Statement of Work

Project: BioRube Bot Development
Team Members: Joseph Agee, Nicholas White
Athens State Representative: Professor Maxwell
Project Owner: Dr. Sara Cline
Date: 7/18/2022

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Scope

A team of dedicated students will be working on the BioRube Bot Application for Dr. Sara Cline. Including but not limited to bug fixes, new level designs, and added content. Our duty to this project will be our tasks which are listed on page 5.

Requirements

This project will be a continuation of past work that has been done in Educational Game Development for Dr. Sara Cline in the Biology department. Past work has not only led to the development of a mobile educational game but has also allowed faculty and students to publish research with the Association of Computing and Machinery (ACM). Our team of students will be assigned to work with Dr. Cline in the Fall 2022 semester to do the following task:

(1) Bug fixes for the code
(2) Installer creation
(3) Window fitting and Screen size updates
(4) Possible Future Update Documentation

Task

- Create an installer for the game (Inno Setup) Setup Project file
- Bug fixes including but not limited (AI Updates and Visual Updates).

Non-Functional Requirements

- **Performance**

The game will run more smoothly by reducing the bugs and cleaning up interactions between objects.

- **Reliability**

The goal is to limit crashes and/or new bugs/glitches.

- **Availability**

The game will gain an installer making it easier for teachers to be able to use BioRube Bot.

- **Maintainability**

Implement ways for community driven development to take place.

User Stories

1. As the project owner, I want the game to be able to be developed and added on to by the community

2. As a biology instructor, I want interactions between proteins and nucleotides to be accurate and non-convoluted such that students can understand and experiment.

3. As the project owner, I want an installer to allow ease of access.

Monitoring and Quality Assurance

The BioRube Project team will meet weekly and will meet with Dr. Cline on a bi-weekly basis to discuss the project and progression. Throughout these meetings our group will meet with Dr. Cline for her input at Athens State University.

Project Iteration Plan and Milestones

- ☐ Milestone 0: All Things (July 25 - August 15)
  - ☐ meetings for Biology
  - ☐ test the game (Dual purpose obtain info on current state of game and studying biology)

- ☐ Milestone 1: Pre-Work Preparation I (August 15)
  - ☐ Start studying biology to achieve a comfortable level of competence
  - ☐ Start studying the new programing languages / Unity
  - ☐ Set up meeting times Client and Team
  - ☐ Lots of Client meetings (Clarify Requirements / assistance in studying)

- ☐ Milestone 2: Pre-Work Preparation II (August 22)
  - ☐ Code review (previous versions/ changelogs / bug & glitch review)
  - ☐ Keep studying biology along with weekly meetings
  - ☐ Keep familiarizing ourselves with the languages we will be using
  - ☐ Meeting with the Client and Development
  - ☐ Set up the development environment and get it ready to be worked on.

- ☐ Milestone 3: Pre-Work Preparation III (August 29)
  - ☐ Code review (previous versions/ changelogs / bug & glitch review)
  - ☐ Discussion on possible updates, bug fixes, and new features
  - ☐ Keep studying biology along with weekly meetings
  - ☐ Keep familiarizing ourselves with the languages we will be using
  - ☐ Meeting with the Client and Development

- ☐ Milestone 4: Pre-Work / Starting Development Preparation IV (September 5)
  - ☐ Code review (previous versions/ changelogs / bug & glitch review)
  - ☐ Discussion on how to implement updates, bug fixes, and new features.
  - ☐ Start discussion on how to break the updates apart and schedule those updates.
  - ☐ Keep studying biology along with weekly meetings
  - ☐ One last check on competency levels between ourselves with the languages.
  - ☐ Meet with the client to make sure all updates and new features are needed and / or wanted.

- ☐ Milestone 5: Starting Development (September 12)
  - ☐ Implementing scheduling for code updates and rewrites.
  - ☐ Start working on code updates and rewrites that have been scheduled for the game.
  - ☐ Keep studying biology along with weekly meetings
  - ☐ Study biology/programming languages

- ☐ Speak with Dr. Cline and go over the game and requirements.

