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# Online Banking Application Using A MERN Stack

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**Ultan Kearns**

B.Sc.(Hons) in Software Development

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**Final Year Project - Banking Application using MERN stack**

Advised by: Dominic Carr

Department of Computer Science and Applied Physics  
Galway-Mayo Institute of Technology (GMIT)



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# About this project

**Analysis of this project:** This project was designed by me for the module Applied Project & Dissertation with the purpose being to complete an online banking system using a MERN(Mongo, Express, React & Node) stack. The project should allow user to login, view statements, takeout loans, perform transactions and will show the user there monthly and yearly expenditures using graphs. The project will also be secure and utilize user accounts using a mongo Database to ensure that the users account is secure.

The main purpose of this project is to utilize the MERN stack to provide a full and rich user experience and to provide a secure, intuitive and polished online banking system. The project will also utilize Python scripts to perform statistical analysis on user expenditure and income and will provide an estimate of how much money the user should have for the month based upon previous monthly expenditure.

This project was designed to be a stand alone application where a user can perform all their banking needs without any other software. The user should be find the UI intuitive and the features helpful.

This project will link many disparate technologies together for the purpose of providing the user with the features they need. I plan to use this project to show the skills I have attained during my course and to learn a new framework(React). I also plan to improve and cultivate my skills using new technologies such as various Python libraries and React. This project is stored on a GitHub repository the link to which is found in the [Preamble & Intro](#)

**Authors:** My name is **Ultan Kearns**, I am a fourth year student at GMIT. I have never used React or  $\text{\LaTeX}$  before but I plan to learn a lot about these technologies during the course of this project.

# Chapter 1

## Introduction

The introduction should be about three to five pages long. Make sure you use references [?]

### 1.1 Project Objectives

The objective of this project is to provide safe & secure online banking as well as an intuitive and professional user interface to ensure the user's satisfaction.

# Chapter 2

## Context

- Provide a context for your project.
- Set out the objectives of the project
- Briefly list each chapter / section and provide a 1-2 line description of what each section contains.
- List the resource URL (GitHub address) for the project and provide a brief list of the main elements at the URL.

### 2.1 Filler

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## 2.2 Filler

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# Chapter 3

## Methodology

About one to two pages. Describe the way you went about your project:

- Agile / incremental and iterative approach to development. Planning, meetings.
- What about validation and testing? Junit or some other framework.
- If team based, did you use GitHub during the development process.
- Selection criteria for algorithms, languages, platforms and technologies.

Check out the nice graphs in Figure 3.2, and the nice diagram in Figure ??.

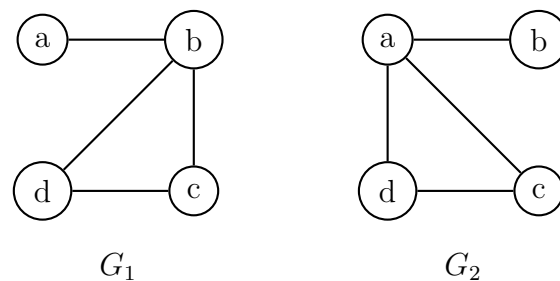


Figure 3.1: Nice pictures





Figure 3.2: Nice pictures

# Chapter 4

## Technology Review

About seven to ten pages.

- Describe each of the technologies you used at a conceptual level. Standards, Database Model (e.g. MongoDB, CouchDB), XML, WSDL, JSON, JAXP.
- Use references (IEEE format, e.g. [1]), Books, Papers, URLs (timestamp) – sources should be authoritative.

### 4.1 XML

Here's some nicely formatted XML:

```
<this>
  <looks lookswat="good">
    Good
  </looks>
</this>
```

# Chapter 5

## System Design

As many pages as needed.

- Architecture, UML etc. An overview of the different components of the system. Diagrams etc... Screen shots etc.

Column 1	Column 2
Rows 2.1	Row 2.2

Table 5.1: A table.

# Chapter 6

## System Evaluation

As many pages as needed.

- Prove that your software is robust. How? Testing etc.
- Use performance benchmarks (space and time) if algorithmic.
- Measure the outcomes / outputs of your system / software against the objectives from the Introduction.
- Highlight any limitations or opportunities in your approach or technologies used.

# Chapter 7

## Conclusion

About three pages.

# Appendices

# Appendix A

## Preamble & Intro

- [Link to my github](#)

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