Concept and Design of a Mobile Learning Support System for Mentally Disabled People at Workplace

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## Overview

1. Introduction to Mentally Disabled People
2. Mobile Learning Projects
3. Our Concept and Methodology
4. Examples of 1st Prototype
5. Results of Evaluation
6. Conclusion and Future Work
MENTALLY DISABLED PEOPLE
A disability is any restriction or lack (resulting from any impairment) of ability to perform an activity in the manner or within the range considered normal for a human being.

Source: WHO (World Health Organization)
Mentally disabled people have difficulties in thought processes (perception, awareness, reasoning, memory and judgment) and to gain new knowledge to be applied in daily work.
MOBILE LEARNING PROJECTS
We have **come through** the pioneering phase and from now on we must **focus more** on the context and how to apply m-learning within the environments.
Different research projects exist in the field of m-learning.
We have identified **three different areas** in which research projects take place:
1. educational institutions

2. workplace

3. specific target groups
However, there are nearly no projects or approaches aiming at m-learning for mentally disabled people at workplace.
The perception of the mentally disabled is slow, rigid and insufficiently organized, which makes it limited, fragmental, incomplete, in short, there is a scarcity of elementary mental images.

Suta et al. 2007
Transferring knowledge learned from the classroom to the workplace will result in a loss of parts of it!
OUR CONCEPT AND METHODOLOGY
Our general approach is to engage these people for learning activities, new motivations and to enhance their self-esteem and confidence.
In special-needs pedagogy, the focus lies on the persons and their abilities, rather than the learning strategy.
Our didactic and pedagogy concept applies customization and personalization with respect to special-needs pedagogy.
It contains of **three phases**:

1. analysis  
2. personalization  
3. immersion
analysis phase: 
gathers information about the user’s mental ability and knowledge regarding the assigned work.
personalization phase: the appropriate learning entity is selected according to the user’s mental ability, knowledge and work task.
immersion phase:
the learner becomes part of the learning application,
he will see himself (instead of another person)
depicted within the context of use.
CLIENT SERVER ARCHITECTURE
Stationary Server

- Assessment
- Statistics
- Authorware

- User Profile
- Learning Material

Decision Mechanism

Mobile Learning Client

Supervisor

Call via SOS-button
Mobile Client User Interface:

- text + audio
- video or animation
- large buttons and text
- no scrolling
- simple navigation
- simple language
- SOS-button
EXAMPLE
OF 1st PROTOTYPE
Example of Mobile Client Device
Geräte-Einweisung
Freischneider

Grünpflege | Motorgeräte

Freischneider

Kettensäge

Laubgebläse

Heckenschere

Rasenmäher

Zeige auf ein Teil, um mehr darüber zu erfahren.
Geräte-Einweisung
Freischneider

5 Vorbereitung

1

Achte darauf, dass sich das Sternmesser frei drehen kann.

2
Geräte-Einweisung
Freischneider

1 Einsatz

Der Freischneider ist ein handgeführtes Arbeitsgerät, das von einem Benzinmotor angetrieben wird. Das Arbeiten damit birgt Risiken für den Benutzer und seine Umgebung.

Mit den Pfeiltasten blätterst du von Seite zu Seite.
RESULTS
OF EVALUATION
5 Aspects of Learning Behavior:

Attention
Recall
Memory
Speech
Praise
Conclusion: Mobile devices enhance the motivation of learning and can be used as a catalyzer for improving their learning and performance.
Thank you for your attention.
Any questions?

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