RETROPIE: INSTRUCTIONS FOR USE

This is the instruction manual for how students will begin and complete labs. Students should start reading this manual so that they will understand how to use the lab sets.

Table of Contents

Introduction

Thank you for choosing RetroPie. We here at RetroPie would like to extend a warm welcome to you. We have created these few labs that will help your students learn how to set up and use a Raspberry Pi Model 3. This document serves as the Introduction manual for the lab sets. Please take a minute to review this document to understand the goals, objectives, and labs that your students will work through. These labs were completed on Raspberry Pi 3 Model B, however the setup should be the same for most Raspberry Pi models. Again, we thank you for Choosing RetroPie.

Goals

The goal of these lab sets is to teach the student how to set up and use their Raspberry Pi Model 3. The ultimate goal is for students to be able to use their Raspberry Pi's as RetroPie gaming arcade machines.

Objective

The Objective of these labs is for your students to have a fully working Retropie Gaming Machine on their Raspberry Pi 3 Model B.

What Classes Can I Use These Skills in?

These RetroPie labs help teach students a multitude of technology skills. Skills covered include HTML, CSS, PHP, XML, and more skills. The RetroPie would be appropriate for students to complete in the suggested following classes:

- Introduction to IT or related classes
- Web Page Development or related classes
- Security Classes
- Programming Classes, such as PHP or Python
- Infrastructure Classes

These classes are just suggestions, and you may use the RetroPie labs in any class that you wish.
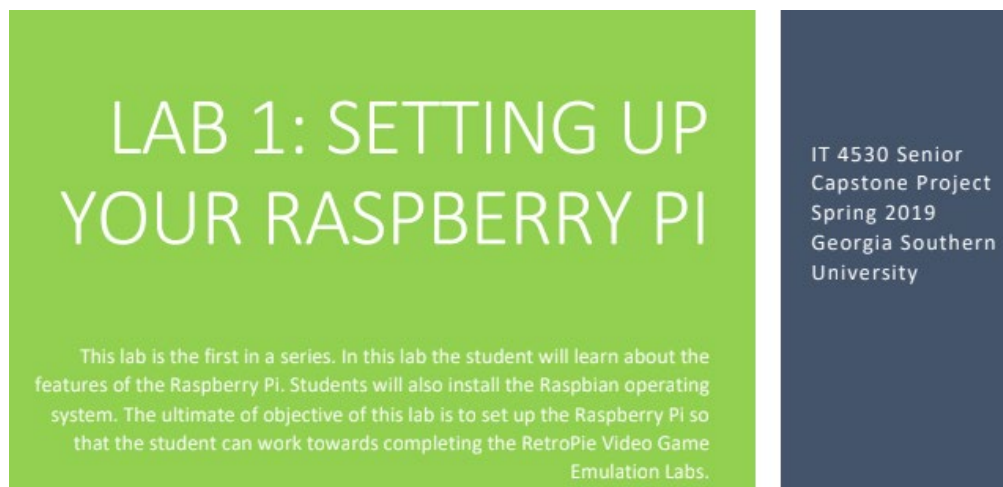
Instructions for Use

This lab set includes 7 labs for your student to complete. The labs include:

