooses save as smartphonetemplate.

4. He saves the smartphone. In case it is an replacement of a existing SmartPhone, the teacher is asked if the smartphone should get an HANDS installation.

13. Priority:

Alternatives: various/low/medium/high.

14. Minimal Guarantees:

Step 3 is not necessary.

Use case: Delete a smartphone(smartphoneid)(it is actually put on oldies list)

WHAT?

1. Primary actor:

Teacher.

2. Secondary actor(s):

Teachers, departmentadministrator.

3. Level:

User goals.

WHY?

4. Scope:

While the teacher is about giving the pupil a new smartphone or the smartphone is being used for other purposes, the teacher wants to delete a smartphone with a specific smartphoneid.

5. Goal(s) and motivation:

Householdcleaning, making use of a smartphone for other purposes.

6. Stakeholder(s) and interests:

Teachers, departmentadministrator.

HOW?

7. Precondition(s):

The teacher is logged in.

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1. The teacher selects a specific pupil.

2. The teacher selects the smartphone of the pupil and presses "delete". He is asked to confirm and the smartphone is not connected to this pupil anymore.

13. Priority:

Medium.

Use case: Modify a smartphone(smartphoneid, all other smartphonedata)

WHAT?

1. Primary actor:

Teacher.

2. Secondary actor(s):

Teacher, pupil.

3. Level:

User goals~.

WHY?

4. Scope:

The teacher experience errors in the ordinary data about the smartphone.

5. Goal(s) and motivation:

Want to have correct data about the smartphones.

6. Stakeholder(s) and interests:

Teachers and departmentadministrator.

HOW?

7. Precondition(s):

The teacher is logged in.

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1. The teacher selects "See Smartphones".

2. He selects one and corrects the data.

3. Saves the new data about the smartphone.

13. Priority:

Low.

Use case: Destroy smartphone(hw_id, phonenum)

WHAT?

1. Primary actor:

Schooladministrator or teacher

2. Secondary actor(s):

Other teachers.

3. Level:

User goals〰.

WHY?

4. Scope:

The researcher, schooladministrator or teacher wants to destroy all data of the smartphone

5. Goal(s) and motivation:

The smartphone is lost and the school do not want anybody to access the data at the smartphone.

6. Stakeholder(s) and interests:

Teachers, pupils.

HOW?

7. Precondition(s):

The schooladministrator /teacher is logged in

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1. The schooladministrator /teacher selects the pupil who owes the smartphone

2. The schooladministrator /teacher selects destroy all data on the smartphone

3. The schooladministrator /teacher confirms his choice.

4. When the smartphone receives the messages it sends back in information: "Going for destruction". And on the smartphone info of the school is left at a prominent place(it could be in "Owner Information")

13. Priority:

Middle.

Use case: GetCurrentGPS position(hw_id, phonenum)

WHAT?
1. Primary actor:
Schooladministrator or teacher
2. Secondary actor(s):
Other teachers.
3. Level:
User goals⪼.

WHY?
4. Scope:
The researcher, schooladministrator or teacher wants to find a lost smartphone.
5. Goal(s) and motivation:
The smartphone is lost and the school do want to find it.
6. Stakeholder(s) and interests:
Teachers, pupils.

HOW?
7. Precondition(s):
The schooladministrator /teacher is logged in
8. Persuasive tool(s):
None.

9. Main Success Scenario:
1. The schooladministrator /teacher selects the pupil who owes the smartphone
2. The schooladministrator /teacher selects "Get the GPS position of the smartphone"
3. When the smartphone receives the messages it sends back in the GPS coordinates

13. Priority:
Middle.

Use case: Create a teachersmartphone(smartphoneid, macid, brand,model, mobilephonenum, comments, deploymentdate)

WHAT?

1. Primary actor:

Departmentadministrator.

2. Secondary actor(s):

Teacher

3. Level:

Subfunctions .

WHY?

4. Scope:

A teachers is going to get his own smartphone.

5. Goal(s) and motivation:

Driven by a Departmentdecision.

6. Stakeholder(s) and interests:

Teacher.

HOW?

7. Precondition(s):

The departmentadministrator is logged in.

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1. The Departmentadministrator selects "Create new smartphone".

2. He can either selects "Pick SmartPhone template" or he can create a new from scratch8 smartphoneid, macid, brand,model, comments).

3. He saves it. Alternatively as template too.

13. Priority:

High.

Use case: Delete a teachersmartphone(smartphoneid)(it is actually put on oldies list)

WHAT?

1. Primary actor:

Departmentadministrator.

2. Secondary actor(s):

Teacher

3. Level:

Subfunctions .

WHY?

4. Scope:

A smartphone is not in use anymore and has to be deleted.

5. Goal(s) and motivation:

Driven by a Departmentdecision.

6. Stakeholder(s) and interests:

Teacher.

HOW?

7. Precondition(s):

The departmentadministrator is logged in.

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1. The Departmentadministrator selects "Delete smartphone".

2. The Departmentadministrator selects a smartphone, and deletes it. If anybody is using the smartphone, he is questioned: do you really wants to delete it?

3. If he confirms, the smartphone is deleted.

13. Priority:

Low.

Use case: Add extention ()

WHAT?

1. Primary actor:

Teacher

2. Secondary actor(s):

Other teachers.

3. Level:

Subfunction

WHY?

4. Scope:

The teacher has received an extention to HANDS and wants to install it.

5. Goal(s) and motivation:

The teacher and an university have agreed on trying a new piece of software. A new piece of software that may work a) by it self b) by it self but have access to a HANDS API c) are activated in the HIPD poll for appointments or prompts "thing". Eventually with access to HANDS API.

6. Stakeholder(s) and interests:

Researchers(Morten e.g.)

HOW?

7. Precondition(s):

The teacher is logged in.

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1. The teacher selects an specific pupil.

2. The teacher selects "Add HANDS extention"

3. The teacher selects the file, which is the extention.

4. The teacher specifies what kind of extention it is: a/b/c. In case of c) the teacher may specify how often the extension is supposed to be activated: once every 1 minutes/once every 5 minutes/every hour, once a day.

13. Priority:

Medium.

Use case: Remove extention ()

WHAT?
1. Primary actor:
Teacher.
2. Secondary actor(s):
Other teachers.
3. Level:
Subfunction

WHY?
4. Scope:
The teacher wants to remove an extention on a pupils smartphone.
5. Goal(s) and motivation:
The teacher has tested the extention or the extension runs under wrong conditions.

6. Stakeholder(s) and interests:
Researchers(Morten e.g.)

HOW?
7. Precondition(s):
The teacher is logged in.

8. Persuasive tool(s):
None.

9. Main Success Scenario:
1. The teacher selects an specific pupil.
2. The teacher selects "Remove HANDS extention"
3. The teacher selects the Extention, that should be remove.
4. The teacher confirms the removal.

13. Priority:
Low.

Use case: Create Intervention(Intervention_name, pupilid, onlineinterventions, offlineinterventions, startdate, enddate, promptlist, description, status)

WHAT?

1. Primary actor:

Teacher.

2. Secondary actor(s):

Teachers.

3. Level:

User goals.

WHY?

4. Scope:

A department has decided to make a new set of initiatives to improve the skills of the pupil in one way or the other.

5. Goal(s) and motivation:

The goal is to give the department better tools to make better experiments.

6. Stakeholder(s) and interests:

Teachers, PB and researchers.

HOW?

7. Precondition(s):

The teacher is logged in.

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1. The teacher selects "Create Intervention".

2. The teachers writes/select pupil, period(start and enddate) and interventionname. And describes offlineintervention and onlineintervention. He chooses a promptlist from a template or creates one himself) and saves it. The enddate is probably

13. Priority:

High.

Use case: Cancel or extend a Intervention(interventionname)

WHAT?

1. Primary actor:

Teacher.

2. Secondary actor(s):

All teachers.

3. Level:

User goals~~.

WHY?

4. Scope:

The department decides to stop orextend an intervention.

5. Goal(s) and motivation:

The department needs no intervention anymore or needs a intervention to continue.

6. Stakeholder(s) and interests:

Department, researchers.

HOW?

7. Precondition(s):

The teacher is logged in. The teacher has selected a specific pupil.

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1. The user select "Modify Intervention"

2. The user selects "Cancel Intervention" or "Extend". The extention prompts for a new endddate.

3. The user confirms the modification.

13. Priority:

High.

Use case: Create a Interventionpromptlist(interventionname, members, startdate,enddate, prompt, promptregularity)

WHAT?

1. Primary actor:

Teacher.

2. Secondary actor(s):

Teachers.

3. Level:

Subfunctions⌐.

WHY?

4. Scope:

The teacher is about creating an intervention and needs to describe, how the intervention is going to take place. Over time, regularity and which communicationchannel.

5. Goal(s) and motivation:

The teacher do understand this subfunction as simple, but it might be complicated to adjust(many parameters).

6. Stakeholder(s) and interests:

Department.

HOW?

7. Precondition(s):

The teacher is logged in. Is about creating an Intervention for a specific child.

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1. The chooces either "Select promptlist template" or "Create promptlist".

2. If he chooses "Select promptlist template" he has insert starting date and enddate, Confirm the question(and categories of answers) and who is the members). Members are either teachers or mentors of the pupil.

If he chooses "Create promptlist", he has to specify: interventionname, members, startdate, enddate, prompt, promptregularity. Members can be either teachers or mentors. Promptregularity can be a predefined pattern:

Every workday morning at 7.30

Every workday morning at 8.30

Every workday morning at 9.30

Every workday evening at 2.30
Every workday evening at 3.30
Every workday evening at 4.30
Every Friday morning at 8.30
Every Friday evening at 3.30

And the promptregularity might be controlled by an more advanced algoritm(HIPD-events of the day(specific categories), regularity of the prompting, place, possibility to actively to make an observation). This small comment is a way of saying that the HIPD consist of an "Kairos Analyser" too.

3. The teacher saves the promptlist. Eventually as a promptlisttemplate too.

13. Priority:
High.

Use case: Delete Intervention(Intervention_name)

WHAT?

1. Primary actor:

Teacher.

2. Secondary actor(s):

Teachers.

3. Level:

User goals॒.

WHY?

4. Scope:

A department has decided to clean up in the Interventions.

5. Goal(s) and motivation:

The goal is to give the department overview of the interventions, that they use.

6. Stakeholder(s) and interests:

Teachers.

HOW?

7. Precondition(s):

The teacher is logged in.

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1. The teacher selects "Delete Intervention".

2. The teachers select Intervention and get info about it: in use?, used number of times, which pupils has been using it.

3. The teachers deletes an intervention and it is accepted if the intervention is in use.

13. Priority:

Low.

Use case: View Interventions(Intervention_name, inuse, category, pupilid, school)

WHAT?

1. Primary actor:

Teacher.

2. Secondary actor(s):

Teachers, mentors.

3. Level:

Subfunctions⌐.

WHY?

4. Scope:

A teacher want to see the interventions of the department.

5. Goal(s) and motivation:

The goal is to give the department overview of the interventions, that is in use and not in use.

6. Stakeholder(s) and interests:

Teachers, mentors.

HOW?

7. Precondition(s):

The teacher is logged in.

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1. The teacher selects somehow(it is a subfunction) "View Interventions".

2. The teachers can see the paramenters: Intervention_name, inuse, category, pupilid, school. He can make different kinds of sorting of the list.

13. Priority:

High.

Use case: Export Intervention(Intervention_name)

WHAT?

1. Primary actor:

Teacher.

2. Secondary actor(s):

Teachers, mentors.

3. Level:

Subfunctions⌐.

WHY?

4. Scope:

A department wants to talk about the active interventions.

5. Goal(s) and motivation:

The goal is to give the department overview of the interventions – on paper!

6. Stakeholder(s) and interests:

Teachers.

HOW?

7. Precondition(s):

The teacher is logged in.

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1. The teacher selects somehow(it is a subfunction) "View Interventions".

2. The teachers can see the paramenters: Intervention_name, inuse, category, pupilid, school. He can make different kinds of sorting of the list.

3. The teachers selects "Export Interventions" and he receives the list in pdf or an spreadsheet format.

13. Priority:

High.

Use case: See prompts answers(pupil_id)

WHAT?

1. Primary actor:

Teacher

2. Secondary actor(s):

Other teachers. Pupil.

3. Level:

User goals.

WHY?

4. Scope:

The teacher wants to study the prompt answers from the pupils.

5. Goal(s) and motivation:

The teacher wants to know about the pupils considerations and thought while being in a situation or the teacher want to study a change in prompt answers.

6. Stakeholder(s) and interests:

Teachers, pupils.

HOW?