☐ Milestone 6: Development I (September 19)
- ☐ Roll out the first few packages of updates and major bug fixes
- ☐ Update each other on the progress on the development of new features.
- ☐ Keep studying biology and languages but much less often
- ☐ Roll out any completed features as packages

☐ Milestone 7: Development II (September 26)
- ☐ Identify bugs in our previous modular packages
- ☐ Roll out more packages of updates and major/minor bug fixes
- ☐ Keep studying biology and programming languages along with weekly library sessions.
- ☐ Speak with Dr. Cline and go over the game and requirements.

☐ Milestone 8: Development III (October 3)
- ☐ Keep studying biology and programming languages along with weekly library sessions.
- ☐ Roll out more packages of updates and major/minor bug fixes
- ☐ Identify bugs in our previous modular packages
- ☐ Get with Dr. Cline and display our progress and live interaction on the game.

☐ Milestone 9: Development IV (October 10)
- ☐ Keep studying biology and programming languages along with weekly library sessions.
- ☐ Roll out more packages of updates and major/minor bug fixes
- ☐ Identify bugs in our previous modular packages
- ☐ Begin improvement on our 2D modeling and design
- ☐ Dr. Cline and go over themes and design features for approval.
- ☐ Update the optional two themes feature of our game.

☐ Milestone 10: Development V (October 17)
- ☐ Wrap up development and begin code analysis.
- ☐ Start playing our game and look for any errors throughout our code.
- ☐ Create and supply a sample downloadable version with updates to the game that we have made so far such as bugs and other changes to the client for approval.
- ☐ Gather the team to look into the project and both analyze and discuss possible improvements on the final product.

☐ Milestone 11: Post Development I (October 24)
- ☐ Roll out any dragging packages
- ☐ Start trying to break the game as hard as we can (Test entity limits, AI interactions, generally cause chaos)

- ☐ Milestone 12: Post Development II (October 31)
  - ☐ Roll out any dragging packages
  - ☐ Start trying to break the game as hard as we can (Test entity limits, AI interactions, generally cause chaos)
  - ☐ Speak with Dr. Cline one on one and walk through and play the game and let her give criticism and any pointers to improvements.

- ☐ Milestone 13: Integration and Regression Testing (November 14)
  - ☐ Test that functional requirements met by previous team are still met
  - ☐ Test that the game is working without any errors.
  - ☐ Meet with Dr. Cline and give a runthrough and display of the product with the game fully functioning.

- ☐ Milestone 14: Write documentation for User and for future developers (November 21)
  - ☐ Update our documentation for future developers that will be working on this project in full detail.
  - ☐ Include meetings, and research summaries for biology and programming as well as other information obtained throughout our project.
  - ☐ Give the team a good time table feel for their own scheduling to give them a better understanding of how to schedule around their own projects through outcomes from our project.
  - ☐ Give future developers hints and outlooks to possible improvements.

FUTURE WORKS

- (Postponed by Client) Add new levels.
- Create a way for the development to become more community driven.
- (Postponed by Client) Side screen changes to allow more items.
- Update Documentation made to give a roadmap for future updates.

Agreement of Project Requirements

By signing this Statement of Work, you agree that the tasks that are currently listed in the document fulfill all the requirements and expectations associated with the project at hand. Once approved sponsors can make requests for additional tasks to be added to the project, however the team is not able to guarantee their completion within the given time frame. If there is any disagreement or additional requirements that must be added to the SOW those changes must be documented before this agreement is signed. The SOW currently fulfills the minimum expectations and requirements of the overseeing faculty member.

Approver Name	Role	Signature	Date (mm/dd/yy)
	Sponsor		
	Faculty		
Nicholas White	Software Developer	NICHOLAS WHITE	7/18/2022
Aaron Agee	Software Developer	*AARON AGEE*	7/18/2022