- Lab 1: Setting up your Raspberry Pi
- Lab 2: Coding with HTML
- Lab 3: Coding in CSS
- Lab 4: Introduction to PHP
- Lab 5: Installing RetroPie
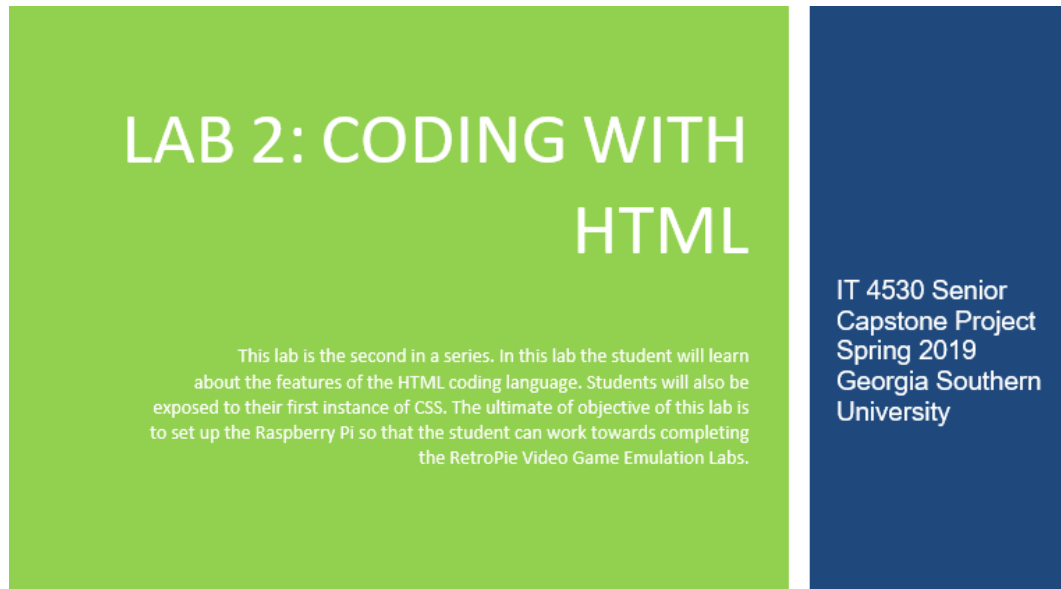- Lab 6: ROM Installation
- Lab 7: XML/Themes

To begin, navigate to your Lab 1 Document: Setting Up Your Raspberry Pi. In this lab the students will begin the tour of the Raspberry Pi and begin setting up their Raspberry Pi. Lab 1: Setting up Your Raspberry Pi should take around 45 minutes for students to complete. However, some students may experience issues that may require diagnostic time, even so Lab 1 should take about one class period to complete.

Figure 1

After completing Lab 1, students will then navigate to Lab 2: Coding with HTML. In Lab 2: Coding with HTML, students will learn how to work with HTML to create basic websites. Lab 2: Coding with HTML should take students about 45 minutes to complete. However, some students may experience issues that may require diagnostic time, even so Lab 2 should take about one class period to complete.
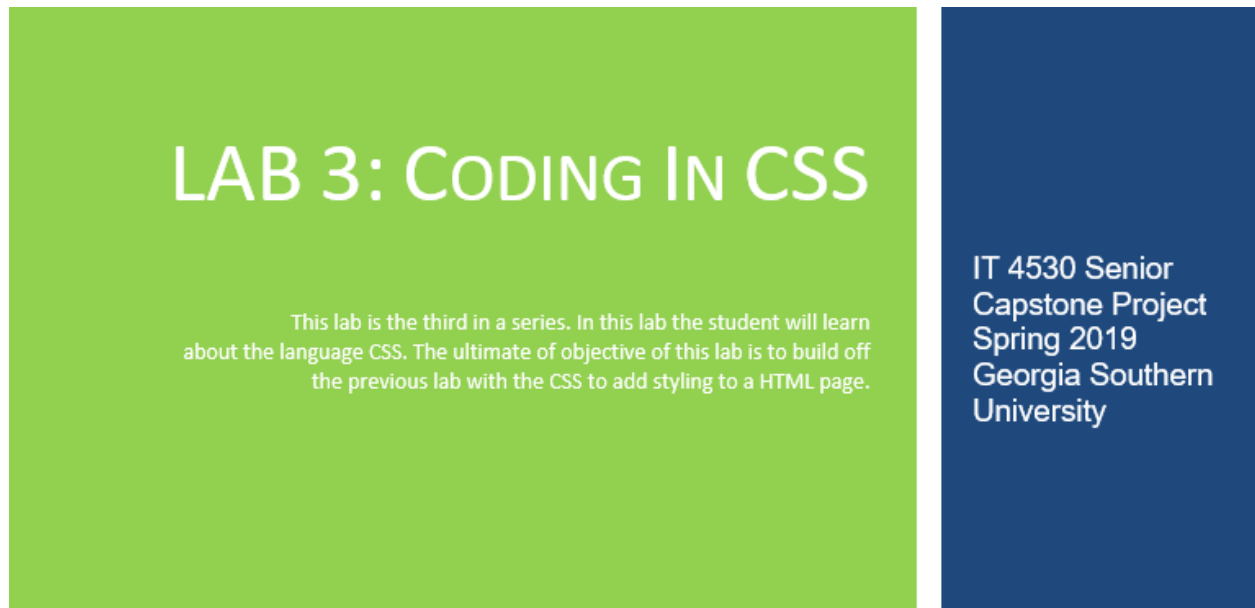
Figure 2

