Milestone
Critical Stage Analysis

CS 470 - Game Development
Critical Stage Analysis (CSA) Document
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Group: 5

Group Name: Aqueduct Adventures

5 things that went right in our development

1.Design concept

The teams initial concept for the game played a significant role in its overall development Our design was modular and as such we had many reusable components. Each level is based on tools introduced in the previous level. This also allowed us to deliver a finished product regardless of time constraint.

2.Collaboration

Initial effort made at the onset of the project helped guide the direction of the project and ensure completion. Each team member played a significant role in the overall design and this ensured consistency through the course of the project.

3. Use of Tools and Tricks

We successfully found use for and implemented each software approach agreed upon at the beginning of the quarter. We also used many other tools and ideas discovered by various team members throughout the project.

4. Milestones

We met deadlines for all but one milestone by designing for each milestone ahead of time. This milestone involved implementation of sound effects and multi-player mode. Deliverables for this milestone were completed the week after it was due.

5. Group Dynamics

Our group communication played a significant role in the success of this development. We were able to communicate progress through various means: e-mail, text message, Facebook, collaborative resource (Google) documents, etc.

5 things that went wrong in our development

1. Time constraint

Midway through the course of the semester, turnaround time slowed down for team members this was as a result of an increase in workload for other courses and team members illnesses.

2. Tool Development

Some of the tools we tried to incorporate into the game design turned out to be very difficult to implement in the given time frame. These tools had to be removed from the overall design to be delivered on time.

3. Implementation

Implementing certain portions of our game required significant research in order to be implemented effectively. This research time reduced our productivity as we had to spend significant time testing just to see if it was even a viable approach. Before long, the rush of the quarter forced us to just code whatever works and throw it together but we managed to still keep it relatively organized and easy to navigate.

4. Physics Engine

We discovered that utilizing the physics engine effectively required a lot of trial and error. Collisions and particle generation / removal was very resource intensive and had to be optimized for game efficiency.

5. Cross platform compatibility

One of our greatest difficulties was designing the game so that it runs efficiently on various mobile platforms: particularly IOS and Android. Our game was originally designed to fit on all platforms, but we soon realized how incredibly difficult it would be to scale the physics along with the graphics and keep everything consistent. We ended up testing on the Android platform since we all have Android devices, but we developed with the iPhone 4 as a testbed in the simulator environment.

5 things that we could do differently next time

1. Tool development

Adequate time will be spent developing more tools to increase difficulty level and improve the game experience.

2. Increased difficulty

The difficulty level of our game can be improved. Development of new tools and utilization of existing tools to design more complex puzzles is something we can improve on, but it requires a lot of time and thought.

3. Better game design

Through the course of this development, we have gained extensive knowledge in scripting with LUA and the corona labs API. In the future, this knowledge will enable us to write more efficient code and implement better designs that are scalable should there be a need to expand on the game and across devices.

4. Improved graphics

Our graphic design required significant effort and thought. In the future, it will be helpful to utilize an independent graphic designer. This will improve the user interface and improve the gaming experience. It will also allow us to spend more time improving on our code design instead of dealing with the very time-consuming process of graphics development.

5. Improved storyline + character profiles

If we were to do this again, we would have focused a little bit more on developing a more sophisticated story along with character profiles. This would add to the game immensely by giving the user more interaction and personal choice. Again, this takes time just like graphics and we chose to focus more on the game dynamics and coding.

Stats (Grand totals):

*Note: counted outside of class; logged as much as possible, but most likely even more

a.) Man-hours:

275.5 hours

b.) Lines of code: ~ **9000** lines of strictly .lua files

Miscellaneous other stats:

- 58 .lua files
- 83 directories
- 158 files
- 42.1 MB