G2U - a second life for every treasure

Course ID.: CPE-334

Submitted By-

Chawit Pimapansri	(ID: 65070503411)
Sorawit Tonpitak	(ID: 65070503438)
Jutamas Kaewchuenchai	(ID: 65070503444)
Nichaporn Manachaiprasert	(ID: 65070503446)
Thanakit Chokbunsuwan	(ID: 65070503448)
Arita Tragulmalee	(ID: 65070503470)
Yuil Tripathee	(ID: 65070503480)
Tom Medhi Pannier	(ID: 67540460025)

Submitted To-

Department of Computer Engineering
in partial fulfillment of the requirements
for the completion of
CPE-334 Software Engineering course.

Supervised by-

Dr. Natasha Dejdumrong
Associate Professor
Department of Computer Engineering

frontmatter/KMUTT_CI.png

King Mongkut's University of Technology Thoburi (KMUTT)
Bangkok-10140, Thailand

1/2024

Draft: December 5, 2024

Revision History

Revision	Date	Author(s)	Description
v0.1	2023-04-21	John Doe, Jane Doe	First release, include trial results
v0.2	2024-11-05	Tom Medhi Pannier	Add EU market evaluation

Draft: December 5, 2024

Abstract

We would like to think about it later.

Keywords: *We would like to think about it later.*

Draft: December 5, 2024

Acknowledgments

We would like to think about it later.

Draft: December 5, 2024

Terms, Acronyms, and Abbreviations

Keyword	Description
Δx	displacement from x_0 to x_1.
Δt	time taken from t_0 to t_1.

Keyword	Description	Keyword	Description
Δx	displacement from x_0 to x_1.	Δt	time taken from t_0 to t_1

Draft: December 5, 2024

Contents

List of Tables vii

List of Figures vii

I Project Description 1

1 Introduction 2
- 1.1 Background . . . 2
- 1.2 Market study . . . 2
- 1.3 Scope of work . . . 2
- 1.4 A dummy section . . . 2

2 Project Management 3
- 2.1 Incremental funding methodology . . . 3
- 2.2 Agile Method with Kanban Tool . . . 3

II Requirements 4

3 Requirements Elicitation 5
- 3.1 Elicitation Techniques . . . 5
- 3.2 Stakeholders . . . 5
- 3.3 Use Case Analysis . . . 5
- 3.4 System Analysis - Data Flow . . . 5
- 3.5 Functional Design . . . 5
- 3.6 Other Non-functional requirements . . . 6

4 Usability Requirements 7

III Design and Development 8

5 Systems Design 9
- 5.1 Software Architecture . . . 9
- 5.2 Deployment Design . . . 9

Draft: December 5, 2024

6 Implementation **10**
6.1 Low Code 10
6.2 Prototyping 10
6.3 Coding 10
6.4 Systems Integration 10

IV Test and Evaluation **11**

7 Evaluation of Outcomes **12**
7.1 Testing Methodologies 12
7.2 Results 12
7.3 Discussion 12

8 Conclusion **13**
8.1 Discussion 13
8.2 Future Work 13
8.3 Recommendation 13

References **14**

Draft: December 5, 2024

List of Tables

List of Figures

1.1 The proposed tree structure for the array implementation. 2

Draft: December 5, 2024

Part I

Project Description

Draft: December 5, 2024

Chapter 1
Introduction

1.1 Background

1.2 Market study

1.2.a SEA Market

1.2.b EU Market

1.3 Scope of work

1.4 A dummy section

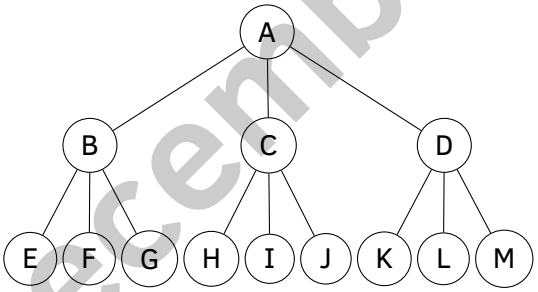

Figure 1.1: The proposed tree structure for the array implementation.

Draft: December 5, 2024

Chapter 2

Project Management

TODO: Comparative analysis of each methodology and what they deliver

2.1 Incremental funding methodology

Used for high level decisions.

2.2 Agile Method with Kanban Tool

Used for low level decision and workflow orchestration.

Draft: December 5, 2024

Part II

Requirements

Draft: December 5, 2024

Chapter 3
Requirements Elicitation

3.1 Elicitation Techniques

TODO: Before analyzing the system, various technique are employed to gather its requirements.
TODO: Explain:

- Interviews
- Questionnaires
- Workshops
- Observation
- Prototyping

3.2 Stakeholders

3.3 Use Case Analysis

TODO: Here is a breakdown of the main use cases for the system, along with involved actors.

- Actors
- Use Cases

3.4 System Analysis - Data Flow

TODO: Data Flow diagram

3.5 Functional Design

TODO: Here are some functional requirements (example)

- User Registration
- Tutor Scheduling and Availability
- Online class

TODO: Translate this to user story when doing Kanban
TODO: Each functional requirements should have details and implementation in description list

Draft: December 5, 2024

3.6 Other Non-functional requirements

TODO: Quantize these requirements

- Scalability
- System Availability
- Security
- Usability
- Performance

3.6.a Mandated constraints

Examples include: Economics

3.6.b Regulatory compliance

Draft: December 5, 2024

Chapter 4

Usability Requirements

[1]

Draft: December 5, 2024

Part III

Design and Development

Draft: December 5, 2024

Chapter 5
Systems Design

5.1 Software Architecture

5.1.a Class Diagram

TODO: class digram

5.1.b Components Diagram

5.1.c Sequence Diagram

5.2 Deployment Design

5.2.a Demonstration model

5.2.b Full scale production model

Draft: December 5, 2024

Chapter 6

Implementation

6.1 Low Code

6.2 Prototyping

6.3 Coding

6.4 Systems Integration

Draft: December 5, 2024

Part IV

Test and Evaluation

Draft: December 5, 2024

Chapter 7

Evaluation of Outcomes

7.1 Testing Methodologies

7.2 Results

7.3 Discussion

Draft: December 5, 2024

Chapter 8
Conclusion

8.1 Discussion

8.2 Future Work

8.3 Recommendation

Draft: December 5, 2024

References

[1] Duolingo. Duolingo brand guidelines. URL https://design.duolingo.com/. Accessed on 2024-12-04.

Draft: December 5, 2024