Cairo University

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# Groofy Code

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Graduation Project

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**Chapter 1: Introduction**

**Motivation (Abstract)**

In the current landscape of online coding platforms, enthusiasts often face a fragmented experience, with platforms focusing primarily on coding challenges but lacking a cohesive ecosystem for diverse coding interests. Groofy Code emerges as a solution to this problem by integrating challenges, problem-solving, and competitive 1 vs 1 matches within a comprehensive framework. Existing platforms often lack an inclusive social aspect, hindering collaboration and community building among coding enthusiasts.

Our motivation to develop Groofy Code stems from a passion for fostering a collaborative and engaging environment for coding enthusiasts. We aim to provide a unified platform where users can seamlessly transition between challenges, problem-solving activities, and competitive matches while building connections with like-minded individuals through clans and an interactive chat system.

The Technologies that will be used in our project are:

* HTML
* CSS
* SASS
* React JS
* Node JS
* Express JS
* Mongo DB

**Background**

In the ever-evolving landscape of technology and coding, the demand for cohesive and engaging platforms that cater to coding enthusiasts continues to grow. Groofy Code emerges within this context, aiming to redefine the online coding experience. The project delves into the intersection of coding challenges, problem-solving, and competitive matches, recognizing the need for a unified space where enthusiasts can explore, compete, and collaborate seamlessly.

**Problem Definition**

The current landscape of online coding platforms presents a significant challenge as it lacks a cohesive and all-encompassing solution for coding enthusiasts. Existing platforms often specialize in isolated aspects such as coding challenges, competitive matches, or collaborative problem-solving, creating a fragmented experience for users. This fragmentation hinders the development of a unified community where individuals can seamlessly transition between various coding activities, showcase their skills, and engage in social interactions.

The absence of an integrated platform poses challenges for coding enthusiasts seeking a comprehensive and dynamic environment that caters to diverse preferences. Users may find it cumbersome to navigate between different platforms to fulfill their coding interests, leading to a disjointed experience that fails to fully meet their needs.

**Our Solution**

Groofy Code redefines the online coding experience with a feature-rich platform. The Solver Profile offers a personalized journey, showcasing achievements, progress, and social connections. Problem Solving provides diverse challenges, while 1 vs 1 Challenges add a competitive element with automatic timing and global rating impact. The Clan System fosters collaboration, and Friends and Online Status enhance communication. A dynamic Chat System supports reactions and emojis. Advanced Profanity Detection using machine learning ensures good words. Solvers can customize Unrated Challenges. The Global Rating System evaluates individual and clan performance. Groofy Code's technology stack, featuring React, Express.js, and machine learning, underscores its commitment to a seamless, engaging, and technologically advanced coding environment.