

User Evaluation Testing Plan  
Steam Website

October 2020

## Table of Contents

<b>System Overview .....</b>	<b>3</b>
<b>Goals and Objectives.....</b>	<b>3</b>
<i>Research Questions .....</i>	<i>3</i>
<b>Methodology .....</b>	<b>4</b>
<i>Participant Characteristics .....</i>	<i>4</i>
<i>Location and Setup .....</i>	<i>5</i>
<b>Design and Procedure .....</b>	<b>6</b>
<i>Introduction to the session.....</i>	<i>6</i>
<i>Pre-test and background questionnaire .....</i>	<i>6</i>
<i>Tasks .....</i>	<i>6</i>
<i>Post-test questionnaire .....</i>	<i>6</i>
<i>Test Moderator Role.....</i>	<i>7</i>
<b>Tasks .....</b>	<b>7</b>
<b>Measures .....</b>	<b>9</b>
<b>Project Timeline .....</b>	<b>10</b>

## System Overview

Steam is the largest digital video game distribution platform for PC, offering a vast variety of games regardless of publishing company or country. Games purchased on Steam are permanently tied to the specific Steam account the purchase was made on and can subsequently be played and transferred across any PC device using that account. The primary function of Steam is to allow users to search for and purchase games, and subsequently organize and access all owned games in one place. In addition to this, Steam also has an increasing ‘user community’ aspect which allows users to interact, share content and engage in discussions about Steam content or gaming in general.

The Steam platform split into 3 major components: The Store which allows users to purchase games, a “Personal Library” containing all games the user has purchased and can play, and the “Community” which facilitates sharing and various interaction with other Steam users. Steam can be accessed through a web browser or the Steam App, however users will primarily utilize the App as games can only be launched through there.

## Goals and Objectives

**Overall Objectives:** To evaluate the overall effectiveness of the Steam platform, specifically functions within the Store and User Library sections. Goals include:

- Assess how easy it is for users to perform basic tasks such as searching and purchasing in the Steam Store and Collection creation in the Game Library
- What available features do users more frequently use when searching for games to purchase (how do people usually search for games to purchase)
- Gather user feedback on ease of use and areas of difficulty
- Identify if there are any major barriers in the completion of any task

## Research Questions

From the cognitive walkthrough it was found that there were many different ways which a user could search for games (ex. Direct searching, browsing by category), we would therefore like to see evaluate the user paths taken to search for a game given their starting point and directions given different search needs (specific game in mind, or browsing for a game within set parameters).

- For the 2 different search tasks, which search feature does the use choose to use (search bar vs. browsing my category)
- How successfully can users search for and find games using either option:
  - o Is one more effective than the other (time wise)?
  - o Is one more prone to errors?
- Are some search features used more/less in different types of search circumstances, and what features are preferred?
  - o What paths are taken (what links clicked)
- Which path is more effective towards different search goals?
- What are the major complaints / difficulties as identified by the user themselves?
- This section will provide both quantitative and qualitative data:
  - o Can users find the game they are searching for?
  - o Overall search time

- Number of errors made during the search – Quantified by each time they click on an incorrect link, need to click the back button, or deleted an applied filter
- Specific path used in searches for each circumstance – specific clicks
- Verbal questions, complaints or other statements made during the task

Our cognitive walkthrough also identified that the process for users who wanted to purchase multiple games at the same time was more difficult and tedious as you have to restart your search from the start each time after adding something to cart. Therefore, we wanted to evaluate user feedback in regard to this process and gather their opinion on how they might prefer it worked.

- Do the “Add to cart” and “Continue browsing” button do what you expect them to?
- What do users expect or want these 2 buttons to do?
- This section will provide mostly quantitative data:
  - User opinion on the usability of current purchasing function
  - User suggestions on how interface can better support their needs

In a heuristic evaluation it was found that there were many confusing aspects in the User Game Library section of the Steam platform. We therefore wanted to determine common errors that are made when accomplishing common tasks in this area. One specific task being the creation of a “Collection” of games.

