

CS66 Software Innovation for Dual Screen Notebook Problem Statement

Group 66b
CS461 - Senior Project
Fall Term 2019

I. ABSTRACT

Asus released their new ZenBook Pro Duo laptop on September 6th, 2019, sporting what they call a “ScreenPadPlus” directly above the keyboard. The traditional screen is a 15-inch 16:9 OLED panel, while the ScreenPadPlus is a 32:9 IPS touch-sensitive panel. This ScreenPadPlus is half the height as the base screen and can be used in as many ways as its users can imagine. Our team is tasked with designing an application that takes full advantage of the companion screen. We will be responsible for creating the idea, gauging market interest, and designing an application based on the idea. In order to ensure the product we deliver is of high quality, we will be conducting usability tests. This will give our team insights on what is difficult to understand or grasp about our application.

II. THE PROBLEM

The Asus ZenBook Pro Duo is a one-of-a-kind laptop due to its companion 32:9 touch panel, located directly above the keyboard. It's innovative, but because it is still new it does not have much app support that can fully take advantage of the companion screen. While the screen can be used as a mere extension of the main display with relative ease, creating an application where the second screen complements the experience is the ultimate goal. Because this laptop is powerful enough to do practically anything a user would want, it has to have enough native apps to entice customers to buy it, which is where our team comes in.

III. THE SOLUTION

This application will incorporate the companion screen as an integral part of the experience. What that app will look like, however, is entirely up to our team. This project allows our team to make many of the decisions that go into developing an application. Every step of the process, from the conception of the idea to the final deliverable is our team's creation. This leaves us with a lot of room for creative liberty, but it also puts a lot of pressure on us to make sure there is a market for our application. In order to create an application that will sell this laptop, we need to take into account who our app is designed for. Ensuring our application will have a market will be the first step after an idea is chosen, which will require a bit of market research. If we design a really great application but no one uses it, it is tough to call that a success. Our team will be provided with a development machine, but we will need to share it. This may pose a bit of a problem, but being able to simulate a multi-screen experience on our own computers will hopefully remedy that.

Furthermore, our client's research team has also put in some research into apps and functions worth building upon to enhance user experience with the second companion screen. The first would be developing the features of Adobe Photoshop, Adobe Lightroom, and Adobe Premiere Pro. This builds upon the idea of developing an already pre-existing app, rather than creating something from scratch. Many users are already familiar with Adobe, so by enhancing its configurations to fit this dual platform would allow for a unique experience. Implementation-wise, this would allow us to take advantage of the existing Adobe APIs and set it up in a way that the companion screen is utilized. For instance, having the brushes and other editing material on the companion screen so that the main screen could be used for the main content.

The second idea involved the resolution of the screen. The resolution and size of the companion screen makes it hard for the users to read the text on the screen. While changing the resolution is possible, moving the content back and forth between the screens causes unexpected behavior. Additionally, the size of the screen makes the button sizes much smaller, making it a bit difficult to utilize the touch screen functionality when touching the buttons. The client proposed creating a widget to help shift between the resolutions when moving content back and forth between the screens.

Finally, the last idea - and the one that our team is leaning towards - involves creating an app version of the Elgato Stream Deck. This would allow the user to set up shortcuts using a portion of the companion screen for easier navigation within the app. This would also aid in user navigation so then they would be able to switch media through different widgets in one place.

IV. PERFORMANCE METRICS

In order to make sure the product we give to our client is acceptable, a few measures of quality and quantity will be used. Namely, being able to deliver a working prototype by the exhibition will be a good measure of success. Our client encouraged us to go beyond just designing an application and trying to create a working prototype, which will allow our team to get the most out of this project. This milestone would be the first release of our software. The first release, depending on the type of project, is sometimes referred to as the "Minimum Viable Product" and is a good milestone for completing the first release of a software. Being able to have users interact with our application when the exhibition comes around is the desired goal of this project. Another metric to check is the usability of the software. Conducting user tests is a good way to gauge if the product you're developing is easy for the intended target audience to interact with. Our team will conduct user tests to gain insight into where we need to improve the application. These often allow us to see problems we were blind to. No matter how well optimized a piece of software is, it is useless to the general audience if they don't know how to use it or it is unclear how to navigate the software. A final metric to gauge the success of our software is if the software becomes included in future updates of the notebook. Our client had mentioned that this was a possibility if the idea is flushed out enough and developed enough by the end of the project. This won't be easy, but given enough drive and coordination between our team members, it will be completely attainable.