

## **SE-216 SOFTWARE PROJECT MANAGEMENT**

### **Spring 2023-2024 Project Proposal**

#### **CodeCraft**

##### **Problem Definition**

CodeCraft is a project that aims to change the way individuals learn and master programming skills. This platform will provide a user friendly interface that is easy to navigate, together with a large collection of coding exercises, projects and an AI assistant. For the AI assistant, it will use OpenAI Codex which is an AI model developed by OpenAI.

Codecraft, which includes popular programming languages like Python, Java, JavaScript, Ruby programming languages, HTML and CSS markup languages etc. will provide interactive tutorials to complete, exercises for practice and small projects to fully understand the desired language. Its AI assistant will help during the active coding for more optimised and shorter code and also answer the specific questions from the user. It decreases the time for understanding the code and makes the education process more bearable.

##### **Background Information**

The landscape of how we teach programming has changed significantly because people now need specific skills and proficiency in various apps as the demand for these have skyrocketed in the past years. Learning how to program is a challenging subject for computer science students and people who want to pursue a programming career in general.

As technology advances, students that aim to pursue a career in programming face the growing complexities of the field. Traditional teaching methods are not enough as a result of these complexities. Additionally there is an urgent need to adapt and enhance educational approaches, ensuring that learners not only grasp fundamental programming concepts but also navigate the many technologies and different apps required in their future careers.

By offering intuitive and interactable courses that serve students a variety of learning styles, our coding learning platform, CodeCraft aims to solve the hardships of learning about this sector.

## **Objectives**

- Integrating an AI assistant for progress tracking and feedback with the help of OpenAI Codex
  - Track the progress of the user and suggest ideas for a cleaner and more optimized code by using ai.
- Providing an interactive learning environment
  - Create interactive activities and features to keep the user interested for learning.
- User support and assistance
  - Offer different resources such as tutorials, guides and exercises for supporting and assisting the user.
- Design a curriculum that covers the fundamentals
  - Organize the content such that it covers all the basics and evolves in a logical and structured manner.
- Community forums and collaboration
  - Design a platform for users to discuss their questions, share their experiences and connect with each other.

## Approval Signatures and GitHub Account

[github.com/SE216GROUP3](https://github.com/SE216GROUP3)

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