7. Precondition(s):

The teacher is logged in

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1. The teacher selects the pupil.

2. The teacher selects see prompt answers

3. The teacher selects which prompt set he wants to study

4. The teacher gets various of view options: last 10 answers, historically and others.

5. The teacher eventually prints it.

13. Priority:

Middle.

Use case: Manage toolbox(pupilid)
WHAT?
1. Primary actor:
Teacher.
2. Secondary actor(s):
Pupil.
3. Level:
User goals⚌.

WHY?
Scope:
At a meeting with the pupil they have agreed, that one (or more) HANDS tools should be inserted in pupils toolbox. The toolbox consist of 4 lists:
Core userfunctionalities(Dayplan, Important SSSI, SMS functionality, an important game)
Immidiate help functionalities(e.g. minutewatch, batteriindicator, dayplan…)
The Toolbox divided into lifespheres(home, shopping, socialise, emergency packet, school and more)
A kind of a screensaver list. When not in use or falling asleep the smartphone shows this list which contains one item.

Functionalities can be: programs on the WM, HANDS toolset functionalities.

5. Goal(s) and motivation:
To make the smartphone become more Persuasive and more userfriendly.

6. Stakeholder(s) and interests:
Pupil, parent.

HOW?
7. Precondition(s):
The teacher is logged in. The teacher has selected the pupil.
8. Persuasive tool(s):
None.

9. Main Success Scenario:
1. The teachers selects "Modify toolbox".
2. The teachers selects one of the lists and do add, remove, sort on the lists. The teacher sees: name, address, icon of the functionality.

4. Each toolbox item may have name, explanation, photo. In the 3. toolbox list, the teacher may add or remove a lifesphere area. A lifesphere area has a name, photo and explanation.

13. Priority:
High.

Use case: Modify users accessrights to the smartphones applications and utilities(pupilid, accessrightlevel)

WHAT?
1. Primary actor:
Teacher.
2. Secondary actor(s):
Pupil.
3. Level:
User goals⌇.

WHY?
4. Scope:
The teachers has decided to give the pupil more rights on the smartphone. Possibly the pupil and the teachers has agreed upon it.
Accessright are defined in the explanations below.

5. Goal(s) and motivation:
The teacher want the pupil to use the smartphone more.
6. Stakeholder(s) and interests:
Pupil.

HOW?
7. Precondition(s):
The teacher is logged in. The teacher has selected a specific child.

8. Persuasive tool(s):
None.

9. Main Success Scenario:
1. The teacher select "TiN"
2. The teacher selects "Modify userrights"
3. The teacher modifies and saves.

13. Priority:
High.

Use case: Save logrequest(logname, parameters, explanation)

WHAT?

1. Primary actor:

Researcher or teacher

2. Secondary actor(s):

Other teachers.

3. Level:

User goals⁓.

WHY?

4. Scope:

The researcher or teacher wants to know about the use of the HANDS toolset. Either for a single individual or for all.

5. Goal(s) and motivation:

The researcher wants to do research.

The teacher wants to get a second view on the value of the HANDS toolset.

6. Stakeholder(s) and interests:

Teachers.

HOW?

7. Precondition(s):

The researcher/teacher is logged in

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1. The researcher/teacher selects "Create logrequest".

2. The researcher/teacher creates an logrequestprofile. The profile consist of:

Logrequestname

Population(one, several, all in department, all in school, all schools)

Period(start-end, start-inifite)

HANDS tools(all, subsection)

Activity(actively producing data, answering prompts, receiving prompts and information), more?)

Public for who(private, department,researchers, everyone)

Category(?)

Tags

?

13. Priority:
Alternatives: various/low/medium/high.

Use case: Execute logrequest(logrequestname)

WHAT?

1. Primary actor:

Researcher or teacher

2. Secondary actor(s):

Other teachers.

3. Level:

User goals⩘.

WHY?

4. Scope:

The researcher or teacher wants to know about the use of the HANDS toolset. Either for a single individual or for all.

5. Goal(s) and motivation:

The researcher wants to do research.

The teacher wants to get a second view on the value of the HANDS toolset.

6. Stakeholder(s) and interests:

Teachers.

HOW?

7. Precondition(s):

The researcher/teacher is logged in

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1. The researcher/teacher selects "Execute logrequest".

2. The researcher/teacher selects the logrequest to be executed.

3. The result is listed.

4. The researcher/teacher might export it to another format(pdf, spreadsheet)

13. Priority:

Medium.

14. Minimal guarantee.

Step 4 is not necessary.

Use case: Export logrequest(logrequestname)
WHAT?
1. Primary actor:
Researcher or teacher
2. Secondary actor(s):
Other teachers.
3. Level:
Subfunctions .

WHY?
4. Scope:
The researcher or teacher wants to know about the use of the HANDS toolset. Either for a single individual or for all.
5. Goal(s) and motivation:
The researcher wants to import the log to professional statistical tool(e.g. SSPS)

6. Stakeholder(s) and interests:
Teachers.

HOW?
7. Precondition(s):
The researcher/teacher is logged in
8. Persuasive tool(s):
None.

9. Main Success Scenario:
1. The researcher/teacher selects "Execute logrequest".
2. The researcher/teacher selects the logrequest to be executed.
3. The result is listed.
4. The researcher/teacher might export it to standard statistical format(csv, tab, separated or the like)

13. Priority:
Medium.

Use case: Delete logrequest(logname)

WHAT?

1. Primary actor:

Researcher, schooladministrator or teacher

2. Secondary actor(s):

Other teachers.

3. Level:

User goals⌇.

WHY?

4. Scope:

The researcher, schooladministrator or teacher wants to clean up in the logrequests.

5. Goal(s) and motivation:

Make the list of logrquest smaller and the HANDS toolset easier to oversee.

6. Stakeholder(s) and interests:

Teachers.

HOW?

7. Precondition(s):

The researcher/ schooladministrator /teacher is logged in

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1. The researcher/ schooladministrator/teacher selects "Delete logrequest".

2. The researcher/teacher selects the logrequest to be deleted.

3. The user is asked to confirm the deleting. The logrequest is putted into a a list of inactive logrequests.

13. Priority:

Low.

Explanations

1. Uses of CoMe is foreseen in these worksituations

Meeting within the team, which has the responsibility of the pupil
Use of CoMe: Status of the pupils use of the HANDS toolset, status on the progress of running initiatives.
1-2 teachers preparing af new initiative. E.g. going by public transport, focusing on management of mood etc.
1-2 teachers making evaluation of initiatives and adjustments. E.g. is the pupil actually using the HANDS-toolset? Does he manage going shopping?
1-2 teachers are preparing the start up of using the HANDS toolset by creating a introduction especially for the only child. The introduction activities is a longer period, where the smartphone exhibit more and more features with the period.
1-2 teachers are having a meeting with the pupil(once a week?). Within the meeting they agree to change or add something to the HANDS toolset.
Meetings with the pupils parents. The meetings needs status of the pupils use of the HANDS toolset and possibly agree upon making some initiatives.

2. Is teachersmartphone relevant and valuable? I am not sure. In UK Morten Aagaard experienced some situations, where it could be valuable.
Here the teachersmartphone is not specified.

4. Section Handy Interactive Persuasive Diary – HIPD

Use cases

A. Teacher

Use case: Create appointment(subject, location, author, when, duration, difficulty, category, occurs, countdown, comment, reminder, prompt, when to synchronise)
WHAT?
1. Primary actor:
Teacher.
2. Secondary actor(s):
Pupil/Relatives.
3. Level:
User goals≈.

WHY?
4. Scope:
Alternatives: Teacher is planning/organises the a week or a day.
5. Goal(s) and motivation:
The teacher is responsible for teachers planning of the week.
6. Stakeholder(s) and interests:
Pupil

HOW?
7. Precondition(s):
The teacher is logged in.
8. Persuasive tool(s):
None.

9. Main Success Scenario:
1. The teacher selects "HIPD"
2. The teacher selects "Create appointment". He do eventually selects a template for an appointment.
3. The teacher inserts subject, location, author, when, duration, difficulty, category, occurs, comment, reminder, countdown, prompt, when to synchronise. *There are preferred values – yes.* When to synchronise see section on the server "System component interrelationships"

4. The teacher selects who is involved in this appointment: pupils and teachers are candidates.
5. He saves the appointment.
6. He eventually saves the appointment as template apointment(all data excperpt when.
13. Priority:
High.

14. Minimal Guarantees:
Step 6 is not nesseary for success.

Use case: View appointments(pupilid,period)

Simular to view appointment for the pupil – see below.

Use case: Modify appointment(subject, location, when, duration, difficulty, category, occurs, comment, reminder, prompt)

WHAT?

1. Primary actor:

Teacher.

2. Secondary actor(s):

Pupil/Relatives.

3. Level:

User goals⩰.

WHY?

4. Scope:

Teacher needs to modify an appointment.

5. Goal(s) and motivation:

The teacher wants to avoid a critical situation.

6. Stakeholder(s) and interests:

Pupil the other teachers.

HOW?

7. Precondition(s):

The teacher is logged in. The teacher has selected a specific pupil.

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1. The teacher selects "HIPD"

2. The teacher selects "Modify appointment".

3. The teacher selects the appointment.

4. The teacher modify one or more properties of the appointment.

5. The teacher saves the updated appointment.

6. He marks "Give an SMS prompt, when the participants get their HIPD updated".

13. Priority:

High.

14. Minimal Guarantees:
Step 6 is not nesseary for success.

Use case: Delete appointment(subject, location, when, duration, difficulty, category, occurs, comment, reminder, prompt)

WHAT?

1. Primary actor:

Teacher.

2. Secondary actor(s):

Pupil/Relatives.

3. Level:

User goals⟡.

WHY?

4. Scope:

Teacher needs to cancel an appointment.

5. Goal(s) and motivation:

The teacher wants to avoid a critical situation.

6. Stakeholder(s) and interests:

Pupil the other teachers.

HOW?

7. Precondition(s):

The teacher is logged in.

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1. The teacher selects "HIPD"

2. The teacher selects "Delete appointment".

3. The teacher selects the appointment.

4. The teachers confirms an deleting.

5. He marks "Give an SMS prompt, when the participants get their HIPD updated".

13. Priority:

High.

14. Minimal Guarantees:

Step 5 is not nesseary for success.

Use case: Save appointment as template(subject, location, duration, difficulty, category, occurs, comment, reminder, prompt)

WHAT?

1. Primary actor:

Teacher.

2. Secondary actor(s):

Pupil/Relatives.

3. Level:

Subfunctions⌐.

WHY?

4. Scope:

Teacher is about managing the appointments of the pupils.

5. Goal(s) and motivation:

The teacher wants do his job better.

6. Stakeholder(s) and interests:

Pupil the other teachers.

HOW?

7. Precondition(s):

The teacher is logged in. The teacher selects "HIPD".

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1. The teacher selects an a appointment.

4. The teacher selects "Save appointment as template".

13. Priority:

Medium.

Use case: View appointment templates()

WHAT?

1. Primary actor:

Teacher.

2. Secondary actor(s):

Pupil/Relatives.

3. Level:

Subfunctions⌐

WHY?

4. Scope:

Teacher is about managing the appointments of the pupils.

5. Goal(s) and motivation:

The teacher wants do his job better.

6. Stakeholder(s) and interests:

Pupil the other teachers.

HOW?

7. Precondition(s):

The teacher is logged in. The teacher selects "HIPD".

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1. The teacher selects "View all appointmenttemplates"

13. Priority:

Medium.

Use case: Delete appointment templates()

WHAT?

1. Primary actor:

Teacher.

2. Secondary actor(s):

Pupil/Relatives.

3. Level:

Subfunctions⌐

WHY?

4. Scope:

Teacher is about managing the appointments of the pupils.

5. Goal(s) and motivation:

The teacher wants do his job better.

6. Stakeholder(s) and interests:

Pupil the other teachers.

HOW?

7. Precondition(s):

The teacher is logged in. The teacher selects "HIPD".

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1. The teacher selects "View all appointmenttemplates".

2. The teacher selects one appointmenttemplate.

3. And press "Delete template"

13. Priority:

Medium.

Use case: Import appointments from Googlecalendar(Googleid, pupilid, period)

WHAT?

1. Primary actor:

Pupil or Teacher

2. Secondary actor(s):

One or more: Teacher/Pupil/Relatives.

3. Level:

User goals.

WHY?

4. Scope:

The teacher or pupil has inserted a appointment in a googlecalendar and wants to import it.

5. Goal(s) and motivation:

To make the mobile calendar correct.

6. Stakeholder(s) and interests:

One or more: Teacher/Pupil/Relatives.

HOW?