- How easily and effectively is it for a user to create a game collection?
- What are the major barriers a user faces when trying to create a game collection?
- How do users like the layout of their library and what would they change
- This section will provide both quantitative and qualitative data:
  - Can users complete the task of creating a “Collection”?
  - Time taken to complete task
  - Number of errors made – As there is a specific sequence of steps here we will count the number wrong link or feature selected

## Methodology

### Participant Characteristics

Choosing the right participants will be very important for our user-testing plan. We kept in mind that the participants we chose resemble the quality and characteristics of actual steam users. So, all our 3 participants are game enthusiasts as well within the age group of 18-54 since majority of gamers in the world come from this age group (which is 64% according to Statista.com). Another important characteristic is the experience of the users on the gaming platform which we have carefully chosen to be between novice and intermediate level participants. This is because during our Heuristic and Cognitive evaluation, the Steam interface seemed to be very confusing and annoying for these users, specially someone who is not familiar with it. These participants can not only tell the insights and difficulties faced by new users, but also can bring minute details to notice which is generally over-looked by most of the experienced and old users of the platform. We don't have any preference for gender of participants. However, we would like to include both male and female participants so that we can evaluate the platforms from both perspectives to make our platform equally user-friendly for all the users.

<b>Characteristics</b>			
<b>Age</b>	<b>Experience</b>	<b>Gender</b>	<b>Hrs. spent/week</b>
20-27 (all 3 participants)	At least one intermediate (2-4 years) user and one beginner.	At least one male and one female participant	At least 6 hours a week (all 3 participants)

If we were to reach out to the participants with the above-mentioned characteristics, we would be choosing them from the list of the steam users. The list can be accessed by directly searching the key word “steam users list” on search engines like google. The account information of the potential users would then be used to create the list of the potential participants. Each member in the list would be contacted via the steam platform Chat.

### **Location and Setup**

The Study will take place in a controlled environment. That is, all the participants would be recorded throughout the testing evaluation. This means that the tasks performed by the participants and the question answers session both will be recorded. Also, the data is used to calculate performance times, and to identify & explain errors.

The study will take place in the common area of the shared living accommodation since our participants are living in the same household. The common area will be used as the testing room and the other rooms as the observation area. This setting will be suitable as all of us (the testers) can be connected via online platform to run a live user-testing session.

Our plan is to conduct the user-testing in a combination of on-site as well as remote study basis. This is because one of our participants is living with one of the students, but for the rest, we will be setting set up a meeting via the Zoom platform at the time of the user testing and analysis. However, scheduling the test for users (participants) with our schedule at the same time could be a challenge. There can be connectivity issues on zoom or in the participant’s internet connection. To combat that, we would be running a recording as well. We will also make sure not to have any kinds of disturbance during our scheduled time so that any kind of distraction for the participants can be avoided.

All the participant will be using a Windows Computer and the latest version of Google Chrome along with zoom online meeting platform installed on their PC. Considering the budget prospects in testing and evaluation, the participants will be using one of our tester’s account of steam platform which has pre-installed games to perform the user test and analysis. The participants will be asked to share their screen on the zoom platform to all the testers and the meeting will be recorded using zoom as well. There will be at least 2 mobile phones used (one for backup) for both audio and video recording of the participants to ensure we have a backup in case of connectivity issues.

To conduct the test, each participant would be provided with a table and chair, a notepad and some stationary items for them to take any notes or draw any design during the test which they

would like to share with us afterwards. Each participant would be provided with a power outlet so that the session is not interrupted due to battery drainage.

## **Design and Procedure**

This usability test will be exploratory to understand what common paths and main obstacles are when users search, purchase and create a collection of games. As we will use a within-subjects design, all participants will use all interfaces to conduct all tasks. While participants are conducting given tasks, we will collect their behavioral data, completion rate, time to complete, and the number of errors that participants would make throughout observation and solicit their subjective feedback on a post-test questionnaire.

