UNIVERSITY OF YORK

DEPARTMENT OF COMPUTER SCIENCE

User Evaluation

Cohort 2 - Group 17 (Rich Tea-m 17)

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Recruitment

For this project we had to interview people in our cohort. The Interaction Design Foundation advises that, if you have to interview fellow colleagues, you should select participants who are the most unfamiliar with your software in order to avoid as much bias as possible [1]. Therefore, we interviewed candidates who weren't team 16 or working on team 16's software.. This meant most candidates we interviewed were from team 12 (who were unfamiliar with the software). We interviewed 5 candidates from team 12 along with 2 further candidates from a randomly selected team.

Task Development

To develop tasks for the interviews, we first created a persona of a likely candidate user of our game and created a scenario they might complete, following advice from S. Bodker. [2] This would make it easier to design tasks around this scenario. Our persona, David, is a prospective student who wants to know what it would be like to study computer science at York.. From that scenario, we assigned the user the following tasks:

- Open tutorial *(allow user to learn controls of game, and let us know if tutorial is clear)*
- Interact with different locations *(allows the user to see as much of our game as possible)*
- Visit town if they haven't visited it by day 5 *(allows the user to assess the layout of town and see even more of our game)*
- Pause the game and adjust volume in settings *(allows the user to assess the pause screen and settings menu)*
- Input name on the leaderboard *(Tests the interactivity of the leaderboard UI)*
- Find their name and score on the leaderboard *(Tests the readability of the leaderboard UI)*
- Achieve a score of 70 or higher *(Assesses the approximate difficulty of the game, repeat playthroughs also allow us to extract more data from the interviews)*

These tasks will ensure the user will be able to see as much of our game as possible, without being over-prescriptive and losing the natural "play" experience.

Methodology

We will be using the hypothesis testing methodology to assess the system's performance, because according to Graham McCallister [3] this is the most suitable for video game evaluation. We selected suitable hypothesis tests based on what we felt the user would do if the system was user-friendly. .We hybridised this methodology with the think-aloud protocol, in order to build a mindmap of user thought processes

Overview of the interviewing process

- Send candidate informed consent form
- Arrange in-person interview during practical session
- Give candidate brief overview of tasks and explain that we are assessing the performance of the system rather than the user
- Interviewer asks candidate to perform tasks, while prompting them to "speak aloud" their thought process
- Observer monitors candidate and ticks of hypothesis if it is completed
- Once the user has finished all tasks, the interviewer asks follow-up questions to gather information about the user's understanding of the system.

Results and Analysis

By far the most difficult hypothesis tests to complete were related to completing streaks and getting a high score quickly, signifying the game is too difficult for most users and should be adjusted accordingly. Most users visited all the locations within the game without being asked, which shows the game is sufficiently interactive. A few users mentioned that the tutorial text was a little bloated, and almost all of the users stated that the map was too big compared to the amount of locations, in particular on the town map. Both of these were added as problems to the problem table. In addition, a few users found some bugs, most notably the game crashing if the user performed too many activities, and errors with how the game displayed the final score.

Problem Severity Table

ID	Problem Description	Severity (1-4)	Recommended actions	Fixed?
P1	The map is very big compared to the number of locations on the map, so users get lost easily	3	Trim the size of the map down	
P2	A bug was encountered where the game would crash if the user interacts with too many activities	4	Attempt to patch out the bug	Yes
P3	The interaction pop-ups don't tell the user that the enter button is used to interact with	2	Tell the user in the tutorial or in the pop-up that pressing enter confirms the interaction.	
P4	It is unclear what the purpose of some buildings are, and it's unclear that some buildings don't provide an activity	2	Clarify the purpose some buildings serve through some sort of indication (e.g: a hovering icon)	
P5	Streaks are potentially too difficult for players to earn, unaware users may never realise they even exist, and it's difficult to find out if you've earned one	3	Adjust the win conditions for streaks to be a little easier, and clarify that a user has earned a streak in the end screen	Yes
P6	The text in the tutorial screen is a little over descriptive	1	Trim the unnecessary parts of the tutorial	
P7	There is a glitch where the game displayed the final score as 0% but also gives the user a third honours grade	3	Attempt to patch out the bug	

References

[1] "*The Basics of Recruiting Participants for User Research"* Interaction Design Foundation, 2021. Available: https://www.interaction-design.org/literature/article/the-basics-of-recruiting-users-for-usability-testing

[2] S. Bodker, "Scenarios in user-centred design-setting the stage for reflection and action," *Proceedings of the 32nd Annual Hawaii International Conference on Systems Sciences. 1999.* Available: https://ieeexplore.ieee.org/abstract/document/772892

[3] *"Usability Playtesting: How to find your game's Friction Points",* Graham McCallister, Sept. 2023. Available: https://grahammcallister.com/usability-playtesting-book