Design and Implementation of Computational Offloading in Mobile Edge Computing for Augmented Reality Applications

Master thesis

Alex Justesen Karlsen

September 4, 2019

Preface

> Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.
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> Alex Justesen Karlsen

Abstract

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Acronyms

GCD Greatest Common Divisor. 2

LCM Least Common Multiple. 2

Contents

Introduction **2**

1 Heading on Level 0 (chapter) **3**

1.1 Heading on Level 1 (section) . . . 3

1.1.1 Heading on Level 2 (subsection) . . . 3

1.1.1.1 Heading on Level 3 (subsubsection) . . . 3

1.2 Lists . . . 4

1.2.1 Example for list (itemize) . . . 4

1.2.1.1 Example for list (4*itemize) . . . 4

1.2.2 Example for list (enumerate) . . . 5

1.2.2.1 Example for list (4*enumerate) . . . 5

1.2.3 Example for list (description) . . . 5

1.2.3.1 Example for list (4*description) . . . 5

1.3 Listings . . . 7

1.4 Tables . . . 9

1.5 Figures . . . 11

1.6 Block Quote . . . 11

References **13**

Appendix **14**

Glossary **17**

Introduction

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$$f(x) = \frac{ax}{b} \tag{0.1}$$

1 Heading on Level 0 (chapter)

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

1.1 Heading on Level 1 (section)

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1.1.1 Heading on Level 2 (subsection)

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

1.1.1.1 Heading on Level 3 (subsubsection)

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text

like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

Heading on Level 4 (paragraph) Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

1.2 Lists

1.2.1 Example for list (itemize)

- First item in a list
- Second item in a list
- Third item in a list
- Fourth item in a list
- Fifth item in a list

1.2.1.1 Example for list (4*itemize)

- First item in a list
  - First item in a list
    - First item in a list
      - First item in a list
      - Second item in a list
    - Second item in a list
  - Second item in a list
- Second item in a list

1.2.2 Example for list (enumerate)

1. First item in a list
2. Second item in a list
3. Third item in a list
4. Fourth item in a list
5. Fifth item in a list

1.2.2.1 Example for list (4*enumerate)

1. First item in a list
    a) First item in a list
        i. First item in a list
            A. First item in a list
            B. Second item in a list
        ii. Second item in a list
    b) Second item in a list
2. Second item in a list

1.2.3 Example for list (description)

First item in a list

Second item in a list

Third item in a list

Fourth item in a list

Fifth item in a list

1.2.3.1 Example for list (4*description)

First item in a list

First item in a list

First item in a list

First item in a list

Second item in a list

Second item in a list

Second item in a list

Second item in a list

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

$$\bar{x} = \frac{1}{n}\sum_{i=1}^{i=n} x_i = \frac{x_1 + x_2 + \ldots + x_n}{n}$$

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$$\int_0^\infty e^{-\alpha x^2}\mathrm{d}x = \frac{1}{2}\sqrt{\int_{-\infty}^{\infty} e^{-\alpha x^2}\mathrm{d}x \int_{-\infty}^{\infty} e^{-\alpha y^2}\mathrm{d}y} = \frac{1}{2}\sqrt{\frac{\pi}{\alpha}}$$

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

$$\sum_{k=0}^{\infty} a_0 q^k = \lim_{n\to\infty} \sum_{k=0}^{n} a_0 q^k = \lim_{n\to\infty} a_0 \frac{1-q^{n+1}}{1-q} = \frac{a_0}{1-q}$$

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text

like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

$$x_{1,2} = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} = \frac{-p \pm \sqrt{p^2 - 4q}}{2}$$

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

$$\frac{\partial^2 \Phi}{\partial x^2} + \frac{\partial^2 \Phi}{\partial y^2} + \frac{\partial^2 \Phi}{\partial z^2} = \frac{1}{c^2} \frac{\partial^2 \Phi}{\partial t^2}$$

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

1.3 Listings

Listing 1.1: Python example

```
# Python code
class Employee:
'Common base class for all employees'
empCount = 0

def __init__(self, name, salary):
   self.name = name
   self.salary = salary
   Employee.empCount += 1

def displayCount(self):
  print ("Total Employee %d" % Employee.empCount)

```

```
    def displayEmployee(self):
       print ("Name : ", self.name,  ", Salary: ", self.salary)
```

Listing 1.2: HTML example

```
<!DOCTYPE html>
<html>
  <head>
    <title>This is the title of the page.</title>
  </head>
  <body>
    <a href="http://example.com">This is a link.</a>
    <img src="./image.jpg" alt="This is an image.">
  </body>
</html>
```

Listing 1.3: SQL example

```
CREATE TYPE person_t AS (
    firstName VARCHAR(50) NOT NULL,
    lastName VARCHAR(50) NOT NULL
);

CREATE Or REPLACE FUNCTION getFormattedName(person) RETURNS text AS
    $$ SELECT 'P: ' || initcap($1.firstName); $$
LANGUAGE SQL;
```

Listing 1.4: Javascript example

```
Name.prototype = {
  methodName: function(params){
    var doubleQuoteString = "some text";
    var singleQuoteString = 'some more text';
    // this is a comment
    if(this.confirmed != null && typeof(this.confirmed) == Boolean &&
        this.confirmed == true){
      document.createElement('h3');
      $('#system').append("This looks great");
      return false;
    } else {
      throw new Error;
    }
```

```
      while true {
        new class Employee
      }
    }
}
```

Listing 1.5: C# example

```
// Welcome to the Interactive C# Tutorial.
// Start by choosing a chapter and write your code in this window.

using System;

public class Hello
{
    public static void Main()
    {
        Console.WriteLine("Hello, World!");
    }
}
```

1.4 Tables

Table 1.1: Nam liber tempor cum soluta nobis eleifend option congue nihil imperdiet doming id quod mazim placerat facer possim assum. Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat.

Test Nr.	Position	Radius	Rot	Grün	Blau	beste Fitness	Abweichung
1	20 %	20 %	20 %	20 %	20 %	7,5219	0,9115
2	0 %	25 %	25 %	25 %	25 %	8,0566	1,4462
3	0 %	0 %	33 %	33 %	33 %	8,7402	2,1298
4	50 %	20 %	10 %	10 %	10 %	6,6104	0,0000
5	70 %	0 %	10 %	10 %	10 %	7,0696	0,4592
6	20 %	50 %	10 %	10 %	10 %	7,0034	0,3930
1	20 %	20 %	20 %	20 %	20 %	7,5219	0,9115

continued ...

Table 1.1: continued

Test Nr.	Position	Radius	Rot	Grün	Blau	beste Fitness	Abweichung
2	0 %	25 %	25 %	25 %	25 %	8,0566	1,4462
3	0 %	0 %	33 %	33 %	33 %	8,7402	2,1298
4	50 %	20 %	10 %	10 %	10 %	6,6104	0,0000
5	70 %	0 %	10 %	10 %	10 %	7,0696	0,4592
6	20 %	50 %	10 %	10 %	10 %	7,0034	0,3930

1.5 Figures

Figure 1.1: Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

1.6 Block Quote

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> should match the language. — somebody

References

[1] A. Gilchrist, *Industry 4.0: the industrial internet of things*. Apress, 2016.

[2] P. J. Sadalage and M. Fowler, *NoSQL distilled: a brief guide to the emerging world of polyglot persistence*. Addison-Wesley Professional, 2016.

Appendix

List of Figures

1.1 Short caption text for LoF 11

List of Tables

1.1 Nam liber tempor cum soluta nobis eleifend option congue. 9

Glossary

formula A mathematical expression. 2