LAB 2: CODING WITH HTML

This lab is the second in a series. In this lab the student will learn about the features of the HTML coding language. Students will also be exposed to their first instance of CSS. The ultimate of objective of this lab is to set up the Raspberry Pi so that the student can work towards completing the RetroPie Video Game Emulation Labs.

IT 4530 Senior Capstone Project
Spring 2019
Georgia Southern University

After completing Lab 2, students will navigate to Lab 3: Coding in CSS. In Lab 3: Coding with CSS, students will learn how to add formatting to the website file that they created in Lab 2: Coding with HTML. Lab 3: Coding with CSS should take about 45 minutes to complete. However, some students may experience issues that may require diagnostic time, even so Lab 3: Coding with CSS should take about one class period to complete.
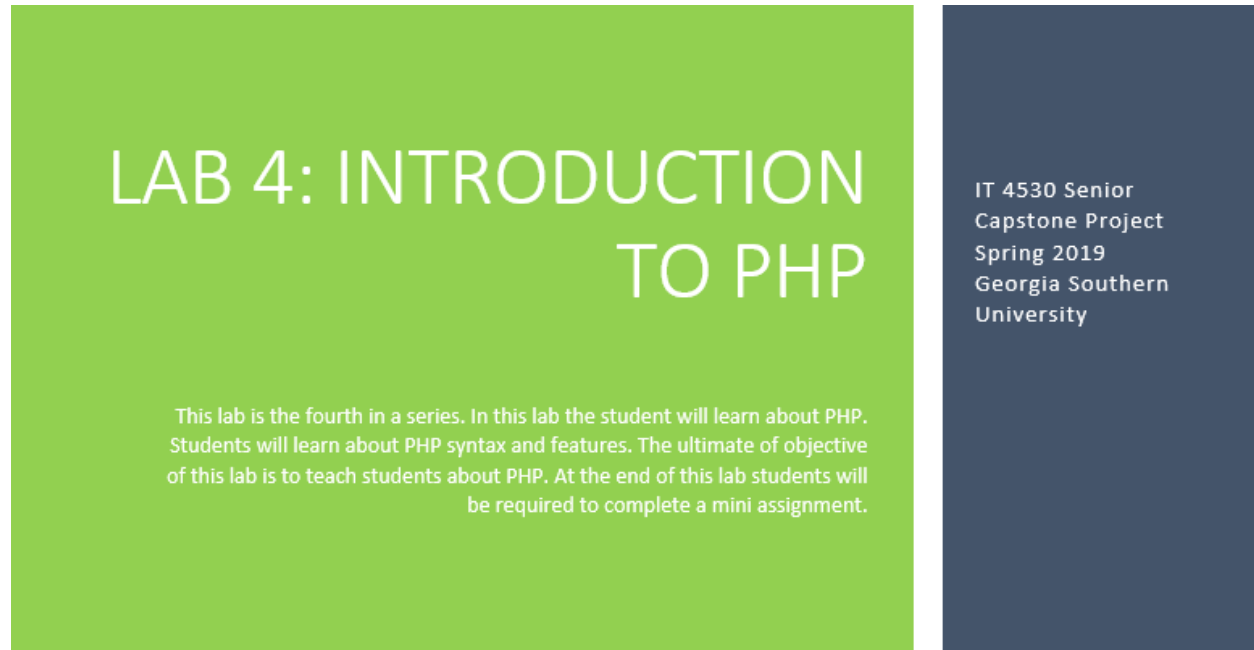
Figure 3

LAB 3: CODING IN CSS

This lab is the third in a series. In this lab the student will learn about the language CSS. The ultimate of objective of this lab is to build off the previous lab with the CSS to add styling to a HTML page.

