# Secure Banking Application Project:

# Web Application

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## Introduction

**Introduction to the report (6/7 lines), tell the reader what this report is about, explain that you are going to describe the application that you created and how you made sure it would be secure.**

This is my CA3 – Code Project for a Bank System

I had many choices but I opted to challenge myself to develop this bank system as a web application

In this report, I will explain how I developed this bank system

I will highlight the significance of security features and the need for careful examination and testing within any application or system.

## Creating the project

**Tell the reader how you created the project, did you use VS Code? MySQL Developer? Git Hub? XAMPP?**

**What language did you choose, Java, C#, Python, explain why.**

**Any issues you had with your set up. Did you use your own laptop, ATU machines, Virtual Machine, Hard Drive. You can be specific with the versions on the language that you used and the spec of your laptop etc.**

To create my banking system I had to plan what pages I wanted to include and display to the user and the workflow logic

**Programming Languages & Libraries**

I made use of Java, JavaScript, jQuery, HTML, CSS,

Bootstrap

**Database & Servers**

MySQL server

I had to decide how many tables were necessary and what attributes they should contain

Live Server – Opted to use this instead of XAMPP and having to install so many node\_modules

Changed the datatype of accountNo to integer

But then I also wanted to include the prefix BOI (concatenation)

**Version Control**

GitHub – Version Control:

Easy to go back to previous versions

**Hardware & Devicea**

Switching between my laptop and the ATU PCs

Had some issues with the ATU PCs with regards to running Visual Studio Code

Had a persistent error that kept saying that it couldn’t locate the Main method (although it was present)

**Navigation Bar**

What links to contain on the main navigation bar and how the layout looks different depending on whether a user Is logged in or out and/or their role

**Users**

I had to identify what users and their associated roles within the system would be

## Functionality

**Overview of how your project works. Details the technologies that you used. What version. Explain the basic features of your application…. Login, Account creation, balance checking, deposits, and withdrawals etc.**

On arriving to the Home page,

The user has the option of logging in (if they have already created an account previously),

On the Register Page, the user can create an account

On the AccountInformation page,

The customer can view their account details, check their balance, deposits and withdrawals

The administrator can view their customer account information details

**How robust is it?**

**Talk about how your application handles errors gracefully, maintains consistent behaviour under different conditions, and recovers from failures.**

**Include screen shots…**

* Prepared Statements
* Error handling and validation

**How have you included Secure Coding Practices, show where you used prepared statements, password hashing, input validation, and data sanitisation. Details with the screenshots the Static Analysis tool(s) that you used. How did static analysis help you with developing your code?**

**Detail how you implemented Security Features such as password hashing and multi-factor authentication. 2FA does not have to work but should be implemented in the code and you need to show how you would do it and explain how it works. Detail the vulnerabilities of the system, identify potential security vulnerabilities and how you would mitigate against them, including**

**Show how you tested the application, explain how you tested the security feathers *e.g. secure login***

**Detail your unit tests add screen shots.**

**Did you find any bugs, did you find any issues/holes in your security?**

## Conclusion

**What did you learn from doing this report, how secure do you think your application was overall, what would you change/do differently?**

I believe that my web application is very secure overall

**What was the most challenging part. Did anything surprise you as being easier/harder, something that you didn’t think was needed, or anything that you did that you realised wasn’t necessary or could be done a different or better way?**

The most challenging part I think was

Unnecessary features?

## References

Any references you might use should go here…