7. Precondition(s):

A. The teacher is logged in. The internet is available.

B. The pupil has turned a network, that gives access to the internet.

8. Persuasive tool(s):

None.

9. Main Success Scenario:

A. the teacher

1. The teachers selects "HIPD"

2. The pupil selects "Important from GoogleCalendar"

3. The teacher specifies period and selects a pupil(s) to receive the appointments.

4. The teacher press save appointments.

5. He marks "Give an SMS prompt, when the participants get their HIPD updated".

B. the pupil.

1. The pupil selects "Important from GoogleCalendar"

2. The pupil selects period and press import.

13. Priority:
High.

14.
I am not familiar with the googleaccount info, that is needed.

Use case: Import appointments from Outlookcalendar(Outlookid, pupilid,period)
WHAT?
1. Primary actor:
Pupil or Teacher
2. Secondary actor(s):
One or more: Teacher/Pupil/Relatives.
3. Level:
User goals~.

WHY?
4. Scope:
The teacher or pupil has inserted a appointment in a OutlookCalendar and wants to import it.
5. Goal(s) and motivation:
To make the mobile calendar correct.
6. Stakeholder(s) and interests:
One or more: Teacher/Pupil/Relatives.

HOW?
7. Precondition(s):
A. The teacher is logged in. The internet is available.
B. The pupil has turned a network, that gives access to the internet.
8. Persuasive tool(s):
None.

9. Main Success Scenario:
A. the teacher

1. The teachers selects "HIPD"
2. The pupil selects "Important from OutlookCalendar "
3. The teacher specifies period and selects a pupil(s) to receive the appointments.
4. The teacher press save appointments.
5. He marks "Give an SMS prompt, when the participants get their HIPD updated".

B. the pupil.
1. The pupil selects "Important from OutlookCalendar"
2. The pupil selects period and press import.

13. Priority:
High.

14.
I am not familiar with the outlookaccount info, that is needed.

Use case: Export appointments to Googlecalendar(pupilid, period, Googleid)

WHAT?

1. Primary actor:

Pupil or Teacher

2. Secondary actor(s):

One or more: Teacher/Pupil/Relatives.

3. Level:

User goals⁓.

WHY?

4. Scope:

The teacher or pupil has inserted a appointment that could be valuable in the GoogleCalendar.

5. Goal(s) and motivation:

To make the GoogleCalendar correct.

6. Stakeholder(s) and interests:

One or more: Teacher/Pupil/Relatives.

HOW?

7. Precondition(s):

A. The teacher is logged in. The internet is available.

B. The pupil has turned a network, that gives access to the internet.

8. Persuasive tool(s):

None.

9. Main Success Scenario:

A. the teacher

1. The teachers selects "HIPD"

2. The pupil selects "Export from GoogleCalendar "

3. The teacher specifies period and selects a pupil(s) to receive the appointments.

4. The teacher press export appointments.

B. the pupil.

1. The pupil selects "Important from GoogleCalendar"

2. The pupil selects period and press export.

13. Priority:
Low.

14.

I am not familiar with the GoogleCalendar info, that is needed.

Use case: Export appointments from Outlookcalendar(pupilid, period, Outlookid)

WHAT?

1. Primary actor:

Pupil or Teacher

2. Secondary actor(s):

One or more: Teacher/Pupil/Relatives.

3. Level:

User goals⁓.

WHY?

4. Scope:

The teacher or pupil has inserted a appointment that could be valuable in the OutlookCalendar.

5. Goal(s) and motivation:

To make the OutlookCalendar correct.

6. Stakeholder(s) and interests:

One or more: Teacher/Pupil/Relatives.

HOW?

7. Precondition(s):

A. The teacher is logged in. The internet is available.

B. The pupil has turned a network, that gives access to the internet.

8. Persuasive tool(s):

None.

9. Main Success Scenario:

A. the teacher

1. The teachers selects "HIPD"

2. The pupil selects "Export from OutlookCalendar "

3. The teacher specifies period and selects a pupil(s) to receive the appointments.

4. The teacher press export appointments.

B. the pupil.

1. The pupil selects "Important from OutlookCalendar"

2. The pupil selects period and press export.

13. Priority:
Low.

14.

I am not familiar with the OutlookCalendar info, that is needed.

Use case: Create prompts(promptsname, list of prompts, startdate, enddate, timing of prompts,graphics, sound)

WHAT?

1. Primary actor:

Teacher.

2. Secondary actor(s):

Pupils and teachers

3. Level:

Subfunctions⌐.

WHY?

4. Scope:

The teacher is about creating an flow of persuasion and needs to describe, how the intervention is going to take place. Over time, regularity and which communicationchannel. The teacher and the pupil might collaborate a little about it.

5. Goal(s) and motivation:

The teacher do understand this subfunction as simple, but it might be complicated to adjust(many parameters).

6. Stakeholder(s) and interests:

Department.

HOW?

7. Precondition(s):

The teacher is logged in. Is about creating an flow of persuasion for a specific child.

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1. The chooces either "Select promptlist template" or "Create promptlist".

2. If he chooses "Select promptlist template" he has insert starting date and enddate, Confirm the question(and categories of answers) and who is the members). Members are either teachers or mentors of the pupil.

If he chooses "Create promptlist", he has to specify: interventionname, members, startdate, enddate, prompt, promptregularity. Members can be either teachers or mentors. Promptregularity can be a predefined pattern:

Every workday morning at 7.30

Every workday morning at 8.30
Every workday morning at 9.30
Every workday evening at 2.30
Every workday evening at 3.30
Every workday evening at 4.30
Every Friday morning at 8.30
Every Friday evening at 3.30

And the promptregularity might be controlled by an more advanced algoritm(HIPD-events of the day(specific categories), regularity of the prompting, place, possibility to actively to make an observation). This small comment is a way of saying that the HIPD consist of an "Kairos Analyser" too.

3. The teachers creates or browses the actual prompts. Each prompt can be of one of these types
A string
A categorical question, Categorical question with MultiMedia included,
Question with text answer
Question with number answer
Question with date answer

And a prompt can be postponed and it can possibly not be postponed.
Furthermore a prompt may aggregrate one link(not 2) to a HANDS functionality(SSSI, dayplan, minutewatch etc and WM-programs)

4. The teacher saves the promptlist. Eventually as a promptlisttemplate too.

13. Priority:
High.

14.
Simular to" Create Intervention" in CoMe.

Use case: Delete prompts(promptsname)

Simular to DeleteIntervention – in CoMe

Use case: View on prompts(pupilid)

Simular to VieweIntervention – in CoMe

Use case: View prompt templates()
WHAT?
1. Primary actor:
Teacher.
2. Secondary actor(s):
Pupil/Relatives.
3. Level:
Subfunctions

WHY?
4. Scope:
Teacher is about managing the promptstemplates of the pupils.
5. Goal(s) and motivation:
The teacher wants do his job better.
6. Stakeholder(s) and interests:
Pupil the other teachers.

HOW?
7. Precondition(s):
The teacher is logged in. The teacher selects "HIPD".
8. Persuasive tool(s):
None.
9. Main Success Scenario:
1. The teacher selects "View all prompts templates"

13. Priority:
Medium.

Use case: Download prompt template(templatename)

WHAT?

1. Primary actor:

Teacher.

2. Secondary actor(s):

Pupil/Relatives.

3. Level:

Subfunctions

WHY?

4. Scope:

Teacher is about creating a flow of persuasion.

5. Goal(s) and motivation:

The pupil is about getting a new tool.

6. Stakeholder(s) and interests:

Pupil the other teachers.

HOW?

7. Precondition(s):

The teacher is logged in. The teacher selects "HIPD".

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1. The teacher selects "View all prompts templates"

2. The teacher selects one templates and downloads it.

3. The teacher is asked to attach the template to a specific pupil and if confirmed the

4. The teacher is asked to modify the prompt(dates, text when to do prompting)

5. The teacher is asked to confirm once again.

13. Priority:

High.

Use case: Delete prompts templates(templatename)

WHAT?

1. Primary actor:

Teacher or schooladministrator.

2. Secondary actor(s):

Pupil/Relatives.

3. Level:

Subfunctions

WHY?

4. Scope:

Teacher or schooladministrator is about managing the prompts of the system.

5. Goal(s) and motivation:

The teacher and schooladministrator wants to improve the overview of the templates.

6. Stakeholder(s) and interests:

Other teachers.

HOW?

7. Precondition(s):

The schooladministrator/teacher is logged in.

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1. The schooladministrator/teacher selects "View all Promptsttemplates".

2. The schooladministrator/teacher selects one appointmenttemplate. The teacher is only permitted to delete his own schools promptstemplates. A schooladministrator every promptstemplates.

3. And press "Delete prompts template"

13. Priority:

Medium.

B. Pupil

Use case: View appointments(pupilid,period)

WHAT?

1. Primary actor:

Pupil

2. Secondary actor(s):

None.

3. Level:

User goals~~.

WHY?

4. Scope:

The pupil wants to know, what is going on today/this week/this month. The uses his smartphone.

5. Goal(s) and motivation:

He is motivated. Possibly has the HANDS toolset suggested, that he should view his contacts.

6. Stakeholder(s) and interests:

Teachers, parents.

HOW?

7. Precondition(s):

None

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1. The pupil activates the HIPD.

2. The pupil gets one period of the diary. The pupil selects another one.

3. While viewing the appointments, it is easy for him to switch from overview of appointments to details of an appointment.

13. Priority:

High.

Use case: Create appointment(subject, location, when, duration, difficulty, category, occurs, comment, reminder, prompt)

Simular to Create appointment for teacher – see above.

Use case: Invite Mentor to appointment(appointment, who) unknown parameters

WHAT?

1. Primary actor:

Pupil

2. Secondary actor(s):

Mentor.

3. Level:

User goals෴.

WHY?

4. Scope:

A. The pupil as just made an appointment. B. The pupil has been talking with a mentor and wants to invite the mentor. Or have been thinking about the mentor.

5. Goal(s) and motivation:

To make better appointments. Together with other ones.

6. Stakeholder(s) and interests:

Mentors.

HOW?

7. Precondition(s):

The pupil is using his smartphone.

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1. The pupil select the HIPD.

2. The pupil selects a specific appointment.

3. The pupil selects "Add mentor to appointment".

4. Selects one and confirms.

5. After the mentor receives the invitation to the appointment, the pupil receives an receipt containing the answer. The receipt is to see in the appointment.

13. Priority:

Medium.

Use case: Modify appointment(subject, location, when, duration, difficulty, category, occurs, comment, reminder, prompt)

Simular to Modify appointment for teachers – see above.

Use case: Delete appointment(subject, location, when, duration, difficulty, category, occurs, comment, reminder, prompt)

Simular to Delete appointment for teachers – see above.

Use case: Pupil receives a prompt()
WHAT?
1. Primary actor:
Pupil.
2. Secondary actor(s):
Teacher, mentor.
3. Level:
User goals.

WHY?
4. Scope:
The pupil is somewhere doing something.

5. Goal(s) and motivation:
The pupil may gets microsuasion motivation but are hopefully motivated by himself.
6. Stakeholder(s) and interests:
One or more: Teacher /Relatives.

HOW?
7. Precondition(s):
None.
8. Persuasive tool(s):
None.

9. Main Success Scenario:
A. Scenario
1. The pupil picks up the smartphone and responds to the prompt.
2. The smartphone responds – thank you.
3. The pupil answers to questions or suggestions in the prompt.

4. The smartphones respond - with a thank you sound and a positive recalculation of the prompteevaluator

B. Scenario
1. The pupil ignores the prompt
2. The smartphone reacts with a sad sound and a negative recalculation of the prompteevaluator.

13. Priority:
High.

14. Minimal Guarantees:
What are the fewest promises the system makes to the stakeholders? Use case succces? Only the first 3 steps in the main scenario description? Log of the attempt to use the system?

Explanations

1. Issue to discuss: will the pupils be satisfied with the smartphone when they insert appointments in the calendar? Do they need a web-application too? In this set of requirements, the solution is to give the pupils the opportunity to use Googlecalendar/Outlook and make and Import functionality. But of low priority.

2. Prompt and prompts are 2 datastructures, that are not well understood? The solution is probably to close down the use cases working on prompt alone.

5. Section Simple Safe Success Instructor – SSSI

Use cases

A. Teacher

Use case: Create SSSI(SSSIname, long_description, category, actualsteps, taglist)
WHAT?
Primary actor:
The teacher Kristian
Secondary actor(s):
 The pupil Jacob
Level:
Morten comment: I have to discuss this item with Lars Moltsen.

WHY?
Scope:
Teacher is planning/organises the teaching.

