UNIVERSITEIT TWENTE.

FINAL PROJECT THESIS

Developing a Tool for Learning Concept Maps

Author:
M.C. VAN DEN ENK
[s1004654]
m.c.vandenenk@student.utwente.nl

Supervisor: dr. A.H. Gijlers a.h.gijlers@utwente.nl

Contents

| Ι | Design Plan | |
|-----|-----------------------------------|---|
| Fla | ashcards | |
| | Scheduling | |
| | General order of presenting nodes | |
| | Rescheduling of nodes | |
| | Spaced repetition | |
| | Breaks during learning session | |
| | Evaluation of Response | |
| | Evaluation by the student himself | |
| | Automatic evaluation | |
| Co | oncept Maps | |
| | Directed or Undirected Graph | |
| | Cyclic or Acyclic graphs | |
| | Traveling route through graph | |
| | Incomplete concept maps | |
| Fee | edback | |
| | Tracking of Progress | |
| | Feedback during Learning | |
| Sa | ftware Implementation | |
| 30 | Server | |
| | Python | |
| | Java | |
| | | |
| | | |
| | Javascript | |
| | | |
| | MySQL | |
| | JSON | |
| | DOT Language | |
| II | Research Proposal | 9 |
| Su | mmary | 1 |
| | | |

| Project Description | | |
|------------------------------------|----|--|
| Problem Statement | 11 | |
| Theoretical Conceptual Framework | 11 | |
| Research Question and Model | 11 | |
| Scientific and Practical Relevance | 11 | |
| Research Design and Methods | | |
| Research design | 12 | |
| Respondents | 12 | |
| Instrumentation | 12 | |
| Procedure | | |
| Data Analysis | 12 | |
| Planning | | |
| Timeline | 13 | |
| Outputs | 13 | |

Part I Design Plan

Design Plan b6453ab

Flashcards

Scheduling

General order of presenting nodes

Rescheduling of nodes

Spaced repetition

Breaks during learning session

Evaluation of Response

Evaluation by the student himself

Automatic evaluation

b6453ab Design Plan

Concept Maps

Directed or Undirected Graph
Cyclic or Acyclic graphs
Traveling route through graph
Incomplete concept maps

Design Plan b6453ab

Feedback

Tracking of Progress

Feedback during Learning

b6453ab Design Plan

Software Implementation

Server

Python

Java

Client

Javascript

Sigma

Cytoscape

Vis.js

D3

Database Format and Network Protocol

MySQL

JSON

DOT Language

Part II Research Proposal

b6453ab Research Proposal

Summary

Here follows a summary of maximum 250 words.

Research Proposal b6453ab

Project Description

Problem Statement

Theoretical Conceptual Framework

Research Question and Model

Scientific and Practical Relevance

b6453ab Research Proposal

Research Design and Methods

Research design

Respondents

Instrumentation

Procedure

Data Analysis

Research Proposal b6453ab

Planning

Timeline

Outputs