Bachelor Informatica

Universiteit van Amsterdam

# CLIsis: An Interface for Visually Impaired Users of Apache Isis Applications

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**Abstract**

This will be the abstract.

# Contents

CHAPTER 1

# Introduction

This chapter will introduce the subject to the reader and explain its purpose.

## 1.1 Research questions

The main research question and two subquestions are shared with the reader.

## 1.2 Overview of thesis

A short overview of what this thesis will describe is given.

CHAPTER 2

# Theoretical background

This chapter provides information on the technology related to this project.

## 2.1 Apache Isis

This section will describe what Apache Isis exactly is.

### 2.1.1 Domain Driven Design

As Apache Isis is a framework based on Domain Driven Design, I will briefly describe the core concepts of DDD.

### 2.1.2 Naked Objects pattern

Apache Isis implements the Naked Objects Pattern, which is related to DDD.

## 2.2 User interface migration in history

This section will provide some context around the issues that arise when implementing a new interface.

### 2.2.1 Issues and caveats

CHAPTER 3

# Methods

This chapter will describe the employed methods.

## 3.1 User interface migration

This section will describe what method I have applied to perform the user interface migration.

### 3.1.1 Detection

Step one of the migration method.

### 3.1.2 Representation

Step two of the migration method.

#### Specifications

The set of specifications that are derived from section 3.1.1 are presented.

### 3.1.3 Transformation

Step three of the migration method.

## 3.2 Experiments

A description of the methods used to conduct the experiments.

### 3.2.1 GOMS

The Goals, Operators, Methods, Selection rules method is explained.

### 3.2.2 Time trial

A custom time trial method is described.

CHAPTER 4

# Implementation

This chapter describes the practical side of the project.

## 4.1 Frameworks and tools

This section expands on what available software tools I have used to implement the new interface.

### 4.1.1 REST API

This subsection will describe how Apache Isis' REST API works and how it is incorporated in the new interface.

### 4.1.2 AngularJS

Here I will explain the choice for AngularJS.

### 4.1.3 Web Speech API

This subsection will describe how the Web Speech API is used.

## 4.2 Functionality

This section will expand on the individual components that process the information from the REST API.

### 4.2.1 Main module

This subsection describes the main app module.

### 4.2.2 Controllers

This subsection describes each controller's functionality.

### 4.2.3 Views

This subsection describes the purpose of each view.

CHAPTER 5

# Evaluation

This chapter describes the experiment results and answers the research questions.

## 5.1 Specification requirements

In this section, I will motivate which specifications have been met in the implementation. With this information I will be able to answer the first subquestion.

## 5.2 Experiments

### 5.2.1 GOMS

Here, the results from applying GOMS will be evaluated.

### 5.2.2 Time trial

Here, the results from the time trial experiment will be evaluated.

### 5.2.3 Performance difference

This subsection will evaluate the experiment results and answer the second subquestion.

CHAPTER 6

# Conclusion

Here, I will answer the research question and make any other conclusions.

## 6.1 Future work

Any remaining future work can be discussed here.

## 6.2 Acknowledgements

# Bibliography

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APPENDIX A

# Application manual

## A.1 Installation

This appendix provides instructions on running the demo application.

## A.2 User manual

A concise manual to use the interface.

APPENDIX B

# Time trial test class

Here I will describe how the time trial has been implemented in Java.