The session will be 30-minute-long. Participants will take part in the usability test via remote screen-sharing technology. The participant will be seated at their workstation in their work environment. The participant's interaction with the Steam website will be monitored by the moderator remotely via Zoom. They will take notes and log data on the data collection sheet (Appendix B) while monitoring sessions.

## **Introduction to the session**

The moderator will brief the participants on the Steam website and instruct the participant that they are evaluating the system, rather than the facilitator evaluating the participant. Participants will sign an informed consent that acknowledges: the participation is voluntary, that participation can cease at any time, and that the session will be recorded but their privacy of identification will be safeguarded. The moderator will ask the participant if they have any questions.

## **Pre-test and background questionnaire**

Participants will complete a pretest demographic and background information questionnaire. (See Appendix C)

## **Tasks**

At the start of each task, the participant will read aloud the task description and begin the task. (See Appendix E) Time-on-task measurement begins when the participant starts the task. The moderator will instruct the participant to 'think aloud' so that a verbal record exists of their interaction with the Steam website. The facilitator will observe and record user behavior, user comments, and system actions in the data collection sheet.

## **Post-test questionnaire**

After each task, participants will complete a post-test questionnaire. The questionnaire consists of 5-point Likert scale questions on the complexity and easy of use of the interfaces and subject feedback on the feature.

## Test Moderator Role

The roles involved in a usability test are as follows. An individual may play multiple roles and tests may not require all roles.

### Facilitator

- Provides overview of study to participants
- Defines usability and purpose of usability testing to participants
- Assists in conduct of participant and observer debriefing sessions
- Responds to participant's requests for assistance

### Data logger

- Records participant's actions and comments

### Test Observers

- Silent observer
- Assists the data logger in identifying problems, concerns, coding bugs, and procedural errors
- Serve as note takers.

## Tasks

The following three tasks have to be completed by the user/participant:

- Searching for a specific game by using the search bar & browsing for a game based on the specific criteria
- Selecting multiple (2-3) games from the Steam website and adding them to the cart
- Creating a Game Collection in participant's library

The described tasks have been prioritized over some other tasks that are generally performed on Steam since these are the most basic tasks that a user needs to do in order to play a game using the Steam platform. The Steam platform is primarily meant for purchasing games and then playing them, and the evaluation of these tasks will help us in determining how easy or how difficult it is for novice and intermediate users to achieve these goals. The tasks described above are detailed below:

### Task 1: Searching for a specific game by using the search bar & browsing for a game based on the specific criteria

<b>Task Name</b>	Searching for a specific game by using the search bar & browsing for a game based on the specific criteria
<b>Task Description</b>	<ol style="list-style-type: none"><li>1. The participant searches for the specified game given the title</li><li>2. The participant uses the browse feature to find a game based on the criteria (for e.g., Genre, price range, platforms etc.) provided to them</li></ol>
<b>Material</b>	<ul style="list-style-type: none"><li>• The Steam desktop application should be available on the computer</li><li>• The application will be logged in using the test account created by us</li><li>• Specific game: Dragon Age Inquisition</li><li>• Browsing Criteria: Price = On sale, Under \$20, Strategy, "Very Positive/Positive" Review, English Language</li></ul>

<b>Machine State</b>	<ul style="list-style-type: none"> <li>Access to internet on the computer on which the task is being conducted is mandatory</li> </ul>
<b>Success Criteria</b>	<p><b>Successful Completion:</b> Since this task is divided into two parts, we will record success of each part separately:</p> <ul style="list-style-type: none"> <li>Participant successfully finds the game that they're looking for when given a specific game title to search for</li> <li>Participant is successfully able to browse the games based on the specified criteria (price range, genre etc.) we provided and find an acceptable game</li> </ul>
<b>Benchmark</b>	<ul style="list-style-type: none"> <li>Participant can have as many attempts; they can repeat/correct the search until they find the game</li> <li>The time they spend on the search function and the time spent on using the browsing function will be timed individually (as we aim to analyse both of these features separately)</li> </ul>

