

Capstone Initial Project Proposal

Project Name: Virtual Pet Simulator

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Document Details

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Project Closure Report Version Control

Version	Date	Author	Change Description
V1	Jan. 21, 2022	WB, CC, JJ, MM, RS	Initial proposal written.

Document Approval

Comments: All team members' input/approval are required before Initial Project Proposal's submission.	
Approved by:	MM, RS, WB, CC, JJ
Project Manager:	Rose Scoville
Date:	January 21, 2022

Project Description/Overview

The project's objective is to develop a Unity-based application for a virtual pet simulator by the end of the Winter 2022 semester, according to Capstone project requirements. The application will give users the opportunity to hatch and raise a virtual pet. Documents will be created outlining a hypothetical second phase wherein users can battle their virtual pets asynchronously with other users.

Product Related Technologies

1. Unity (IDE)
2. C# (back-end/application language)
3. WebGL (application-web migration)
4. MySQL (database)
5. PHP (front-end/web language)
6. Laravel (front-end/web language)
7. CSS (front-end styling)
8. Git (source control)
9. Bitbucket (version control)
10. Jira (project management and reporting)

Project/Product Deliverables

Note: Separate between 'should do' and 'could do' if time allows.

Capstone Project Deliverables

1. Initial Project Proposal (due January 24, 2022)
2. Formal Project Proposal (due February 3, 2022)
3. Project Plan (due February 17, 2022)
4. Milestone 1 Report (due March 3, 2022)
5. Milestone 2 Report (due March 24, 2022)
6. Project Presentation (due April 7, 2022)
7. Project Reflections Report (due April 14, 2022)

(Section cont.)

Product Deliverables: Should Do

1. Virtual Pet care stats and associated activities
 - a. Lifespan / Growth
 - b. Hunger / Feeding
 - c. Hygiene / Cleaning
 - d. Happiness / Playing
 - e. Sickness / Medicine
 - f. Fussiness / Discipline
2. General Pet stats
 - a. Age
 - b. Weight
 - c. Raising Mistakes (tracked but hidden from player)
3. Minigame for playing activity
4. Egg and Child life stages
5. One type of pet
6. Pet assets and animations
7. Background art assets
8. Audio assets

Product Deliverables: Could Do

1. MySQL database for storing user data and high scores
2. Website for displaying high scores
3. Game deployed onto website for browser play
4. Asynchronous multiplayer allowing combat between two player's pets
5. Pet combat stats and ability to improve them
 - a. Strength
 - b. Speed
 - c. Health
 - d. Defense
6. Adult life stage
7. Multiple choices of pet

Required Research

Note: List any research that must take place prior to planning/development.

1. Project management methodologies: Agile methodology comparison for project specifics, Scrum, Kanban (to be done by all team members)
2. Project management: Jira vs. Trello (to be done by Project Manager)
3. Version control: Bitbucket vs. GitHub (to be done by Project Manager and Development Lead)
4. Unity (to be done by all application development team members)
5. Web integration and deployment (to be done by all web development team members)

Risks Analysis and Assumptions

Risks and Mitigations

1. Risk 1: Intellectual property (IP) and trademark infringement
 - a. Mitigation A: Avoid all trademarked IP (e.g., Toho's Kaiju properties, Tamagotchi-owned terminology).
 - b. Mitigation B: Application is not to be published with any IP not owned by the team.
2. Risk 2: External work, life, and commitments overload
 - a. Mitigation A: Team members are to try to be self-aware and communicate early to the rest of the team when life events, work overload, or burn-out might become an issue. The team will then re-delegate tasks appropriately and/or adjust project requirements as needed to meet deadlines.
3. Risk 3: Covid 19
 - a. Mitigation A: Team members will adhere to all publicly required health and safety policies.
4. Risk 4: Technical difficulties due to unforeseen circumstances (e.g., storm-related power outages)
 - a. Mitigation A: In the event of postponed work due to unforeseen events, the team will adjust project requirements as needed to meet deadlines.

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Assumptions

1. The team will have five contributing team members throughout the project's duration.
2. Team members will be responsible for and complete all self-assigned/accepted work.
3. If any work is too much for a team member, they will communicate this early.
4. Team members will be communicative during agreed-upon meeting times (i.e., Capstone class hours and additional pre-set meetings if needed).

Notes

1. Art and Audio will likely use placeholder assets for the Capstone project but will be updated post-semester if we choose to continue the project. This is largely where Risk 1 will be relevant.

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