Project Overview

Project Name: Code Quest

Short Description:
Code Quest is an adventure game that lets players control characters using their own lines of code. It teaches the fundamentals of programming by blending learning with fun, transforming coding into an engaging and interactive journey.

Core Functionalities:
1. Control characters by writing Python code.
2. Progress through levels, each introducing a new coding concept (e.g., Level 1: print, Level 2: if statements, etc.).
3. Unlock new characters and features as you advance.
4. Store and track player progress throughout the game.

Technical Feasibility

aspect	Assessment
tools	Pygame (Front-end), Python/Flask/Django (Backend), Firebase, Figma
Team skills	Foundational Python knowledge is in place. Requires upskilling in **game development (Pygame)** and database design.
Gap analysis	The team has the base knowledge and university resources to bridge the skill gaps.
Key challenge	Executing player code **safely** without arbitrary code execution or game crashes.

Matket and user feasibility

Identified Market Gap:

- Lack of games that teach **actual Python syntax** to young children through an **engaging, nature-themed** environment.

Unique Value Proposition:

- **"Kids-friendly coding"** – The first nature-themed game that bridges the gap between playful visual tools (Scratch) and intimidating adult platforms (CodeCombat).

Competitive Analysis:

- **Code Combat:** Effective but has a subscription cost and can be intimidating.
- **Our Opportunity:** Create a more accessible, themed, and scaffolded learning experience.

Schedule Feasibility

phase	duration	Key deliverabales
Planning and design	Week 1	Feasibility study
Core developement	Weak 2 - 3	Basic game mechanics
Advanced features	Week 4 - 5	Python command integration
Testing	Week 6	Internel testing
deployement	Week 7	Final polish