### Task 2: Selecting multiple (2-3) games from the Steam website and adding them to the cart

<b>Task Name</b>	Selecting multiple (2-3) games from the Steam website and adding them to the cart
<b>Task Description</b>	After searching for the game(s) in the first task, the user will make an attempt to add 2-3 games to the cart from the Steam website. Then, will they move to the billing/purchasing of these games.
<b>Material</b>	<ul style="list-style-type: none"> <li>The participant must have completed task one successfully. Multiple iterations of task 1 might be required in order to find and add 2-3 games to the cart</li> <li>The user needs to have familiarity with how items are bought on any online, e-commerce website</li> <li>The user will be provided with a login ID and a password to complete this task</li> <li>We will also orient the user briefly to the Steam store and show them the 2 search features (Search bar and Browsing menu)</li> </ul>
<b>Machine State</b>	<ul style="list-style-type: none"> <li>User will be logged into the same account as first task</li> <li>Access to internet on the computer on which the task is being conducted is mandatory</li> </ul>
<b>Success Criteria</b>	<b>Successful Completion:</b> When the user is able to successfully add 2-3 games to the cart, and move to the billing/purchasing page
<b>Benchmark</b>	<ul style="list-style-type: none"> <li>Participant needs to repeat the process of adding a game to the cart for each game since Steam does not allow multiple games to be added to the cart</li> <li>The game will only be added to the cart if the participant has successfully logged in</li> </ul>

### Task 3: Creating a Game Collection in participant's library

<b>Task Name</b>	Creating a Game Collection in participant's library
<b>Task Description</b>	The user will be adding the games already present in the account (the credentials we will be providing them with) and creating a game "Collection" in their library. They will be provided with several games, and they will be required to create a new category, and then add a few games to it.
<b>Material</b>	<ul style="list-style-type: none"> <li>User will be logged into the same account as previous tasks</li> <li>The participant will be provided with a "name" they can use for the collection and what games to put in it.</li> <li>The participant will be made aware about what a "collection" means in terms of Steam (so that they know what they need to look for/do in the task)</li> <li>We will have an already made collection in the library so that they know what end result they should be getting</li> <li>The account will be populated with 5-6 games which can be used to add to the Collection</li> </ul>
<b>Machine State</b>	<ul style="list-style-type: none"> <li>The testing machine must have the Steam application installed</li> </ul>



	<ul style="list-style-type: none"> <li>• It must be ensured that the user is logged in to the Steam Application</li> <li>• Must be games preloaded into the account</li> <li>• An Active Internet connection since this task might take a longer time compared to the others</li> </ul>
<b>Success Criteria</b>	<b>Successful Completion:</b> When the user is successfully able to create a Collection and add multiple games to that collection. On the Steam application, they need to navigate to Library -> Collections and then drag and drop the available games successfully to the collection.
<b>Benchmark</b>	<ul style="list-style-type: none"> <li>• Participant will have to know what the “Collection”/”Library” means in this context</li> <li>• Participant might require a higher level of familiarity with the Steam platform to accomplish this task</li> </ul>

## Measures

The following measures described will be collected from each task of the above three tasks defined:

<b>Measure</b>	<b>Type</b>	<b>Description</b>
Success (Yes/No)	Quantitative	The percentage of test participants who are successfully able to complete the task without critical errors.
Error rate (# of Errors)	Quantitative	<p>The percentage of test participants who are able to complete the task without any errors (critical or non-critical errors).</p> <ul style="list-style-type: none"> <li>- Number of times the user presses back button</li> <li>- Number of wrong clicks</li> </ul>
Time on Task (ToT)	Quantitative	The time (in minutes) a user needs to spend on a task for its successful completion. The time spent by each participant to complete a task will be added and an average will be taken for this measure (total time spent by the 3 participants/3)
Perceived effectiveness	Quantitative	A scale will be provided to the user to determine how effective the interface when completing a task (Ranging from 1 – 5; 5 being extremely effective and 1 being extremely ineffective). The user will provide a rating based on their experience (As shown in Appendix).
Perceived ease to use	Quantitative	A scale will be provided to the user to determine how easy the interface is to be used. The scale we will be using would be from 1 - 5; 5 being extremely easy to use and 1 being Extremely difficult to use (As shown in Appendix).