Goal(s) and motivation:
To teach Jacob to go by public transportation/be more independent. His motivation is to be
as good a teacher as possible and fulfil the teaching plan part A.
Stakeholder(s) and interests:
Relatives.

HOW?
Precondition(s):
Kristian is logged into the system and Jacobs profile is opened.
External preconditions: Other relevant infomaterial is collected: aim with SSSI, photo,
material, video.
Persuasive tool(s):
The tool it self is an tunnel.
Main Success Scenario:
*The following steps(except the last one) might be sequential and they might be taken in random
order.*
A. Kristian Creates a SSSI with a specified number of steps. He does eventually starts out
by downloading an template from the HANDS server.

B. Kristian gives a brief(32 chars) textual description.

C. Kristian inserts a video/photo(jpg,gif) for each step. Eventually.

Kristian inserts a timeout(10 seconds to several hours), a difficulty rating(5 levels), of each step in the SSSI. Eventually.

D. Kristian inserts a general help advice. Either as text(255chars), audio(Windows Media format) or video(Windows Media format).

E. Furthermore a SSSI-step may aggregrate one link(not 2) to a HANDS functionality(SSSI, dayplan, minutewatch etc and WM-programs)

F. Kristian selects logging level(detailed, simple, none)

G. Kristian saves the SSSI. Eventually do he save the SSSI as template.

. Kristian uploads the SSSI to Jacobs smartphone and gets a receipt when it actually is received by Jacobs smartphone.

DETAILS

Response time:

0,1 second

Trigger:

Teacher decides to solve a problem and starts the CoMe.

Priority:

high.

Release(s):

Prototype 1

FACTS: Might need to be filled out by developers or product owners

Response time:

0,1 second

Frequency of use:

several times a day

Channel to primary actor:

Internetbrowser.

Channel to secondary actor:

Smartphone.

THE FUTURE:

Minimal Guarantees:

Step E: Kristian saves the SSSI.

Development or expansion opportunities:

The use of SSSI templates.

Contexthelp for this SSSI, contexthelp for this pupil.

Can the developed software be used for the Personal Trainer too?. It ought to.

Open issues:

The SSSI works for public transport but for a lot of similar SSSI.

Use case: Add Mentor to SSSI(SSSIname, pupil, mentored)

WHAT?

1. Primary actor:

Teacher.

2. Secondary actor(s):

Pupil.

3. Level:

Subfunctions.

WHY?

4. Scope:

The teacher and pupil has agreed that a mentor should get notices, when using a particular SSSI. Or the parent would like to be observing the use of a particular SSSI.

5. Goal(s) and motivation:

Surveillance is a good persuasive technique.

6. Stakeholder(s) and interests:

Teacher/Pupil/Relatives.

HOW?

7. Precondition(s):

The teacher is logged in. The mentor is created.

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1. The teacher selects the specific child and SSSI.

2. The teachers select "Modify SSSI".

3. The teacher selects "Add mentor" and adds from the mentor list.

13. Priority:
High.

Use case: Remove Mentor from SSSI(SSSIname, pupil, mentored)
WHAT?
1. Primary actor:
Teacher.
2. Secondary actor(s):
Pupil.
3. Level:
Subfunctions⌐.

WHY?
4. Scope:
The teacher and pupil has agreed that the mentor I removed. I.
5. Goal(s) and motivation:
Surveillance is a good persuasive technique.
6. Stakeholder(s) and interests:
Teacher/Pupil/Relatives.

HOW?
7. Precondition(s):
The teacher is logged in. The mentor is created.
8. Persuasive tool(s):
None.

9. Main Success Scenario:
1. The teacher selects the specific child and SSSI.
2. The teachers select "Modify SSSI".
3. The teacher selects "Add mentor" and adds from the mentor list.

13. Priority:
High.

Use case: Save video as SSSI(SSSIname, video, pupilid description, category, taglist) The SSSI contains only one step

WHAT?
1. Primary actor:
Teacher.
2. Secondary actor(s):
Pupil.
3. Level:
User goals~.

WHY?
4. Scope:
The teacher and the pupil has agreed to record a video as a kind of instruction. It could be instructional(how to cook a soup, how to say hello in a proper manner…) or it could be a selfportrait saying how to be happy, or what ever.
5. Goal(s) and motivation:
The pupil and teacher has agreed that they have to solve a problem.
6. Stakeholder(s) and interests:
Teachers and pupils.

HOW?
7. Precondition(s):
The teacher is logged in. The video is recorded with the teachers mobile phone.
8. Persuasive tool(s):
None.

9. Main Success Scenario:
1. The teacher opens the area of the specific pupil and selects "Add SSSI".
2. The teacher selects "Add video".
3. The teacher types in the necessary information about the video: SSSIname, description, category, taglist and description of videoname and location.
4. The teacher do eventually puts it into the toolbox of the pupil.
5. The teachers confirms the saving of the video. The teacher may ask for a confirmation of the uploading of the video to the pupils smartphone.

13. Priority:

High.

Use case: Modify SSSI (SSSIname, long_description, category, actualsteps, taglist)

WHAT?

1. Primary actor:

Teacher.

2. Secondary actor(s):

Pupil/Relatives.

3. Level:

User goals⌇.

WHY?

4. Scope:

Teacher needs to modify an SSSI.

5. Goal(s) and motivation:

The teacher wants to avoid a critical situation.

6. Stakeholder(s) and interests:

Pupil and the other teachers.

HOW?

7. Precondition(s):

The teacher is logged in. The teacher has selected a specific pupil.

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1. The teacher selects "SSSI"

2. The teacher selects "Modify SSSI".

3. The teacher selects from a list the right SSSI.

4. The teacher modify one or more properties of the SSSI.

5. The teacher saves the updated SSSI.

6. He do eventually check out the option "Give an SMS prompt, when the participants get their SSSIs updated".

13. Priority:
High.

Use case: Delete SSSI (SSSIname)

WHAT?

1. Primary actor:

Teacher.

2. Secondary actor(s):

Pupil/Relatives.

3. Level:

User goals᷍.

WHY?

4. Scope:

Teacher have agreed with a pupil, that a specific SSSI has to be deleted. Or has decided himself.

5. Goal(s) and motivation:

The teacher wants to avoid a critical situation.

6. Stakeholder(s) and interests:

Pupil.

HOW?

7. Precondition(s):

The teacher is logged in. The teacher has selected the specific pupil.

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1. The teacher selects "SSSI"

2. The teacher selects "Delete SSSI".

3. The teacher selects the SSSI.

4. The teachers confirms an deleting. In case the SSSI is a part of the toolbox, it is deleted from the toolbox too.

5. He marks "Give an SMS prompt, when the participants get their SSSI list is updated".

13. Priority:

High.

14. Minimal Guarantees:

Step 5 is not nesseary for success.

Use case: Save SSSI as structuretemplate(SSSIname, category, tags)

WHAT?

1. Primary actor:

Teacher or departmentadministrator.

2. Secondary actor(s):

Teachers.

3. Level:

User goals〰.

WHY?

4. Scope:

Teacher or departmentadministrator want to make an SSSI available for other pupils or other schools.

5. Goal(s) and motivation:

The teachers might save time. The school might save money.

6. Stakeholder(s) and interests:

Schools, teachers and HANDS.

HOW?

7. Precondition(s):

The teacher is logged in. A specific pupil is selected.The teacher selects "SSSI".

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1. The teacher selects "SSSI".

2. The teacher selects a specific SSSI.

3. The teacher selects "Save appointment as SSSIstructure-template". The number of steps, the steps timeouts is included in the SSSI-structure.

13. Priority:

Medium.

Use case: View SSSI templates

WHAT?

1. Primary actor:

Teacher.

2. Secondary actor(s):

Pupil/Relatives.

3. Level:

Subfunctions⌐.

WHY?

4. Scope:

Teacher is about managing the SSSI templates of the pupils.

5. Goal(s) and motivation:

The teacher wants do his job better.

6. Stakeholder(s) and interests:

Pupil the other teachers.

HOW?

7. Precondition(s):

The teacher is logged in. The teacher selects "SSSI".

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1. The teacher selects "View all SSSI templates"

2. The teacher can sort out the SSSI templates after various SSSI attributes.

13. Priority:

Medium.

Use case: Download SSSI template(SSSInametemplate)

WHAT?

1. Primary actor:

Teacher.

2. Secondary actor(s):

Pupil/Relatives.

3. Level:

Subfunctions

WHY?

4. Scope:

Teacher is about managing the creating a SSSI for a pupil.

5. Goal(s) and motivation:

The teacher wants do his job better.

6. Stakeholder(s) and interests:

Pupil the other teachers.

HOW?

7. Precondition(s):

The teacher is logged in. The teacher has opened the pupils area. The teacher selects "SSSI".

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1. The teacher selects "View all SSSI template.

2. The teacher may sort the templates with attention to different SSSI attributes. He selects one.

3. And the teacher presses "Download template" and gives it a name.

4. Afterwards he might bring make it active, But he needs not.

13. Priority:

Medium.

Use case: Delete SSSI templates(SSSInametemplate)

WHAT?

1. Primary actor:

Teacher or departmentadministrator or schooladministrator.

2. Secondary actor(s):

Pupil/Relatives.

3. Level:

User goals⌇⌇.

WHY?

4. Scope:

Teacher/departmentadministrator/ schooladministrator wants to clean up in the SSSI templates.

5. Goal(s) and motivation:

Teacher or departmentadministrator or schooladministrator wants to make it easier to make an overview of the SSSI.

6. Stakeholder(s) and interests:

Teachers.

HOW?

7. Precondition(s):

The teacher or departmentadministrator or schooladministrator is logged in.

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1. The teacher(or…) selects "SSSI"

2. The teacher(or…) selects "View SSSI-templates".

3. The teacher(or…) selects one SSSI and clicks on "Delete SSSI-template"

4. The teachers confirms the deleting.

13. Priority:

Low.

B. Pupil

Use case: Use SSSI(SSSIname)
WHAT?
1. Primary actor:
Pupil.
2. Secondary actor(s):
Mentor(SSSI-friend?)
3. Level:
User goals⌇⌇.

WHY?
4. Scope:
The pupil may use an SSSI in a number of situations: 1)initiated by himself, 2) promted by an calendar appointment 3) prompted in a flow of persuasion 4) another SSSI suggest to use an SSSI.
5. Goal(s) and motivation:
The pupil has a problem and want to solve it.
6. Stakeholder(s) and interests:
Teacher, relatives.

HOW?
7. Precondition(s):
The pupil uses his SSSI.
8. Persuasive tool(s):
None.

9. Main Success Scenario:
1. The SSSI is activated. The instruction is used.
2. The pupil might change the view of the SSSI(overview, detail and ?)

While the SSSI is in use, all statetransitions are reported to an eventually mentor.

13. Priority:
High.

Use case: Save video(SSSIname, category(SSSI/State/recommendation)

Simular to teachers Save video. Except for one thing: when the pupil is connected again, the SSSI video and the eventual change in the toolbox is registered at the server.

Use case: Pause SSSI(SSSIname)

WHAT?

1. Primary actor:

Pupil.

2. Secondary actor(s):

Teacher.

3. Level:

Subfunctions⌐.

WHY?

4. Scope:

The pupil is using an SSSI but is interrupted, want to have a break or the SSSI suggests that the pupil should have a break.

5. Goal(s) and motivation:

The pupil believes it is a good idea to make a break.

6. Stakeholder(s) and interests:

Teachers.

HOW?

7. Precondition(s):

The pupil is using a SSSI

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1. The pupil selects "Pause". Eventually he states when he will restart the SSSI. In minutes.

13. Priority:

Medium.

Use case: Restart SSSI(SSSIname)

WHAT?

1. Primary actor:

Pupil

2. Secondary actor(s):

Teacher.

3. Level:

Morten comment: I have to discuss this item with Lars Moltsen.

Subfunctions⌐.

WHY?

4. Scope:

The pupil is ready to go on following the SSSI. The reason for the break is away. The pupil restart for several reasons a) the HANDS tools has given him a reminder. b) the pupil decides by himself to restart.

5. Goal(s) and motivation:

The pupil has a problem, that he want to solve and there might be a reward too.

6. Stakeholder(s) and interests:

Teacher, mentor.

HOW?

7. Precondition(s):

The pupil has paused a SSSI:

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1. The pupil restart the SSSI.

13. Priority:

High.

Explanations

1. The functionality of the SSSI could be one of more

A. Social guidelines in more steps to solve a problem.
B. One step with a mother on a video instructing the pupil to behave well in problematic situations.
C. One step with pupil telling on a video instructing how to behave in problem situations.

