Individualization of Studies through Digital, Data-Driven Assistants – SIDDATA

X5GON Workshop, Osnabrück, 12. March 2019
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Agenda

▪ About the Project
▪ Project Idea
▪ Interdisciplinary Research
▪ First Data Collection
▪ Research Questions
About the Project

Project Idea

Interdisciplinary Research

First Data Collection

Research Questions
About the Project – Joint Project Partners

Universität Osnabrück
Leibniz Universität Hannover
SIDDATA
Universität Bremen
HISHE Institut für Hochschulentwicklung
About the Project – Facts

- 3x Universities + 1x Consulting Service Institute in 2x German states
  - 3x Centers for E-Learning (Hannover, Bremen, Osnabrück)
  - 2x Institutes of Information Systems (Hannover, Osnabrück)
  - 1x Institute of Cognitive Science (Osnabrück)
  - HIS-Institute for Higher Education Development (HIS-HE) (Hannover)
- 22+ Researchers involved – Research-in-Progress
- 3.5 years Project Duration (success: + 2.5 y), started November 2018
About the Project

Project Idea

Interdisciplinary Research
First Data Collection
Research Questions
How can Students be supported in Achieving Individual Study Goals?

- Combine and prepare previously unlinked data and information in a digital study assistant for self-responsible use
  - Learning Management Systems (LMS) / Campus Management Systems (CampusMS)
  - Offers and Resources of other Universities / Institutions
  - Open Educational Resources (OER)
  - Data on individual learning and working behavior
How can Students be supported in Achieving Individual Study Goals?

- **Encourage** students to set their own individual study goals (goal setting) and to follow them

- **Assist** students in making informed decisions for their own individual study path

➔ Data-driven assistant will be able to:
  - give **hints, reminders and recommendations** appropriate to the situation
  - support **self-monitoring** and **self-regulation**
About the Project
Project Idea

Interdisciplinary Research

First Data Collection
Research Questions
Interdisciplinary Research

Higher Education Research
- Collection of stakeholder requirements
- Evaluation with multimethod approach

Information Systems
- Empirical survey of success and failure factors
- Data Extraction processes and interfaces to LMS and CampusMS

Cognitive Science
- Apply AI such as Machine Learning
- Physiological measurements of internal processes

Software Development
- Fast-to-use prototypes (agile)
- Hybrid IT project management models
About the Project

Project Idea

Interdisciplinary Research

First Data Collection

Research Questions
First Data Collection – First Prototype

- Individual Study Goals
- Frontend – LMS-Plugin (Stud.IP)
- Backend – Python/REST API
First Data Collection – Individual Study Goals

Retrieved Data (Examples):

- “Complete my Studies”
- “Semester Abroad”
- “Finding a good job”
- “Learning Spanish”
- “Good Grades” …

- “Being happy”
- “ Abilities”
- “Experiences” …
About the Project

Project Idea

Interdisciplinary Research

First Data Collection

Research Questions
Research Questions

- Didactic and Pedagogical-Psychological Conditions of Success
- Organizational Conditions of Success
- Technical Conditions of Success
Didactic and Pedagogical-Psychological Conditions of Success

▪ Can the **self-study competence** be **strengthened** by using the assistant?

▪ How can users be **sensitized successfully** for the **informed handling** of their own data?

▪ How can a **high actual usage** be **achieved**?
Organizational Conditions of Success

- How can intra-organizational data be made available and accessible?
- How can teaching and inter-organizational data be exchanged?
Technical Conditions of Success

- Which **technical conditions** are necessary for the **integration of data** from different systems?
- How can **attention processes** be analyzed?
- How can **heterogeneous data** be related to **individual study goals**?
Discussion

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