Most liked	Qualitative	A user statement about what they liked the most about the steam interface for doing this task, and if they have any suggestions. Free text just a record of what they say. This question will be asked after each task.
Least liked	Qualitative	A user statement about what they liked the least about the steam interface for doing this task, and if they have any suggestions. Free text just a record of what they say. This question will be asked after each task.

## Session Schedule

**Tentative Study Session Schedule**

Participant	Study Date	Study Time
Participant 1	November 13, 2020	4-6 pm
Participant 2	November 14, 2020	4-6 pm
Participant 3	November 14, 2020	6-8 pm

## Project Timeline

Task	Date
<b>Designing Test Plan</b>	Oct 20 <sup>th</sup> -Oct 29 <sup>th</sup>
<b>Recruiting Participants</b>	Oct 30 <sup>th</sup>
<b>Collecting Data</b>	November 13-15 <sup>th</sup>
<b>Analyzing / Summarizing</b>	November 15-22 <sup>nd</sup>
<b>Presenting Results</b>	November 23-28 <sup>th</sup>
<b>Writing Final Report</b>	November 29 <sup>th</sup> – Dec 8 <sup>th</sup>

## Appendices: Table of Contents

Appendix A: The consent form  
 Appendix B: The data collection sheet  
 Appendix C: Pre-test questionnaire  
 Appendix D: Post-test questionnaire  
 Appendix E: Test script

## **APPENDIX A – THE CONSENT FORM**

### **Usability testing of Steam website**

This is an invitation to participate in a research study. This consent form will provide you with information about the research project. It covers what you will need to do and the risks and benefits of participating. Please read this form carefully. To make an informed decision, it is important that you understand it fully.

The purpose of this study is to evaluate the usability of Steam website. There are no direct benefits to participating in this research study although your participation may help lead to better the user experience of Steam website.

#### **STUDY PROCEDURES**

Participation will take no more than 30 minutes. You will be screen-sharing via Zoom during the study and it will be recorded. Remember to think out aloud as you go through the task. Your verbalised thinking process help us to understand your interaction with the system.

The study will involve completing 3 tasks:

- Searching for a specific game by using the search bar & browsing for a game based on the specific criteria
- Selecting multiple (2-3) games from the Steam website and adding them to the cart
- Creating a Game Collection in participant's library

After each task, you will be asked to complete a self-reported feedback on the task. (i.e. self-reported ease of use and satisfaction) via a post-test questionnaire. You also will be asked to provide subjective feedback on the feature that you test.

If you feel tired during the study, please ask for a break. You can take a 5-minute break between any of the main activities. Please remember that we are not testing you.

#### **VOLUNTARY PARTICIPATION**

Participation in this study is voluntary. You may stop at any time and for any reason, without penalty. Withdrawing will not impact your relationship with the research team in any way.

#### **POTENTIAL RISKS**

There are no risks associated with this study. If you start to feel tired, please ask to take a break.

#### **COMPENSATION**

There is no financial compensation for your participation in this study.

#### **CONFIDENTIALITY**

Once you give consent for this study, you will be assigned a unique identifier (e.g., P01). Your data will be anonymized and securely stored in McGill Server.

Please sign below if you have read the above information and consent to participate in this study. Agreeing to participate in this study does not waive any of your rights or release the researchers from their responsibilities. A copy of this consent form will be given to you via an email and the researcher will keep a copy.