6. Section Personal Trainer – PT

Use cases

A. Teacher

Use case: Create PT(pupilid, PTname, long_description, category, actualsteps, taglist)
WHAT?
1. Primary actor:
Teacher.
2. Secondary actor(s):
Pupil.
3. Level:
User goals〰.

WHY?
4. Scope:
Pupil and teacher has agreed, that the pupil needs a PT for specific activities or actions.
5. Goal(s) and motivation:
To make problematic situations easier to manage for the pupil.
6. Stakeholder(s) and interests:
Pupil.

HOW?
7. Precondition(s):
The teacher is logged in.
8. Persuasive tool(s):
None.

9. Main Success Scenario:
1. The teacher selects the pupils area.

2. The teacher selects PT and "Create PT"
3. The teacher creates one step after the ofter. Each step is a text with 4-8 sentences, that all starts with an word from the accepted language(see the use case "Modify language")
4. The teachers saves the PT.
5. The teachers eventually saves the PT as template.

13. Priority:
High.

14. Minimal Guarantees:
Step 1-4.

Use case: Modify PT (PTname, actualsteps, long_description, category, actualsteps, taglist)
WHAT?
1. Primary actor:
Teacher.
2. Secondary actor(s):
Pupil
3. Level:
User goals.

WHY?
4. Scope:
The teacher has identified one or more errors in the PT and needs to correct it.
5. Goal(s) and motivation:
That is not the issue. The problem is, when does this case arise.

6. Stakeholder(s) and interests:
Pupil.

HOW?
7. Precondition(s):
The teacher is logged in
8. Persuasive tool(s):
None.

9. Main Success Scenario:
1. The teacher selects the pupil.
2. The teacher selects PT and "Modify PT".
3. The teacher modifies the single steps.
4. The teacher saves the PT.
5. The teachers eventually saves the PT as template.

13. Priority:
High.

14. Minimal Guarantees:
1-4.

Use case: Delete PT (pupilid, PTname)
WHAT?
1. Primary actor:
Teacher.
2. Secondary actor(s):
Pupil.
3. Level:
User goals⁓.

WHY?
4. Scope:
The teacher(and pupil) finds out that the PT is obsolete. And decides to delete it.
5. Goal(s) and motivation:
The teacher wants to make the smartphone simpler.
6. Stakeholder(s) and interests:
Pupil.

HOW?
7. Precondition(s):
The teacher is logged in

8. Persuasive tool(s):
None.

9. Main Success Scenario:
1. The teacher selects the pupil(pupilid)
2. The teacher selects PT and "Delete PT".
3. The teacher do eventually check the lists of PT templates.
4. The teacher deletes one or more PT.

13. Priority:
High

14. Minimal Guarantees:
All except 3.

Use case: Save PT as template(PTnametemplate, category, tags)

Simular to Download SSSI template.

Use case: Download SSSI template(PTnametemplate)

Simular to Download SSSI template.

Use case: Delete SSSI templates(PTnametemplate)

Simular to Delete SSSI templates.

B. Pupil

Use case: Use PT(PTname)

Use case: Pause PT(PTname)

Use case: Restart PT(PTname)

Explanations

A PT is a Social story,(Gray) that describes how to behave in steps and with a restricted language. The language that may be used at one school differs to another school. A PT is similar to SSSI. And the classes used for SSSI can probably be reused in PT.
The restricted language means, that one step of a PT consist of one or more sentences, that starts with a word from the language.
There is no control of the use of an PT.

7. Section The Individualiser – Tin

Use cases

A. Teacher

Use case: Create an introduction(pupilid, Introductionname, Promptlist)
WHAT?
1. Primary actor:
Teacher.
2. Secondary actor(s):
Pupil
3. Level:
User goals⌇⌇.

WHY?
4. Scope:
The pupil I going to use smartphone and the teacher has created an number of Prompts, that all in all becomes the introduction. After the creation of the introduction, the teacher can handover the smartphone to the pupil.
5. Goal(s) and motivation:
To make the start of the use good.

6. Stakeholder(s) and interests:
Pupils.

HOW?
7. Precondition(s):
The teacher is logged in. The prompts has been created.
8. Persuasive tool(s):
None.

9. Main Success Scenario:
1. The teachers selects the pupil and the Tin-area
2. The teacher selects "Create Introduction"
3. The teacher sees a empty list of prompts and all prompts available. He can insert one or more prompts int the emptylist.

5. He saves the Introduction.
6. He eventually saves the Introduction as template. The template consist of everything in the prompts.

13. Priority:
High.

Use case: Create a Mentor(pupilid, mentorname, description, mailadress, mobilephone)

WHAT?
1. Primary actor:
Teacher.
2. Secondary actor(s):
Pupil, parents, teachers.
3. Level:
User goals⌇ or subfunctions⌐.

WHY?
4. Scope:
The pupil and teacher has agreed, that it could be valuable for the pupil to have closer contact to certain persons(parent, teachers).

5. Goal(s) and motivation:
A part of improving the persuasive effect of HANDS surveillance is a good idea.
6. Stakeholder(s) and interests:
Pupil, parents and the other teachers.

HOW?
7. Precondition(s):
The teacher is logged in
8. Persuasive tool(s):
None.

9. Main Success Scenario:
1. The teacher selects the specific pupil.

2. The teacher selects Tin and Selects "Add Mentor"
3. The teacher specifies Mentor. Either(teacher(mentorname, teacherid, photo) or other(mentorname, description, mailadress, mobilephone, photo)
4. The teacher saves the mentor

13. Priority:
Medium.

Use case: Delete a Mentor(pupilid, mentorname, description, mailadress, mobilephone)

WHAT?

1. Primary actor:

Teacher.

2. Secondary actor(s):

Parent/relatives, teacher, pupil

3. Level:

Subfunctions⌐.

WHY?

4. Scope:

The teacher is cleaning up smartphone and knows, that some mentors not are relevant any more.

5. Goal(s) and motivation:

Cleaning up is something you are forced to do.

6. Stakeholder(s) and interests:

Teacher/Pupil/Relatives.

HOW?

7. Precondition(s):

The teacher is logged in

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1. The teacher selects the specific pupil.

2. The teacher selects Tin and Selects "Delete Mentor"

3. The teacher selects a mentor. Gets detailed info on Mentor. Selects remove.

13. Priority:

Alternatives: various/low/medium/high.

14. Minimal Guarantees:

What are the fewest promises the system makes to the stakeholders? Use case succces?

Only the first 3 steps in the main scenario description? Log of the attempt to use the system?

Use case: Create a Mentor help(pupilid mentorname,category, text, video)

WHAT?

1. Primary actor:

Teacher.

2. Secondary actor(s):

Teacher/Pupil/Relatives.

3. Level:

User goals⁓.

WHY?

4. Scope:

1. Parents and teachers have agreed, that hele from the parents is a good idea and records an video with help.

2. The teacher and the pupil have agreed, that the teacher should give an advice, that can be used in case of emergency.

5. Goal(s) and motivation:

To make the pupil feel helped.

6. Stakeholder(s) and interests:

Teacher/Pupil/Relatives.

HOW?

7. Precondition(s):

The teacher is logged in. The video is recorded at the teachers Smartphone. The mentor has already been created.

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1. The teacher selects pupil.

2. The teacher selects Tin and "Mentor"

3. The teacher selects "Add Mentor support"

4. The teacher selects a mentor, finds the video, names it and gives it a category

5. Saves.

13. Priority:
Medium.

Use case: Reactivate application to smartphone(pupilid)

WHAT?

1. Primary actor:

Teacher.

2. Secondary actor(s):

Pupil.

3. Level:

User goals～.

WHY?

4. Scope:

At a meeting with the pupil they have agreed, that one (or more) HANDS tools should be reactivated in the pupils toolbox. An application can be: new SSSI, PT or Prompts.

5. Goal(s) and motivation:

The pupil has improved and can benefit from this application.

6. Stakeholder(s) and interests:

Pupil.

HOW?

7. Precondition(s):

The teacher is logged in. Has chosen the specific pupil(pupilid). The application already exists, but is deactivated.

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1. The teachers selects "Put into toolbox".

2. Chooses the specific application from a deactivating list and activates it. Eventually he decides where in the toolbox it should be placed. The toolbox is a list.

3. It do eventually puts it in the screensaverlist.

4. And saves. This means, that the revision of the pupils software is updated on the HANDS server.

5. When the pupil gets connected to one the accepted HANDS networks(wifi, Bluetooth, USB, 3G, GPRS, SMS) the application is transferred.

13. Priority:
High.

Use case: Deactivate application(pupilid,appname)

1. Primary actor:
Teacher.
2. Secondary actor(s):
Pupil.
3. Level:
User goals⌇.

WHY?
4. Scope:
At a meeting with the pupil they have agreed, that one (or more) HANDS tools should be deactivated in pupils smartphone. An application can be: new SSSI, PT or Prompts.
5. Goal(s) and motivation:
The pupil has improved and can benefit from getting rid of this application.

6. Stakeholder(s) and interests:
Pupil.

HOW?
7. Precondition(s):
The teacher is logged in. Has chosen the specific pupil(pupilid). He knows the HANDS tool, he wants to remove.

8. Persuasive tool(s):
None.

9. Main Success Scenario:
1. The teachers selects "Deactivate application". He sees a list of all active application on the smartphone.
2. Chooses the specific application to be removed.
3. It do eventually removes it from the screensaverlist.
4. And confirm changes. This means, that the revision of the pupils software is updated on the HANDS server.
5. When the pupil gets connected to one the accepted HANDS networks(wifi, Bluetooth, USB, 3G, GPRS) the change of the toolbox is done.

13. Priority:
Medium.

Use case: List applications(pupilid)

WHAT?

1. Primary actor:

Teacher.

2. Secondary actor(s):

Pupil.

3. Level:

Subfunctions⌐.

WHY?

4. Scope:

The teacher is reviewing the content to and do garbagecollection. Might be done once a year.

5. Goal(s) and motivation:

To make the important functionalities easily identifiable to the pupil.

6. Stakeholder(s) and interests:

Pupils.

HOW?

7. Precondition(s):

The teacher is logged in. The teacher has selected a specific pupil.

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1. The teacher selects "List applications".

13. Priority:

High.

Use case: Select graphical skin(pupilid,graphicalskinname)

The same as downloading a graphical skin.

Use case: Select audio skin(pupilid,audioskinname)

The same as downloading a audio skin.

B. Pupil

Use case: Create a Mentor help(who)

Simular to teachers Create a Mentor help(pupilid mentorname,category, text, video)

Use case: Create a Mentor(pupilid, mentorname, description, mailadress, mobilephone)

Simular to teachers Create a Mentor

Use case: Select graphical skin(pupilid,graphicalskinname)

The same as downloading a graphical skin.

Use case: Select audio skin(pupilid,audioskinname)
The same as downloading a audio skin.

Use case: Set up screensaverfunctionality(pupilid, function1, function2)
WHAT?
1. Primary actor:
Teacher.
2. Secondary actor(s):
Pupil.
3. Level:
User goals.

WHY?
4. Scope:
The teacher is either setting up the smartphone for the first time or she has agreed with the pupil, that the screensaver should be changed.
5. Goal(s) and motivation:
The pupil has to get attention to the most important functionalities.
6. Stakeholder(s) and interests:
Pupils.

HOW?
7. Precondition(s):
The teacher is logged in.

8. Persuasive tool(s):
None.

9. Main Success Scenario:
1. The teacher is select the pupils area.
2. The teacher selects "Modify screensaver"
3. The teacher see the list of the 0-2 functionalities, that now are in use.
4. The teachers add exchange the functionalities with new ones. Functionalities are:
HIPD(the day), HIPD(the week), HIPD(the month), a SSSI, a PT, the toolbox.
5. The teacher saves the screensaver.

13. Priority:
High.

Use case: Minutewatch ()

WHAT?

1. Primary actor:

Pupil.

2. Secondary actor(s):

Other teachers.

3. Level:

User goals⁓.

WHY?

4. Scope:

The pupil has to measure a shorter period of time. Up to 2 hours.

5. Goal(s) and motivation:

The pupil are going to do something for a period of time or are excited about something to begin after a period of time.

6. Stakeholder(s) and interests:

Pupils.

HOW?

7. Precondition(s):

None.

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1. Pupil selects minutwatch on the smartphone.

2. The pupil either a) simply sets the time(eventually selects a sound and visual skin of the minutewatch) and push the start putton or b) selects a minutewatch template.

3. The pupil may save a new minutewatch as template. With name, duration, sound and visual skin.

13. Priority:

High.

