

Aalto University  
School of Science  
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Master's Thesis  
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Instructor: Risto Sarvas D.Sc.(Tech.)

Aalto University  
 School of Science

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ABSTRACT OF  
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Thank you.

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Kimmo Puputti

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## 0.1 Thesis Git repository info

### Git HEAD:

```
commit 5ce86f52f8e9dbefcf267a20c530bcc52959a2e5
Author: Kimmo Puputti <kpuputti@gmail.com>
Date:   Thu Jan 5 15:03:51 2012 +0200
```

Ignore gitinfo.tex.

### Repository status:

```
# On branch master
# Your branch is ahead of 'origin/master' by 5 commits.
#
# Changes not staged for commit:
#   (use "git add <file>..." to update what will be committed)
#   (use "git checkout -- <file>..." to discard changes in working directory)
#
# modified:   Makefile
#
no changes added to commit (use "git add" and/or "git commit -a")
```





## Chapter 1

# Introduction: Smartphone Market and the Need for Cross-Platform Support

### 1.1 Smartphone Landscape

### 1.2 HTML5

#### 1.2.1 History

#### 1.2.2 Markup

#### 1.2.3 CSS3

#### 1.2.4 JavaScript APIs

#### 1.2.5 Related APIs

### 1.3 Modern Mobile Web Application Architecture

#### 1.3.1 Single-Page applications

##### 1.3.1.1 JavaScript MVC Libraries

#### 1.3.2 Responsive Design

#### 1.3.3 Progressive Enhancement

#### 1.3.4 UI Libraries

##### 1.3.4.1 jQuery Mobile

##### 1.3.4.2 jQTouch

##### 1.3.4.3 Sencha Touch

#### 1.3.5 Hybrid Applications

## Chapter 2

### Research Question: HTML5 - Hype versus Realities?

## Chapter 3

# Methods: Example Application and Library

### 3.1 Qt Developer Days 2011 Conference Schedule Application

### 3.2 JSONCache JavaScript Library



## Chapter 4

# Results: What Was Good and Where Were the Compromises

### 4.1 Targeting Different Platforms

#### 4.1.1 Device Detection

#### 4.1.2 Feature Detection

### 4.2 Targeting Different Screens

### 4.3 Handling Mobile Networks

#### 4.3.1 Minimizing Data Transfer

#### 4.3.2 Caching

#### 4.3.3 Preloading

#### 4.3.4 Offline Support

#### 4.3.5 Handling Interruptions

### 4.4 Graphics and Animations

### 4.5 Performance Analysis

#### 4.5.1 YSlow

#### 4.5.2 PageSpeed

## Chapter 5

# Discussion: Bright Future Ahead for HTML5

# Chapter 6

## L<sup>A</sup>T<sub>E</sub>Xtest

### 6.1 Citing

- Berners-Lee [1]
- Mikkonen & Taivalsaari [4]
- Taivalsaari & Mikkonen [7]
- Pilgrim [5]
- Crockford [2]
- Souders [6]
- Garrett [3]
- Zakas [8]



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