**FlickFix Test Plan**

**CSCI Senior Project**

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**Version 1.2**

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Introduction:

* This test plan provides a comprehensive guideline for evaluating the functionality, performance, and reliability of FlickFix, a user-centric video editor developed in Qt Creator. This plan is structured to cover all vital aspects of testing, ensuring that FlickFix stands up to the expectations of simplicity and usability, the primary focus of this project.
* The primary objective of implementing this test plan is to identify any deviations between anticipated and actual results, ensure that all features operate as expected, and verify that the average user can navigate and utilize the program with ease and without encountering any issues.
* Time will be the biggest constraint for testing since this project needs to be finished and presentable by Nov 20th, amidst a fall semester with several other class commitments. Other constraints may include user participation, and having a testing environment that testing participants are able to use.

References:

* Proposal and Requirements Document - <https://github.com/mtweigel/CSU-Senior-Project/blob/master/docs/CSCI_497_Proposal_and_Requirements.md>
* Test Case Document - <https://docs.google.com/spreadsheets/d/1AKGEy2gAnmjuKqQM1qJmJLxnYHLELVpD3hXlkFgVaD0/edit?usp=sharing>

Test Items:

* FlickFix Video Editor - Version 1.0.0.

Features to be Tested:

* Primary Features
  + Video Importing & Saving.
  + Video player functionality – Play/pause, skipping, scrubbing, volume changing and muting.
  + GUI manipulation – resizing.
* Video Editing Features
  + Video Appending & Prepending.
  + Intro & Outro creation – GUI usability.
  + Video trimming – saving/removing trim selection.
  + Video edit Undo/Redo.
  + Audio dubbing.
  + Screenshot creation.
  + Video format conversion – other formats to MP4.
* Other features
  + Tutorial accessibility and usefulness.
  + GUI customization – light/dark mode.

Approach:

* The overall approach to testing will involve both developer testing (White Box testing) and outside user testing. This is important to ensure that the program is bug free and usable to the average person.
* **Unit Testing**
  + **Objective**: To thoroughly test each component of FlickFix for functionality and bug identification.
  + **Method**:
    - Write test cases for each individual component of the program included in the features to be tested, such as video importing, editing tools, exporting, etc.
    - Compile a collection of sample video and audio clips of varying lengths and file formats for importing and feature testing within the program.
    - Test the functionality of each feature and component separately, and in combination with one other to ensure they can function independently and cohesively.
    - Validate the output of each test against expected results written in test cases.
    - Failed unit tests will be marked as incomplete until the issue has been fixed, retested, and passed.
* **System Testing**
  + **Objective**: To ensure the complete FlickFix application functions correctly in an environment that closely simulates real-world use.
  + **Method**:
    - Deploy FlickFix as a finished application that can be installed on other user machines and testing environments.
    - Conduct end-to-end testing of the entire deployed application, including the integration of all tools and components.
    - Test in various environments with varying hardware specifications to ensure compatibility and performance.
    - Validate performance and stability against functional requirements and check for any system-level issues like crashes or instabilities.
    - Test under specific loads, involving multiple video clips of different lengths, to ensure stability and performance.
    - Failed system tests will be marked as incomplete until the issue has been fixed, retested, and passed.
* **Usability Testing**
  + **Objective**: To assess the user experience of FlickFix, focusing on user-friendliness, intuitiveness, and overall satisfaction. Validate the program’s usability and identify areas for improvement.
  + **Method**:
    - Recruit participants who represent the target user base, including both novice and experienced video editors.
    - Ensure that users can easily download FlickFix and any other necessary tools needed to run the application on their own machine.
    - Conduct scripted testing sessions where users perform a series of tasks using FlickFix.
    - Collect live user feedback while walking through the application with the user, while giving them the necessary instructions to complete certain tasks.
    - Make note of positives, negatives, and any unexpected behaviors that users point out or experience during typical editing tasks and while using FlickFix.
    - Conduct a post-demo interview with the user to hear their overalls thoughts, suggestions, and criticisms of the application.

Usability Testing Script:

**Introduction to Participants**:

"Hello and thank you for participating in this usability test for FlickFix, my new video editing software. The purpose of today's session is to gather your feedback on the usability and overall user experience of the software. Your insights are invaluable in helping me improve FlickFix."

**Task Scenarios**:

Basic Editing Task: "Please try importing a video file of your choice into FlickFix and perform some basic editing tasks like trimming the video and saving it to your computer. Feel free to explore the editing tools available. If you make a mistake, don’t worry, you can undo or redo any changes you have made.”

Advanced Editing Task: "Now, let's move on to a more complex task. Please try combining multiple video clips, by appending or prepending them to your first video. Next, try adding an audio dub over the new video. Also, try adding either an intro or outro to the video. I am interested to see how well you navigate these more advanced features."

Additional Tasks:

“Please navigate to the tutorial of the application and have a chance to look through it. Let me know if it properly explains the various features of the program in a way that can be easily understood. Also, feel free to change the visual theme of the program to dark mode in case that is your preference.”

Exporting Task: "Finally, please try exporting your edited video in your desired file format. We would like to observe the finishing process and gather your thoughts on the provided options for saving and exporting."

**Feedback Collection**:

After each task, I will ask participants specific questions about their experience, such as ease of use, intuitiveness of the interface, and any difficulties they faced. Any feedback is encouraged to capture their overall impression.

**Closing Remarks**:

"Thank you for your participation and valuable feedback. Your insights will play a crucial role in enhancing FlickFix. If you have any additional comments, suggestions, or criticisms, please feel free to share them now."

Test Deliverables:

* Test Plan
  + Draft Test Plan due date – October 2, 2023.
  + Final Test Plan due date – November 20, 2023.
* Test Case Document
  + Contains test cases for both White Box and Black Box testing. Will be submitted alongside the final Test Plan.
* Usability Testing Results

Test Environments:

* This project will need to be able to be deployed and tested on multiple user machines, not just on the original developing environment.
* The only computers that FlickFix will be tested on are those running the Windows 10 operating system.

Schedule:

* Test cases will be finished, and document written by October 18, 2023.
* Developer testing will begin after test cases are written and usability testing will begin afterwards. All testing will be completed by October 31, 2023.
* The final test plan, test cases, and test reports will be submitted with the finished project by November 8, 2023.

Assumptions and Dependencies:

* Assumptions:
* There will be enough time to complete the tasks required considering the amount of work other fall classes will be demanding.
* FlickFix will be able to be packaged and deployed on other user machines.
* Other users will be found to test the FlickFix video editor.

Approvals:

* The draft and final test plan and project will need to be reviewed and approved by senior project advisor Dr. Sean Hayes of CSU.