Explanations

A. The only thing a mentor can be used for in this version is supersing an SSSI.

B. Accessrights to the mobile phone are divided into 4 levels

	Rights to	
Label of accessrightlevel	HANDS toolset	Smartphone
Starter	Access to teacherdefined subset of HANDS toolset	Access to teacherdefined subset of smartphone functionality
Medium 2A	Access to teacherdefined subset of HANDS toolset	Access to all of the smartphone functionality
Medium 2B	Access to all of the HANDS toolset	Access to teacherdefined subset of smartphone functionality
Full	Access to all of the HANDS toolset	Access to all of the smartphone functionality

8. Section Sharing Point – Spo

Use cases

C. Teacher

Use case: Share a SSSI(SSSIname, category, tags)
WHAT?
1. Primary actor:
Teacher.
2. Secondary actor(s):
Teachers
3. Level:
Subfunctions⏌.

WHY?
4. Scope:
While the teacher is preparing new initiatives, she wants to find out if she can reuse any uploaded SSSI.
5. Goal(s) and motivation:
The teacher wants to shave time.
6. Stakeholder(s) and interests:
Teachers.

HOW?
7. Precondition(s):
The teacher is logged in.
8. Persuasive tool(s):
None.

9. Main Success Scenario:
1. The teacher opens a specific pupil and selects SSSI area.
2. The teacher selects a specific SSSI from the list.
3. The teacher selects "Share SSSI".
3. The teachers selects how it should be shared(department, school, HANDS), and gives other attributes too: category, tags.

13. Priority:
Medium.

Use case: Download a SSSI(pupil, SSSIname)

WHAT?

1. Primary actor:

Teacher.

2. Secondary actor(s):

Teachers

3. Level:

Subfunctions.

WHY?

4. Scope:

While the teacher is preparing new initiatives, she wants to find out if she can reuse any uploaded SSSI.

5. Goal(s) and motivation:

The teacher wants to save time.

6. Stakeholder(s) and interests:

Teachers.

HOW?

7. Precondition(s):

The teacher is logged in.

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1. The teacher opens a specific pupil and selects SSSI area.

2. The teacher selects "Download SSSI".

3. The teacher browses the available SSSI. She can select various of filter criterias: publicity(pupil/department/school/HANDS), category and tags. Minimum.

It may be number of downloads, date of upload.

4. Selects one and downloads it. It is now a part of the pupils

13. Priority:

Medium.

D. Pupil

Use case: Share a SSSI(SSSIname, pupilid, category, tags)
WHAT?
1. Primary actor:
Pupil.
2. Secondary actor(s):
Teachers
3. Level:
Subfunctions⌐.

WHY?
4. Scope:
While the pupil is using the HANDS toolset, he decides – somehow - that he wants to share the SSSI. Possibly as a talk with a friend.
5. Goal(s) and motivation:
The pupil wants to be helpful.
6. Stakeholder(s) and interests:
Teachers and other pupils.

HOW?
7. Precondition(s):
The pupils smartphone is on an connected to the internet.
8. Persuasive tool(s):
None.

9. Main Success Scenario:
1. The pupil selects SSSI area.
2. The teacher selects a specific SSSI from the list.
3. The teacher selects "Share SSSI".
3. The teachers selects how it should be shared(department, school, HANDS)

13. Priority:
Medium.

Use case: Download a SSSI(pupilid, SSSIname)

WHAT?

1. Primary actor:

Pupil.

2. Secondary actor(s):

Teachers(can observe it)

3. Level:

Subfunctions⌐.

WHY?

4. Scope:

The pupil are having good experiences with SSSI and want to find out if other SSSI are of value.

5. Goal(s) and motivation:

The pupil wants to get more oppurtunities.

6. Stakeholder(s) and interests:

Teachers.

HOW?

7. Precondition(s):

The pupil is connected to the internet

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1. The pupil selects "Download SSSI".

2. The pupil browses the available SSSI. She can select various of filter criterias: category and tags. Minimum.

It may be number of downloads, date of upload.

3. Selects one and downloads it. It is now a part of the pupils HANDS toolset.

Use case: Share an graphicalskin (pupilid, graphicalskinname, category, tags)

WHAT?

1. Primary actor:

Pupil.

2. Secondary actor(s):

Teachers, pupils

3. Level:

Subfunctions⌐ .

WHY?

4. Scope:

While the pupil is using the HANDS toolset, he decides – somehow - that he wants to share the graphicalskin. Possibly as a talk with a friend.

5. Goal(s) and motivation:

The pupil wants to be helpful.

6. Stakeholder(s) and interests:

Teachers and other pupils.

HOW?

7. Precondition(s):

The pupils smartphone is on an connected to the internet.

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1. The pupil selects TIn area.

2. The pupil selects "Share graphicalskin".

3. The pupil selects how it should be shared(department, school, HANDS)

13. Priority:

Medium.

Use case: Download a graphicalskin(pupilid, graphicalskinname)

WHAT?

1. Primary actor:

Pupil.

2. Secondary actor(s):

Teachers(can observe it)

3. Level:

Subfunctions.

WHY?

4. Scope:

The pupil would like some change and try a new graphicalskin.

5. Goal(s) and motivation:

The pupil are fond of his smartphone and want to customise it more.

6. Stakeholder(s) and interests:

Teachers.

HOW?

7. Precondition(s):

The pupil is connected to the internet

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1. The pupil selects "Download graphicalskins".

2 The pupil browses the available graphicalskins. She can select various of filter criterias: category and tags. Minimum.

It may be number of downloads, date of upload.

4. Selects one and downloads it. It is now the new graphicalskin HANDS toolset.

13. Priority:

Medium.

Use case: Use case: Share an audioskin (pupilid, graphicalskinname, category, tags)

WHAT?

1. Primary actor:

Pupil.

2. Secondary actor(s):

Teachers, pupils

3. Level:

Subfunctions⌐.

WHY?

4. Scope:

While the pupil is using the HANDS toolset, he decides – somehow - that he wants to share the audioskin. Possibly as a talk with a friend.

5. Goal(s) and motivation:

The pupil wants to be helpful.

6. Stakeholder(s) and interests:

Teachers and other pupils.

HOW?

7. Precondition(s):

The pupils smartphone is on an connected to the internet.

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1. The pupil selects TIn area.

2. The pupil selects "Share audioskin".

3. The pupil selects how it should be shared(department, school, HANDS)

13. Priority:

Medium.

Use case: Download a audioskin (pupilid, graphicalskinname)

WHAT?

1. Primary actor:

Pupil.

2. Secondary actor(s):

Teachers(can observe it)

3. Level:

Subfunctions⤴.

WHY?

4. Scope:

The pupil would like some change and try a new audioskin.

5. Goal(s) and motivation:

The pupil are fond of his smartphone and want to customise it more.

6. Stakeholder(s) and interests:

Teachers.

HOW?

7. Precondition(s):

The pupil is connected to the internet

8. Persuasive tool(s):

None.

9. Main Success Scenario:

1. The pupil selects "Download audioskin".

2 The pupil browses the available audioskins. She can select various of filter criterias: category and tags. Minimum.

It may be number of downloads, date of upload.

4. Selects one and downloads it. It is now the new audioskin HANDS toolset.

13. Priority:

Medium.

Explanations

When specifying Sharing of items, there is not distinction between teachers sharingarea and pupils – at the moment. Neither for sharing within the school and withn the whole HANDS consortium.

When considering sharing items, it is highly valuable to have typical information about the dowloadable items: uploaded when/uploaded by who/downloaded no of times etc.

9. Ethical Concerns

Surveillance in Mixed Spaces: Persuasion and resistance
Anders Albrechtslund, Aalborg University, Denmark

1. Introduction

The aim of this article is to develop an understanding of resistance as a proactive user behavior in response to persuasive, surveillance-enabling technologies. By domesticating and "reconfiguring" technologies, users resist persuasive designer intensions. However, this is far from a rejection of the idea behind persuasive technologies (Fogg, 2003) in particular, nor an undermining of designer intentions in general (cf. Albrechtslund, 2007). This article suggests that resistance can be a productive measure in an ongoing designer-user relation. While the designer persuades, the user resists, and this dynamic relation contributes to potentially better technology development.

The focus of the article is surveillance-enabling technologies in "mixed spaces", i.e. spaces that combine the online and offline worlds. Just a few years ago, advanced monitoring and tracking of people, both in virtual and physical space, was mostly a topic for science fiction authors. Today, pervasive surveillance is part of everyday life, especially in the city and on the Internet. Cities are characterized by a wide range of mobile units, e.g. camera phones and GPS navigation units, which distribute surveillance over a number of locational technologies and make it possible to track people outside as well as inside.

Similarly, there are many ways to track online activities, as digital "footprints" are persistent. Moreover, social networking sites and services often facilitate communities that are based on the premise of sharing personal information, including activities, preferences and current whereabouts. Consequently, offline and online activities frequently mix, as web applications and services are integrated with offline practices. Examples of such mixed spaces are mashups that involve Google Maps. Here, cartographic data provided by this web application is combined with the data from different kinds of websites.

With surveillance technologies and practices playing such a central role for the activities in these mixed spaces, it is very interesting to dwell on the concept of surveillance. Is this a frightening development? Does the advanced monitoring and tracking technologies invade our privacy? Are people lured into unfavorable power relations? On the other hand, do the potential gains outweigh the eventual losses? Are surveillance technologies helping us, protecting us and offering new possibilities? As indicated here, the way we theoretically *understand* surveillance is very important for the given frame of answers to these questions. In the first section of this article, I will discuss this conceptual problem and I introduce a participatory understanding of surveillance.

The second section is occupied with the potential struggle between persuasion and resistance. It is well-known that surveillance technologies has been thought to structure people's behavior. Classic examples are buildings inspired by Bentham's infamous panopticon design which was intended to discipline its inmates, patients, students, or workers (Foucault, 1975). In a similar way today, CCTV and other technologies are among other purposes intended to regulate and structure the behavior of citizens, customers or employees (Norris & Armstrong, 1999) and can thus be considered a persuasive technology similar to mobile, locational technologies designed to persuade to certain behaviors (Fogg, 2003). However, users also resist such designer intentions (Ball & Wilson, 2000) and, in the case of surveillance, reverse the power relation by transforming devices into technologies of user empowerment (Koskela, 2004).

The third and final section takes the concepts developed in the two previous sections and discusses them in the context of a concrete case. The case I have chosen is the so-called HANDS project (Helping Autism diagnosed young people Navigate and Develop Socially, Aalborg University, 2008), which is affiliated with Aalborg University, Denmark. This project is about developing persuasive software for mobile devices that can help the targeted users, i.e. autism diagnosed young people, and it is thus an example of surveillance technology in mixed spaces.

2. A participatory concept of surveillance

When we study and discuss theories of understanding surveillance, a reasonable way to begin is to address the problem of definition. The surveillance literature offers many definitions, often in a form where authors state how the concept is used and should be understood in the given context (e.g. Lyon, 2007, p. 14; Marx, 1988, p. 3; Rule, 1973, p. 40). This is, of course, very useful in the given context, but it leaves upon more fundamental questions concerning how to define and, in particular, how to define surveillance. I do not intend to fully address this interesting, but also extremely comprehensive issue, in this article. In the following, my ambition is to position a participatory concept of surveillance among other approaches in the surveillance literature.

2.1. A pluralistic approach

The Aristotelian way of defining involves the disclosure of necessary and sufficient conditions of the concept to arrive at an unambiguous, essential definition. This classical theory has often been seen as the ideal way of defining, as it promises to arrive at the core content of concepts, i.e. explaining what something "really means". This classic, essentialist approach to definitions have been disputed by modern philosophical theories[2], just as it does not seem to be practiced in the field of surveillance studies. Rather, the surveillance literature consists of many types of perspectives on monitoring practices and technologies, which represents a wide variety of academic disciplines as points of departure. My ambition is here to pursue this perspectivism further by, first, elaborating on different perspectives within surveillance studies and, second, introducing a participatory concept of surveillance. Consequently, I am arguing for a pluralistic approach to surveillance that focuses on relations and contexts.

Even though the two most dominating perspectives stem from fiction (Big Brother) and philosophy (Bentham/Foucault), the most notable academic discipline relating to surveillance has traditionally been sociology. However, due to the pervasiveness of surveillance and privacy related issues, scholars from many other academic disciplines ranging from law and the humanities to the social sciences have contributed to the literature and, today, surveillance studies is an interdisciplinary field of research. Furthermore, non-profit organizations, e.g. *Privacy International*, anti-surveillance activists and (performing) artists, e.g. the *Surveillance Camera Players*, take part in the study and discussion of surveillance. This pluralism indicates that surveillance technologies and practices have been studied, discussed and explained from many points of departure. Also, when we take a look at the contexts, in which surveillance plays a role, a manifold of

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[2] The classical theory has been disputed within contemporary philosophy, and it has been challenged by a variety of alternative theories, e.g. the prototype theory. Consequently, the discipline of defining is part of an ongoing debate within philosophy, but it is not possible to further address this issue here.

different relations, ways and types of situations appear. These contexts offer different perspectives on surveillance that involve a wide variety of conceptions and discourses that are more or less detached from Big Brother and the Panopticon.