Participant's Name: (please print) \_\_\_\_\_

Participant's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

## APPENDIX B – THE DATA COLLECTION SHEET

**Data Collection Sheet:** To be used for individually for each participant

	<b>Time to complete</b>	<b>Success?(Y/N)</b>	<b># of Incorrect Clicks</b>	<b>Observation</b>
<b>Task 1</b>				e.g. user verbal statements during task
<b>Task 2</b>				
<b>Task 3</b>				

## APPENDIX C - PRE-TEST QUESTIONNAIRE

<b>How old are you?</b>	
<b>What is your profession?</b>	
<b>Have you used Steam before? If so, how often?</b>	
<b>Have you use any other digital game distribution platforms before? If so which ones?</b>	
<b>Do you play video games? How often?</b>	
<b>Do you own or use any other gaming devices? (PS4, Xbox, Switch etc.)</b>	
<b>How frequently do you use a PC?</b>	

## APPENDIX D - POST-TEST QUESTIONNAIRE

### Post-Test Questionnaire

Task 1	
<b>Perceived effectiveness:</b> to what extent do you agree with the statement “I found the interface is effective to complete a given task” - 1 being strongly disagree and 5 being strongly agree (as shown in above figure)	
<b>Perceived easy to use:</b> to what extent do you agree with the statement “I found the interface is easy to use” - 1 being strongly disagree and 5 being strongly agree	
What did you like the most about the Steam interface when completing the task?	
What did you like the least about the Steam interface when completing the task?	

Task 2	
<b>Perceived effectiveness:</b> to what extent do you agree with the statement “I found the interface is effective to complete a given task” - 1 being strongly disagree and 5 being strongly agree (as shown in above figure) -	
<b>Perceived easy to use:</b> to what extent do you agree with the statement “I found the interface is easy to use” - 1 being strongly disagree and 5 being strongly agree -	
What did you like the most about the Steam interface when completing the task?	
What did you like the least about the Steam interface when completing the task?	

<b>Task 3</b>	
<p><b>Perceived effectiveness:</b> to what extent do you agree with the statement “I found the interface is effective to complete a given task”</p> <ul style="list-style-type: none"> <li>- 1 being strongly disagree and 5 being strongly agree (as shown in above figure)</li> </ul>	
<p><b>Perceived easy to use:</b> to what extent do you agree with the statement “I found the interface is easy to use”</p> <ul style="list-style-type: none"> <li>- 1 being strongly disagree and 5 being strongly agree</li> </ul>	
What did you like the most about the steam interface when completing the task?	
What did you like the least about the steam interface when completing the task?	

## APPENDIX E – TEST SCRIPT

Hi, \_\_\_\_\_. My name is \_\_\_\_\_, and I'm going to be walking you through this session today.

Before we begin, I have some information for you, and I'm going to read it to make sure that I cover everything.

You probably already have a good idea of why we asked you here, but let me go over it again briefly. We're asking people to try using the Steam website so we can see whether it works as intended. The session should take about 30 minutes

The first thing I want to make clear right away is that we're testing the site, not you. You can't do anything wrong here. In fact, this is probably the one place today where you don't have to worry about making mistakes.

As you use the site, I'm going to ask you as much as possible to try to think out loud: to say what you're looking at, what you're trying to do, and what you're thinking. This will be a big help to us.

Also, please don't worry that you're going to hurt our feelings. We're doing this to improve the site, so we need to hear your honest reactions.

If you have any questions as we go along, just ask them. I may not be able to answer them right away, since we're interested in how people do when they don't have someone sitting next to them to help. But if you still have any questions when we're done I'll try to answer them then. And if you need to take a break at any point, just let me know

Also, as you notice, there are a few people in this meeting room observing this session.

If you would, I'm going to ask you to sign a simple permission form for us. It just says that we have your permission to record you, and that the recording will only be seen by the people working on the project