Map of Denmark
First-Year Project, Bachelor in Software Development, IT Univ. of Copenhagen

> Group 12 Jakob Melnyk jmel@itu.dk Niklas Hansen nikl@itu.dk Emil Juul Jacobsen ejuu@itu.dk Jens Dahl Møllerhøj jdmo@itu.dk

Supervisors: Lars Birkedal Advisors: Jonas Brabrand Jensen and Filip Sieczkowski

May 25th, 2011

### Contents

1	$\mathbf{Pre}$	face
<b>2</b>	Bac	ekground
	2.1	Problem area
	2.2	Our requirements
		2.2.1 Project requirements
		2.2.2 Our own requirements
	2.3	Data set
		2.3.1 UTM-coordinates
		2.3.2 Graph
	2.4	MVC structure
3	UI-	analysis
	3.1	Interesting features
		3.1.1 Pins
		3.1.2 Navigation
		3.1.3 Bike/car
		3.1.4 Hotkeys
	3.2	Features we did not implement
		3.2.1 Choice of roads to be displayed
		3.2.2 Smooth scrolling
		3.2.3 Dynamic route finding
4	Imr	plementation
-	4.1	Dijkstra vs A-star
	4.2	Evaluator
	4.3	Quadtree
	4.4	Serialization
	4.5	UTM-convertion
	4.6	Mousezoom
	4.0	Floats

CONTENTS CONTENTS

5	5 UML-diagrams				
	5.1	MVC	7		
	5.2	Simple Diagram	7		
	5.3	Control flow	7		
6	Test	${f ts}$	8		
	6.1	WB: closestEdge	8		
	6.2	JUnit	8		
	6.3	System test	8		
7	Mai	aual	9		
	7.1	Navigation	9		
		7.1.1 GUI	9		
		7.1.2 Keyboard	9		
	7.2	Zoom	9		
		7.2.1 GUI	9		
		7.2.2 Keyboard	9		
	7.3	Route find	9		
	7.4	Bike/car	9		
	7.5	Resize	9		
	7.6	Road display	9		
8	Pro	duct conclusion	10		
9	Gro	up norms	11		
10	10 Diary				
11	11 Worksheets				
12	12 Process description and reflection				

# Preface

1

# Background

- 2.1 Problem area
- 2.2 Our requirements
- 2.2.1 Project requirements
- 2.2.2 Our own requirements
- 2.3 Data set
- 2.3.1 UTM-coordinates
- 2.3.2 Graph
- 2.4 MVC structure

# **UI-**analysis

- 3.1 Interesting features
- 3.1.1 Pins
- 3.1.2 Navigation
- 3.1.3 Bike/car
- 3.1.4 Hotkeys
- 3.2 Features we did not implement
- 3.2.1 Choice of roads to be displayed
- 3.2.2 Smooth scrolling
- 3.2.3 Dynamic route finding

# Implementation

- 4.1 Dijkstra vs A-star
- 4.2 Evaluator
- 4.3 Quadtree
- 4.4 Serialization
- 4.5 UTM-convertion
- 4.6 Mousezoom
- 4.7 Floats

# **UML-diagrams**

- 5.1 MVC
- 5.2 Simple Diagram
- 5.3 Control flow

# Tests

- 6.1 WB: closestEdge
- 6.2 JUnit
- 6.3 System test

#### Manual

- 7.1 Navigation
- 7.1.1 GUI
- 7.1.2 Keyboard
- 7.2 **Zoom**
- 7.2.1 GUI
- 7.2.2 Keyboard
- 7.3 Route find
- 7.4 Bike/car
- 7.5 Resize
- 7.6 Road display

# Product conclusion

1

# Group norms

# Diary

3-4

# Worksheets

4-5

# Process description and reflection

1