2.2. Perspectives on surveillance

To illustrate these many possible contexts and to give depth to the concept of surveillance, I have elsewhere developed a list of perspectives, which represent different viewpoints and vocabulary[3]. In the following, I will summarize these many perspectives by grouping them according to three overarching categories. Based on the surveillance perspectives that I have so far described, I propose the following categories: 1) study perspectives, 2) use perspectives, and 3) cultural, social and existential perspectives.

The first group of perspectives includes the manifold ways that surveillance has been interpreted in the research literature. Obviously, Michel Foucault's reintroduction of the panopticon as illustration of discipline in the modern society has played a central role for the understanding of surveillance as a power mechanism in society. Moreover, the idea of surveillance as involving power relations – for control or care – has been developed by sociologist such as Gary T. Marx, David Lyon and others in the sociological tradition of surveillance studies. Other important research perspectives include legal issues, often relating to privacy, and ethical issues concerning the change relations between people caused by surveillance with regards to power and knowledge, which results in a changed space for ethical actions.

The second group of perspectives can be interpreted as different kinds of practical contexts or "professional" approaches to surveillance. Rather than theorizing about surveillance, these perspectives have to do with different kinds of concrete monitoring practices. The professional perspectives include practices relating to security, safety and prevention, which can be oriented toward private, corporate and governmental institutions. Often, these perspectives derive from practical situations where surveillance technologies, e.g. closed-circuit television, are deployed to protect people, things or interests. Thus, this way of understanding surveillance implies that the monitoring practices are conceived as an instrument for certain purposes, e.g. security, safety and prevention of crime. Besides as a passive means of protection, professional perspectives on surveillance can be active, e.g. in the form of spying or investigations. Here, information is pursued using surveillance technologies and practices.

The third group of perspectives relate to cultural, social and existential issues. Some of these perspectives have been very influential our everyday understanding of surveillance

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[3]   The list first appeared on my research weblog (http://www.albrechtslund.net/), but in a different form. The perspectives were further developed in my Ph.D. dissertation, *In the Eyes of the Beholder* (Aalborg University, 2008).

as well as for the basic arguments in the public debate. It almost goes without saying that Big Brother has been the most important and defining metaphor for our understanding of surveillance, which sometimes is accompanied by borderline paranoid conspiracy speculations. Besides this infamous character invented by George Orwell, a number of other less noticeable but very interesting perspectives must be mentioned. These include playing, gaming and leisure activities, which can be based on surveillance technologies and practices. A simple example of such an activity based on surveillance is the children's game "hide and seek", while more technologically based examples could be *Monopoly Live*[4] and *Can You See Me Know?* [5] Furthermore, surveillance facilitates the enforcement of rules in sports, as athletes necessarily must be monitored closely to measure and compare their performances. From a cultural point of view, surveillance is an artistic way to demonstrate issues of society, modernity, transparency, etc. in works of art such as installations (e.g. *Nanobots*[6]) and happenings (e.g. the *Surveillance Camera Players*[7]). Surveillance is also a theme of suspense and fascination in literature, poetics, computer games, cinema, etc. as well as an issue in film theory involving the audience as watchers/voyeurs and the movie as spectacle. This exhibitionist-voyeuristic perspective extends to an understanding of surveillance as a way to display oneself for and/or (secretly) watch other people for (erotic) pleasure. Finally, surveillance can be interpreted as an integral part of human existence, both as watching and being watched, as we become aware of our own self by seeing others watch us. Moreover, by watching other people, we build our own identity, thus, surveillance is a key existential concept[8] in understanding human life.

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[4] Hasbro (the game publisher) introduced *Monopoly Live* as part of a promotional drive in 2005: "We have turned London into a real-life playing board and real taxi cabs into real-life playing pieces" (see http://www.monopolylive.com/). A number of taxis were equipped with surveillance technology to track their whereabouts. Based on the recorded traffic, the value of apartments and hotels went up or down.

[5] This game which takes place simultaneously online and in the streets was created in collaboration between Blast Theory, an artists' group, and Mixed Reality Lab, University of Nottingham, England. More information can be found on the project website: http://www.blasttheory.co.uk/bt/work_cysmn.html.

[6] *Nanobots* is an interactive installation by the German artists' group *Beobachter der Bediener von Maschinen* (BBM) which is intended to involve the visitors in an experience of being pursued and monitored by robots (see http://www.bbm.de/projekte/nanobots.html).

[7] The *Surveillance Camera Players* is a group based in New York City which uses surveillance cameras and theatrical effects to protest surveillance (see http://www.notbored.org/the-scp.html).

[8] For example Jean-Paul Sartre's discussion of the constitution of subjectivity in *L'Être et le néant* (1943), which is illustrated by a story about a voyeur peeping through a keyhole. This act of surveillance puts the watcher in a pre-reflective state of mind, because the person's attention is directed towards the situation on the other side of the door. Only when steps are heard in the corridor, signifying that another person is approaching, the person looking through the keyhole becomes self-aware as the object for someone else's gaze and, thus, enter into a reflective state of subjectivity. As this example show, surveillance can play

As is apparent from these numerous perspectives, the way surveillance is conceived and the way to describe it differs according to the context. For example negatively oriented perspectives, such as the Big Brother and paranoid perspectives, are often associated with a corresponding negative vocabulary, e.g. "hidden", "slippery slope", "intrusion", etc. Similarly, positive and more or less "neutral" perspectives describe surveillance technologies and practices in terms corresponding to how the situation is conceived. Consequently, it is difficult to generalize or find a "God's-eye" perspective on surveillance which encompasses all the contexts mentioned in the above. Rather, the meaning of surveillance seems to be in the eyes of the beholder (A. Albrechtslund, 2008).

2.3. Participatory surveillance

With this pluralism and perspectivism in mind, I propose a participatory concept of surveillance[9] to develop the social and playful aspects of monitoring technologies and practices. In particular, my focus is on power relations and the social role of surveillance. In connection with power relations, I elaborate on the idea of empowerment of the watched and the controlled visibility as a way to build identity and as a strategy of resistance. My suggestion is that surveillance can be understood as an integral and productive part of social life, e.g. on the Web (Anders Albrechtslund, 2008), rather than only be viewed as an unfortunate "side effect", as it is sometimes claimed (e.g. Gross & Acquisti, 2005).

When power relations are discussed in the context of surveillance studies, the panoticon and Orwell's *Nineteen Eighty-four* are models that represent a hierarchical conception of surveillance. Such a conception reduces the person under surveillance to a powerless, passive subject under the control of the "gaze". The idea of participatory surveillance is to introduce a very different, almost opposite, conception. Here, the power relation can be beneficiary for the person under surveillance, as the visibility facilitated by monitoring technologies and practices offers opportunities for empowerment. I have elsewhere studied online social networking and concluded that practices found here reveal surveillance as a potentially empowering and integral part of social life (Anders Albrechtslund, 2008). Rather than being a system of repression, surveillance can be a way to build identity and making sense in the lifeworld for the ones being watched.

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an important role for the existential constitution of subjectivity, and an elaborated existentialism could thus complement a sociological understanding of subjectivity.

[9] The concept "participatory surveillance" have been used before by Mark Poster (1990) and T.L. Taylor (2006). Poster argues that today's circuits of communication and databases constitute a superpanopticon, where individuals are not just disciplined but take active part in their own surveillance even more by continuously contributing with information to databases. Taylor uses the concept to study collaborative play in the online computer game *World of Warcraft*, arguing that norms and coercion, play and pleasure are not necessarily antithetical.

Monitoring and registration facilitates new ways of meeting friends and colleagues as well as socializing with strangers. This changes the role of the watched from passive to active, since surveillance in this context offers opportunities to take action, seek information and communicate. Online social networking therefore illustrates that surveillance – as a mutual, empowering and subjectivity building practice – can be fundamentally social.

To illustrate this perspective on power relations, I will point to Hille Koskela's discussion of the use of webcams, TV shows and mobile phones (2004). She introduces the concept empowering exhibitionism to describe the practice of revealing one's (very) personal life. By exhibiting their lives, people claim "copyright" to their own lives (p. 206), as they engage in the self–construction of identity. This reverts the vertical, "Big Brother" power relation, as visibility becomes a tool of power that can be used to rebel against the shame associated with not being private about certain things. Thus, exhibitionism is liberating, because it represents a refusal to be humble (p. 210).

An important aspect of this perspective on surveillance is the idea of participation. To participate means to engage in something, but it is not necessarily something we do out of individual desire or pleasure. Examples could be found in all contexts of life, including work–related situations and charity efforts. However, participation as an engaging act is voluntary and must be well–defined in relation to the pseudo–participation we know from the panopticon and Orwell's *Nineteen Eighty–Four*. The panopticon is set up in way for the prisoners to take part in their own surveillance by internalizing the gaze of the watcher, and in Orwell's novel the citizens of Oceania ends up taking part in their own (and others') surveillance in their "love" of Big Brother. Here, the self–surveillance is inflicted on the people watched, as they are caught up in a power relation (Foucault, 1975) or as a result of the brainwashing carried out by the Ministry of Love (Orwell, 1949). Both of these disciplinary practices are disempowering and, thus, disengage the subject of surveillance. Therefore, concepts such as participatory panopticon (Cascio, 2006) are contradictory or, at best, redundant, if the internalizing of the gaze is interpreted as a form of pseudo–participation.

The concept of participatory surveillance is closely associated with the idea of sharing. It is important to not automatically assume that personal information submitted in surveillance relations is only commodities for trading, because implicit in this understanding is that to be under surveillance is undesirable. When we look at online social networking and related practices, then participating is also about the act of sharing yourself – or your constructed identity – with others. Accordingly, the role of sharing should not be underestimated, as the personal information people share – profiles, activities, beliefs, whereabouts, status, preferences, etc. – represent a level of communication that neither has to be told, nor has to be asked for. It is just "out there", untold and unasked, but something that is part of the socializing in mediated publics. One

of the findings in a Pew Internet & American Life Project report (Lenhart & Madden, 2007) is that a great majority of teens use online social networking to keep in touch with friends they rarely see in real life. In this case, participatory surveillance is a way of maintaining friendships by checking up on information other people share.

3. Persuading the user, resisting the designer

In this section, I discuss the idea behind persuasive technologies and how to develop and design these. First, issues relating to the limits of designing will be addressed and, second, I elaborate on the power struggle between designer intentions and user practices.

3.1. Persuasive technologies

The basic idea behind persuasive technologies is the intention to change or influence attitudes or behaviors. According to B.J. Fogg, one of the leading figures in the research field, technologies can be designed with specific purposes in mind, which can then be employed to persuade users (2003). Fogg distinguishes between "macrosuasion" and "microsuasion", which represents two different level of persuasion (pp. 17-20). The first level is technologies that are fully designed for persuasive purposes, e.g. websites for people to quit smoking or to prevent teenage pregnancies. The latter are technologies that serve some other purpose or function, but still have an element of persuasion. For example evaluation or feedback systems for websites, which gather information to improve the website and, also, motivate users to give this feedback by offering different kinds of encouragements and rewards.

Thus, the idea of persuasive technologies – whether macro- or microsuasion – presuppose that the use of technologies to some extent must correspond to or reflect the designer's intentions. Further, this correspondence between design and use must be more or less controlled. If for example a website that seeks to persuade users to stop smoking in fact are used by smokers to socialize, but without giving up the unhealthy habit, then the designer's persuasive intentions does not correspond to the use context. This example and other similar situations can be a problem for the theoretical idea of designing technologies, in so far as the ambition is (also) to persuade the user.

To some extent, the idea of persuasive technology design shares this problem with technology design in general. Naturally, if technologies are designed to serve certain functions (communication, information, entertainment, etc.), then the success or failure of the design can depend on how well the specific functions are part of the use context or, at

least, available to the user[10]. However, persuasive technologies go beyond merely designing functions, as the designer intentions are more ambitious. Persuasive technology design aims at social influence and, as such, the idea behind is associated with theories of value-conscious design. Such theories, e.g. Value Sensitive Design (Friedman, 2004; Friedman, Kahn, & Borning, 2002), aim at "building in" values in technologies as well as preempting ethical concerns. I have elsewhere discussed that such ambitions are faced with a "positivist problem". To overcome this problem, I have suggested a phenomenological approach to technology inspired by the concept "multistability" introduced by Don Ihde (Albrechtslund, 2007).

