The Scrollet

Matthew Flickner and Joseph Barbosa

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Abstract

Your abstract.

1 Introduction

2 The System of Use

The Scrollet is designed to be used with many different systems.

2.1 Potential Usability Issues

3 Top Level Design

3.1 Hardware Overview

The Scrollet, naturally, is designed like to work like a scroll. It has two "Grabbles" on the sides from which the screen rolls into. When the Scrollet is closed, all that is visible are the two Grabbles. There is a manual push switch that can be used to lock the Scrollet in closed position. Upon pulling the Grabbles apart, a thin, flexible screen comes out. Upon being fully pulled out, a switch will trip and the screen will lock in the out position. The switch is tripped by pulling the screen out to it's maximum length then releasing. To roll the screen back into the Grabbles, the switch is tripped again and will slowly pull the screen in itself with the user guiding it in.

3.2 The Grabbles

The Grabbles are where mostly everything occurs in the Scrollet. Inside the Grabbles are the processor, memory, storage, graphics card, battery, speakers, accelerometers, compass, GPS, light sensors, WiFi antenna, Bluetooth chip. In addition, the inside of the grabbles will have some protective cushioning to better protect the screen and other critical components. On the exterior of the Grabbles are the HDMI input, Mini-Display input, headphone port, stylus slot, power button, camera, a USB 3.0 port for additional storage, a USB Micro port to be used for charging as well as syncing data to computers. On the backside of the Grabbles, there is an adjustable kickstand that can be used to prop up the Scrollet during use as well as two mounting holes that would allow for the Scrollet to be mounted on a wall.

3.3 The Screen

The screen is thin and flexible. It has the potential to be either transparent or non-transparent based on the user's choosing. It is touch sensitive and touch is the primary way users input information.

3.4 Software Overview

The root operating system of the Scrollet is a very simple touch-based operating system that offers very few options to the user. Its main purpose to serve as essentially a boot menu for the virtual guest systems that are run inside the root. That being said the root operating system has essentially 5 main functions.

3.4.1 DisplayMode

The first function is to enter DisplayMode. Display Mode allows for the Scrollet to be used as a external monitor for a computer. This can be done through the HDMI or MiniDisplay port as well as over Wi-Fi similarly to Apple AirPlay.

3.4.2 MainMode

MainMode is where most of the Scrollet's user usage will occur. Essentially MainMode is a virtual machine that allows for the user to run another operating system as a guest system on top of the root operating system. Users will obviously only be able to use guest operating systems that support touch interface. The 3 operating systems currently that would be considered able to be used on Scrollet are Windows 8.1, Android OS for tablets, and iOS for tablets. They would use virtual hard disks for storage.

3.4.3 CameraMode

CameraMode is a simple function that allows for users to access and use the camera without having to boot up into a virtual operating system.

3.4.4 MusicPlayer

The music player allows for the user to access and play their music library without having to boot into a virtual system to have their music at their fingertips.

3.4.5 Settings

The final function on the root operating system is Settings. Settings is, naturally, where all of the settings for the Scrollet can be accessed. Here users can modify the settings for any virtual operating system they are running and access other device settings.

4 Usage Scenarios

4.1 As A External Monitor

When initially booted, the Scrollet acts as an external monitor. Input can be plugged into the Scrollet into either its HDMI port or Mini-Display Port.

Hanging holes on the back side of the Scrollet allow for it to be mounted on walls if the user desires. In addition any user with a computer running Scrollet software can connect to Scrollet

4.2 As Computing Tablet-Style Device

5 Why Scrollet

5.1 Priorities

5.2 Mental Models, Design Concepts, Principles, Theories

6 Usability Metric Analysis

7 Conclusion