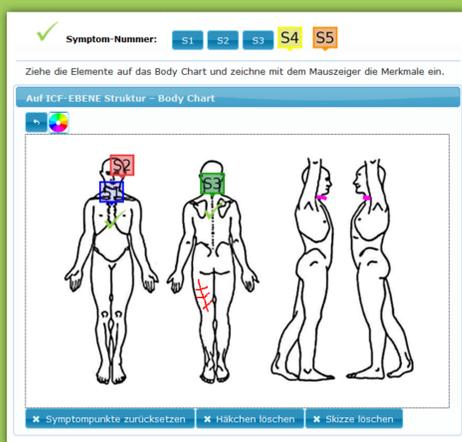
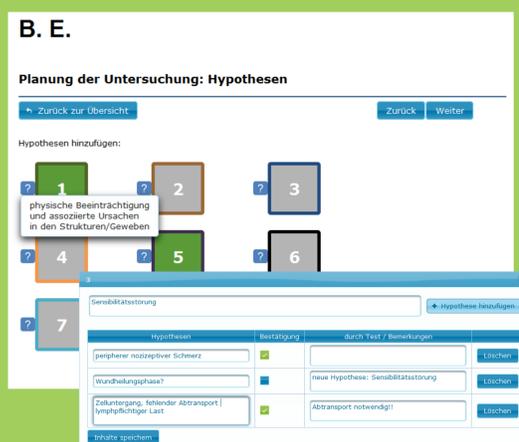


# Development and Evaluation of a web-based Application for Digital Findings and Documentation in Physiotherapy Education

Bernadette SPIELER, MSc  
FH-Prof. Ing. Dipl.-Ing. Dr. techn. Harald BURGSTEINER  
Mag. Karin MESSER-MISAK  
Barbara GÖDL-PURRER, MSc  
Beate SALCHINGER, MMSc



**Fig.1: Anamneses:** Interaction in a Body-Chart with the possibility of drawing and placing symptom points and checkmarks for symptom free areas.



**Fig.2: Hypothesen evaluation:** Planning of investigation and confirmation of hypotheses.



**Fig.3: Patient management:** Add, edit and print out documented patient data.

## References

- [1] Reimann, S. *Befunderhebung. Grundlagenwissen für Physiotherapeuten und Masseur.* Urban und Fischer Verlag 2002, München.  
[2] Kevin, E. *What every teacher needs to know about clinical reasoning.* Blackwell Publishing MEDICAL EDUCATION 2004, 39:98 - 106.  
[3] Krug, S. *Web Usability. Rocket Surgery Made Easy,* Addison-Wesley Verlag 2010, München.

## BACKGROUND and AIMS

Findings in physiotherapy have standardized approaches in treatment, but there is also a significant margin of differences in how to implement these standards [1]. Clinical decisions require experience and continuous learning processes to consolidate personal values and opinions. Studies suggest that lecturers can influence students positively [2]. Until recently, the study course of Physiotherapy at the University of Applied Science in Graz has offered a paper based finding document. To make this documentation more transparent, efficient and qualitative, we provide students with a user friendly web-application for digital documentation called EasyAssess.

## RESEARCH DESIGN and METHODOLOGY

EasyAssess is a JavaServer Faces (JSF) based web-application. It is connected to a central MySQL database and deployed on a GlassFish web-application server. To evaluate the application the paper describes the general steps of the documentation process in physiotherapy and general requirements for software products (e.g., functionality, security and privacy, reliability, efficiency and usability). In addition we performed two usability tests with subjects from the study course of Physiotherapy [3].

## RESULTS and DISCUSSION

The following features are implemented in EasyAssess:

- (Reasonable) guarantee of security and privacy
  - Full flexibility in terms of anamnesis (Fig. 1) and inspection of the patient
  - Transparent evaluation of hypotheses (Fig. 2)
  - Efficient patient management (Fig. 3)
  - Upload and management of pictures, videos and PDFs
  - Generation and download of final reports / final findings as PDF-documents
  - Interactive assessment of students (for teachers) and feedback loops
  - Administrative tasks e.g. management of different roles
- Finally the paper describes the integration in the physiotherapy lessons, shows possible enhancements for a commercial version of the application and possible interfaces to existing systems.