I will argue that a similar critique regarding theories of persuasive technology design is appropriate. The core of the positivist problem is the relation between the design process and the eventual use of technology. It is positivist, because the default assumption is that the design of a technology will – more or less – correspond with the use of technology and that this relation does not pose a problem. I consider this to be a problem, because design and use do *not* correspond just like that, which can be substantiated historically and phenomenologically. A basic outcome of Ihde's phenomenological analyses is that the relations of use define technologies (1990, 2002). Thus, technologies do not have an essence or basic meaning apart from the use contexts it enters into, and to describe this ambiguity in technology Ihde introduces the concept multistability. This concept illustrates that different types of technology relations can stabilize depending on the use context, e.g. a human-cup relation can "stabilize" in many ways, including contexts of drinking, socializing, storage, museum object, etc. The consequence of multistability is that it is necessary to abandon an essentialist or substantivist understanding of technology.

A solution to the positivist problem is to focus on the limitations of design. It is necessary to abandon any ambitions of predicting how technologies will be used and instead focus of anticipating certain trajectories of use. A theory about designing persuasive technologies can with advantage be developed in a way that includes the multistable and relation character of technologies. The purpose of this article is not to engage in such a major endeavor, but to suggest ways of thinking about surveillance and technology towards a phenomenological theory of persuasive design.

3.2. Persuasion and resistance

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[10]   If a chair is designed in a way that makes it impossible to sit in, then it can be considered a failure from the perspective of designer intentions. However, technologies that are designed for certain purposes, which for different reasons does not become part of the use context, are not necessarily design failures, as such technologies are sometimes successfully used or *reconfigured* (I will return to this later in the article) for other purposes.

Persuasive technologies are designed to change or influence behaviors and attitudes and, as such, it is a form of communication. Obviously, the designer is communicating with the users, but other actors are involved. Keeping with the theme of surveillance, this can be illustrated with the employment of closed-circuit television (CCTV) in public streets. Such a process is not simple and it cannot adequately be described in a single purpose. Several actors are involved, including the police, politicians, shopkeepers, bar owners, etc., and these actors might have very different perspectives about the CCTV with regards to expectations, opinions and reasons for wanting to employ surveillance. Thus, several types of persuasion related to the technologies can be identified, including to avoid criminal behavior or to influence the customer and guest's perception of security and safety.

The deployment of CCTV in public streets and other technologies designed to persuade can be interpreted as a way to exercise power. However, this exercise of power can be met with counter power or resistance. In the case of CCTV, the resistance manifests itself when people try to avoid the surveillance, e.g. by covering their faces or staying out of the cameras' reach. A violent version of this resistance can be seen when people purposely try to make the cameras dysfunctional or even damage them. Other more creative examples of expressing resistance are the many artistic ways of addressing the issues relating to monitoring technologies. The American theater and activist group, *Surveillance Camera Players*, which is mentioned above, have staged a number of happenings that combines the functionality of CCTV with theatrical acting, thus, using the cameras themselves for protests against surveillance.

When people exercise resistance, the persuasive technologies will sometimes be used in new and perhaps even unexpected ways, which can be described as a *reconfiguration* of the technologies. Consequently, the persuasive technologies are redefined according to the use context, which can be interpreted as practical "deprogramming" of the designer's intentions. For example a speed bump is designed to persuade drivers to slow down in certain areas, but if these bumps instead are used at night by young drivers to make spectacular – and very dangerous – car stunts, then the technology is reconfigured and the persuasive design is challenged. This is, of course, a rather unfortunate resistance and my ambition in this article is to point out more beneficiary ways of reconfiguring technologies. I suggest that resistance in the form of reconfigurations can enter into a dynamic relation between user and designer, which has the potential to inform the design process.

4. Mixing spaces
This section offers a discussion of participatory surveillance and the design of persuasive technologies in the context of the HANDS project. First, I will describe and elaborate the different elements of the case, including the HANDS toolset. Second, the power relations

and issues relating to resistance and manipulation will be discussed in the context of the HANDS project. Third, participatory surveillance is suggested as a theoretical framework for understanding resistance as a productive process and as a guiding principle in the ethical distinction between persuasion and manipulation.

4.1. The case of HANDS

In June 2008, a consortium composed of private and public partners, developers, schools and universities, initiated the research and development project called "HANDS" (cf. Aalborg_University_et_al., 2008). The project title is an acronym for "Helping Autism diagnosed young people Navigate and Develop Socially" and it is financed by the European Union, Framework Program 7, and has a €3.5 million budget. The overall ambition of the project is to develop a mobile ICT solution to help young people with an autism diagnosis (ASD) to become better integrated in society. The project is planned to run for three years and a multi-disciplinary approach ranging from Human-Computer Interaction (HCI) to Cognitive Psychology will be applied to carry out the ideas.

The basic idea is to develop a toolset for mobile devices that will support the users in handling situations where they have to act autonomously, moreover, this interaction is thought to develop the social skills and management skills of the young people with an ASD. This toolset is customizable for individual needs and since it is mobile, it will be available whenever everyday situations occur. While the potential users already have a number of tools, e.g. pictograms, detailed calendars and diaries, these are rather limited compared to the proposed HANDS toolset, which will enable interaction, training and coaching. Further, the ICT toolset will be designed to be more appealing for young people than the often clumsy non-ICT tools, thus, the idea is that the users will not feel "different" when the mobile device is used in public. This allows young people with an ASD to act and feel like other teenagers equipped with "fancy" mobile devices.

Concretely, the toolset is made up of six functionalities, which can be integrated in different ways:

(1) The Handy Interactive Persuasive Diary (HIPD), which is a "smart" calendar. It provides knowledge about situations and seeks to persuade the user to adopt certain behaviors rather than others.
(2) The Simple-Safe-Success Instructor (SSSI), which gives precise and practical advice in how to solve a given problem, e.g. how to travel by public transportation.
(3) The Personal Trainer (TT), which simulates problematic situations while providing concrete and practical advice.
(4) The Individualizer (TIn), which gives the user extended possibilities to customize the toolset with regards to functionality, aesthetics and interface.
(5) The Sharing Point (SPo), which offer extended options to share experiences, interests, customized functionalities, etc. among the users. Further, the SPo can match users with similar profiles.

(6) The Credibility-o-Meter (CoME), which helps the user and their teachers to evaluate the HANDS tools, based on the electronic footprints left by the user during normal use.

It is important to notice that the HANDS toolset will not be developed to be an "extended arm" of the teachers, nor are the users supposed to blindly follow the advice from the toolset. Rather, the idea is for the toolset to be a coaching device that supports and suggests goals and aims, which the teenagers themselves can support. To attain this goal, the toolset will be designed with a "social actor" interface, which is thought to be easier to relate to. The social actor will be in the form of a virtual person with a specific name and personality. Thus, the interaction and coaching will be in a form that is similar to everyday conversations.

To illustrate how the HANDS toolset is supposed to work, the consortium has provided a number of user stories (Aalborg_University_et_al., 2008). One of these stories concerns Pete, a 16-year old boy with fear of crowded places. Once a year his school travels to Norway for skiing and for Pete, the thought of a crowded airport and a crowded plane is making him uncomfortable. The HANDS toolset can improve this situation. By using the diary to articulate his thoughts about the problem, Pete is provided with contextual advice. Moreover, the customized Personal Trainer can simulate the situations Pete will encounter and suggest alternative patterns of reaction and through this process, he can become familiar with these situations beforehand. Furthermore, the Simple-Safe-Success Instructor can be a practical step-by-step guide in the actual situation.

4.2 HANDS toolset as persuasive technology

The idea behind HANDS is to influence attitudes and change behaviors and, as such, the ambition is to design persuasive technologies. The toolset is an ensemble of technologies that assists and supports as well as persuades and influence the users, in this case young people with ASD. In the context of the discussions earlier in this article, HANDS as persuasive technology poses at least two challenges. The first one concerns the power relations between the involved actors, which include designers, teachers, parents, technologies and the young people with ASD. Here, the toolset and the users will be the stage of struggles between persuasive intentions and different kinds of resistances strategies. The second challenge has to do with the ethical question concerning the act of persuasion: What is the difference between persuasion and manipulation?

The power relations involving the HANDS toolset involve several actors with different types of persuasive intentions. Moreover, it is prudent to further subdivide some of the identified actors, e.g. the designers. As the HANDS toolset is developed by a consortium consisting of practitioners, researchers and industry partners, the designer intentions stems from a variety of motivations. Of course, the overall ambition is to help young people with ASD, but the different partners probably have different reasons for taking

part in the consortium. For example the industrial partners, who have an interest in developing a toolset that potentially can generate a profit for the company. Similarly, the researchers can have an agenda about developing theory or perhaps produce publishable research papers. The practitioners, i.e. the staff employed at schools for young people with ASD, might base their participation on an interest in improving their own working conditions and environment.

As this preliminary analysis of intentions show, the HANDS toolset represent a number of diverse motivations and approaches to persuasive design. These motivations and approaches indicate that the persuasion as communication and power exercise is the result of diverse interests. In a similar way, the users of the designed technologies, i.e. the six functionalities described above, have different motivations and approaches. Among these can be deviant responses to the advice, suggestions and coaching offered by the HANDS toolset. These can be passive, e.g. when the user ignores the persuasive technologies, and it can be active and even violent, if the resistance takes the form of destructive behavior either directed towards the mobile device, other people or themselves.

The second challenge moves the issue from the struggle between persuasion and resistance to the dichotomy between persuasion and manipulation. This is an ethical question because although both strategies seek influence on attitudes and behaviors, persuasion is understood as something positive while manipulation is negative or unfair. Consequently, technologies based on persuasive design methods are considered ethically right good while manipulative design is wrong. The matter is further complicated because the target audience for the HANDS toolset is young people with ASD, who are not capable of perceiving a need for change in behavior.

To avoid manipulation, it is necessary to carefully evaluate the intentions motivating the design process as well as the developed methods of persuasion. The guiding principle for such an evaluation should be to identify what sorts of motivations and influences, which is appropriate in this particular context and which are not.

4.3 Participation and reconfiguration

Both the persuasion/resistance struggle and persuasion/manipulation dichotomy is related to issues of surveillance. The functionalities of the HANDS toolset are based on surveillance practices, as it is necessary to monitor the activities, habits and preferences of the young people with ASD. In other words, it is necessary put the users under surveillance to help them navigate and develop socially and, consequently, the way these surveillance practices are understood makes up a conceptual framework for these two challenges.

I suggest the participatory concept of surveillance to more adequately understand the potentials of the HANDS toolset. This is not to belittle the inherent issues of privacy

invasion and repressive control. Such issues are serious challenges for the actors involved in developing technology, especially when the explicit aim is to influence and change attitudes and behavior as in this case. Participatory surveillance is a particular perspective, which offers the possibility of bringing to light other aspects of the surveillance practices than e.g. a privacy or "Big Brother" perspective might provide. Thus, my point is certainly not that inappropriate or even dangerous potentials should be ignored, rather, participatory surveillance is a way to broaden our understanding of the HANDS toolset. Participatory surveillance is a theoretical framework that makes it possible to interpret the struggle between persuasion and resistance as a potentially positive, constructive process. This power struggle is also about appropriating the technologies, i.e. a way for the young people with ASD to make the HANDS toolset "their own". By reconfiguring and "hacking" the technologies in different ways, which is not necessarily predictable for the different actors, including the designers. Such productive resistances and reconfigurations provide the basis for power relations that empower users, as the HANDS toolset are domesticated and customized by the young people themselves.

Consequently, the participatory surveillance perspective on the HANDS toolset can be helpful with regards to the dichotomy between persuasion and manipulation. The guiding principle for determining if the designed technologies are persuasive or manipulative could with advantage be based on how well they the young people with ASD are empowered. Similarly, the technology design becomes manipulative if the HANDS toolset cannot be reconfigured in a constructive way, but rather leads to either passive or aggressive resistance. Therefore, an important approach to designing persuasive technology must be to avoid a determinist approach of building a "perfect" coaching tool; the HANDS toolset should not be thought of as just an instrument, but as a potentially empowering technology for young people with ASD.

5. Conclusion

In this article, I have tried to shred light on surveillance in mixed spaces, in particular, with regards to technologies designed with persuasion in mind. Participatory surveillance has been suggested as perspective from which the monitoring practices of the HANDS toolset can be interpreted in a positive, constructive way. Thus, my point is not to exonerate persuasive technologies, in particular the HANDS toolset, from ethical problems. Rather I offer a perspective that adds to our understanding of such a design process with regards to avoiding manipulation.

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