

User Evaluation

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1.1 User Evaluation Methods

We will recruit participants for our user evaluation through asking members of our cohort to play and feed back on our game during the practical session. This way, it is convenient for both our team members (the researchers) and participants to carry out the study in-person rather than online. Since our game is targeted at 18-25 year old students, this environment presents a representative population from which to sample our participants. We will ensure a diverse representation of potential users by selecting a range of ages and genders from this population.

Properties of our sample:

- Minimum 6 participants (at least one per member of team 25).
- Minimum 2 female and 2 male students.
- Age of all participants is within the 18-25 bracket.

To gather feedback on our game, we will use a Task-Based user evaluation approach that combines observation, verbal feedback and quantitative data. Participants will be asked to perform a series of predefined tasks using our software under observation of a researcher, with the aim of highlighting any usability issues that the game presents to unversed players. While completing these tasks, the researcher will prompt the user to verbalise their intentions, thoughts and any issues that they encounter to get an accurate and contextual understanding of the user's experience.

We chose to use a concurrent verbal feedback approach over a retrospective approach as it allows for immediate clarification of any points that the user makes, as well as allowing participants to express non-verbal feedback (through body language or emotional response). The researcher can also ask questions of the user while they are completing tasks if a specific problem area needs further exploration. The approach will prompt more honest feedback than, for example, a survey or feedback form completed retrospectively, as the user does not need to prepare a formal wording of their thoughts.

All responses to our user evaluation will be recorded in the file [User Evaluation Responses](#) and stored in our team's private Google Drive. Names and identities of participants will be anonymised and only their demographic and responses will be recorded. We will not be using any video or audio recording software during the evaluations. In the file, we will record any comments that the participant makes, and ask them to categorise the comment as positive, neutral or negative. In the case that the participant encounters a problem, the researcher will ask them to describe the issue and rate it on a Likert scale of 1-5, according to following interpretations:

1. The issue is minor with minimal impact on user experience.
2. The issue noticeably affects user experience, but doesn't detract from overall functionality.
3. The issue is moderate and significantly impacts user experience and functionality.
4. The issue severely impacts functionality and causes significant frustration.
5. The issue is critical and renders the game unusable.

Additionally, we will ask the user to rate the ease of use in completing each predefined task, again using a 1-5 Likert scale, where 1 represents 'Very Easy' and 5 represents 'Too Difficult to Complete'. To determine the overall impact of problems, we will average the severity ratings over the number of participants who identified the same problem. This will help us decide which issues have the highest priority, and therefore need managing first. We will also identify which tasks were most difficult to complete, and use the participant feedback to improve them.

2.1 Usability Problems

The usability problems identified by the test users are outlined in the table below, with a 'Problem ID' so that they can be easily referenced from other deliverables. The severity rating given is listed as an 'Average' because, in the case that more than one user has identified the same problem, we have taken an average of the ratings they have given. This rating system follows the Likert scale described in the previous section.

Problem ID	Problem Description	Average Severity Rating	Problem Resolved?
P1	If you go from full screen into settings, it resets to windowed.	3	
P2	In-game leaderboard doesn't show full names (over 5 letters) and can't view it from the end screen.	2	
P3	Leaderboard and achievements aren't displayed on the end screen.	2	Yes
P4	Going to sleep in a building after midnight skips the entire next day.	4	
P5	The basketball game doesn't have a timer so the player doesn't know how long is left.	2	
P6	Energy bar doesn't go down after feeding the ducks.	2	Yes
P7	Some of the buildings are confusing - there is no text describing what happens or what you need to do.	3	
P8	The 'Cookie Catcher' minigame is too difficult because the plate does not move fast enough to catch the cookies.	3	Yes
P9	In the duck game, you can sometimes click on random places and it registers a click on a duck.	2	

As we completed user evaluation a few days prior to the assessment deadline, we were able to repair some of the issues that were identified by the test users. We have added a column to the table to indicate whether we believe the issue has been resolved - however, we did not have the time to complete a second round of user evaluation, so these claims are not user-verified.

2.2 Ethical Procedures

We have followed the department's necessary ethical procedures, and provided users with an [Information Sheet](#) prior to evaluation. They completed an [Informed Consent Form](#) via Google Forms. As a team, we received approval to carry out the user evaluation process after completing and submitting the [CS Fast Track](#) form.