

The Development of an Online Computer Science Learning Application

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(1) Introduction ►

This project aimed to develop an online learning application that improves user enticement and engagement whilst learning to code. Studies show that programming is the aspect of computer science in school which is perceived to be the most challenging. The government want to introduce coding to children at an early age, using online learning methods where applicable.

(2) Aims & Objectives 🎯

Aim:

To investigate the current online computer science learning tools, and to use these findings towards the development of a new and effective application.

Objectives:

- Conduct a literature review to gain insight into the topic area
- Complete both primary and secondary research
- Develop an online learning application to solve the problem
- Allow feedback to establish future improvements

(3) Findings 🔍

- Online learning is becoming more of the norm
- The deliverable of online learning is only as good as the content.
- Using a mix of both synchronous and asynchronous teaching methods is the best approach.
- Current applications of teaching code are good; however, all have areas of improvement.
- Risks of online learning need consideration.
- Usability plays a big part in the engagement and enticement of an application

(4) Build 🏠

A Java online learning application was developed as the solution to the issues found in the initial research.

- The app follows usability guidelines to improve enticement and engagement.
- The app allows users to learn java, starting at the very basics using the learning zone.
- Users can test themselves to see what knowledge they have retained by taking the quiz.

Learning Zone

Select the topic you would like to learn

Back

Java Comments

Operator Precedence

Code Structure

User Input

Math Operators

Java Option Pans

Java Variables

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Learning: Java Comments

Back

When you create a New Project in NetBeans, you'll notice that some text is greyed out. These greyed out areas are Comments, comments are ignored when programs are run. Purpose of comments is to explain what something is trying to do. Comments can be created on each line as shown below:

// This is how you would comment

Now its your turn enter a comment in the textbox below

Submit

Finish

Java Quiz

Question 1:

When setting a integer variable what is the correct method?

☐ name : int

☐ int name

☐ integer name

☐ name/int

Check answer

Submit & Continue

Answer Status

(5) Conclusions ☹

- The literature review provided the project with current insight into online learning in computer science
- The primary research correlated with the literature review's main findings
- This provided the necessary tools for the development of an effective application
- The overall effectiveness of the system was proven through its unit, system, usability, and acceptance testing with the aid of a testing participant.
- This resulted in the evaluation criteria of the system being attained.