PRCO304

Final Stage Computing Project

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*Dissertation Report*

# Acknowledgements

# Abstract

CoJo - The Coding Dojo is to aid in the learning and production of code using a variety of programming languages. The web application will give users the knowledge on what each language is used for as well as help to reinforce what has been learnt by providing practice opportunities to build confidence through an instant feedback mechanism to enable meaningful learning.

Furthermore, the application tracks user progress throughout via their own account. This tracking system can show the user what topics they are currently working on as well as what other topics could be of interest to them to help broaden their knowledge and encourage developmental growth.

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**Word Count: 1089**

*Link to code repository*: **ADD LINK TO GIT HERE**

MAIN SECTION

# Intro

For my final year project, I have created a web application named “CoJo – A Code Learning Application” with the aim to provide users of different computing backgrounds a platform which promotes learning without having the stress of expected deadlines and due dates.

It is more common then not to think that coding and programming are very difficult fields to get into with many of ***my census data participants*** believing that these elements of computing are the hardest. Therefore, CoJo was designed and the building blocks to provide a platform that’ll help change these opinions started to be constructed.

As CoJo is an application about self-teaching and learning, it could be seen as a tool to aid alongside studies that users are already carrying out or as a stand-alone application that can be used to get a handle on what is coding and programming if the user has no prior knowledge which in turn helps to lay the foundations and provide these necessary basic concepts.

# Background, Objectives & Deliverables

**BG**

As more and more people migrate into the world of computing through more and more companies relying on computers to carryout their day to day jobs and certain life styles, companies are half-expecting new employees to have at least a basic concept of what programming is and so IT is being taught at a higher standard earlier in schools then it has been less then 10 years ago! This statistic as well from personal experience led to my decision to create CoJo and provide a free to use application that’ll be able to teach and evolve the mind of an individual so that they can tell their future employer or start their own business with a solid knowledge in programming.

**OBJ**

The main objective of this application is to be able to provide a service for users that will enable and promote the learning of programming within an environment that helps to reinforce what has been learnt by providing practice opportunities, building confidence through an instant feedback mechanism to enable meaningful learning. This application also aims to be user-friendly through a progress tracking system in which users will be able to track their progress on each topic and see a visual representation of what they’ve learnt as well as progress through tests and quizzes.

**Deliverables**

* To provide a web application that can teach and aid the learning of programming and coding practices.
* To provide an instant feedback system that is integrated into the application allowing users to view progression within most aspects of the application.
  + This is done through an account system and the data of each user is stored within a database.

# Method of approach

The application has the aim to provide a platform for learning, therefore the first step I have take to achieve this goal is to focus on a user account driven approach which in turn will give the user a personal progression feature allowing them to track where there are in certain areas of the application. This helps to build a foundation for the application, but this doesn’t mean the user has to be signed into the application to benefit from it.

Secondly, the application will also benefit the user by providing a clear and instantaneous feedback system after completing tests and quizzes as these are good ways to see how much the user has learnt and there is also a ‘Contact Us’ section within the application to provide further channels of communication for users in the case that they need more assistance or if they wish to ask questions to myself.

I will then start creating some basic UML diagrams to get an idea for what needs to go into my database and this will then aid me for the future so I don’t need to try and add a lot more to my database later on even though this will be a guarantee due to the database probably expanding as the projects lifecycle continues.

After this I then create some basic ASP.NET MVC files within my Visual Studio environment which helps to start give me a basis to work the rest of my application from. These pages are left as they are for now just so I know how many pages I am working with as this helps me plan ahead for what should be worked on and then produce a more coherent sprint plan…

# Legal, Social, Ethical and Professional Issues

## **Legal**

## **Social**

## **Ethical**

## **Professional**

# Project Management

I have then planned out Sprints as the project is being developed within an Agile Methodology and so the use of Sprints helps me to manage every iteration and helps to keep track of what parts of the application I need to work on first or which parts I can work on later.

I have also been tracking my progress throughout the project using a Trello Board to show what aspects I need to work on as well as the current objectives I am working on. All the tasks and documents I need to produce are also logged within my Trello board which, when they are created, then become a part of my GitHub repository for version control of my project.

I have also produced a Risk Management document which details what aspects of my project I felt needed to be focused on as they can potentially set my project back if they are not considered and then counter-measures put into place.

# Stages of project lifecycle – weekly reports / create a journal which entails all modifications and change to the project as and when they are committed / made.

# End-Project Report

# Project Post-Mortem - Now the project is over, reflect on what it’s like now, how things are now the project lifecycle is finished

# Conclusions

# References/Bibliography

# Appendices