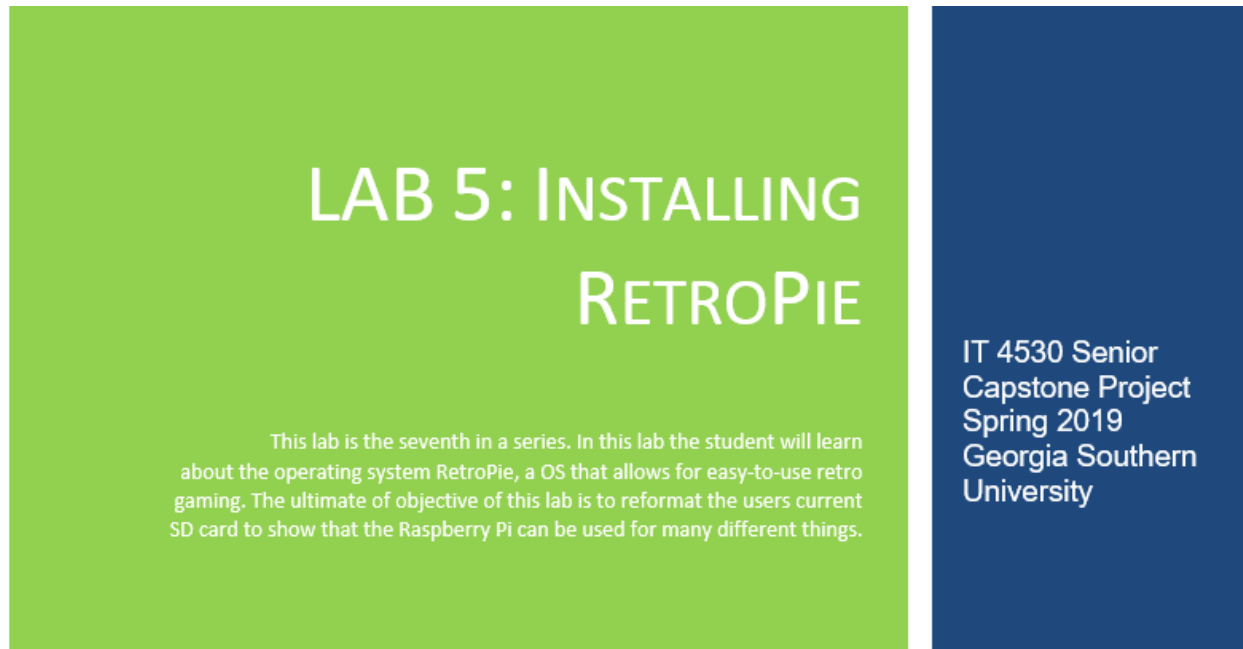IT 4530 Senior Capstone Project Spring 2019 Georgia Southern University

After completing Lab 3, students will navigate to Lab 4: Introduction to PHP. In Lab 4: Introduction to PHP, students will learn how to code with the PHP language. Students will complete a PHP file. Lab 4: Introduction to PHP should take about 45 minutes for students to complete. However, some students may experience issues that may require diagnostic time, even so Lab 4: Introduction to PHP should take about one class period to complete.

Figure 4

LAB 4: INTRODUCTION TO PHP

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This lab is the fourth in a series. In this lab the student will learn about PHP. Students will learn about PHP syntax and features. The ultimate of objective of this lab is to teach students about PHP. At the end of this lab students will be required to complete a mini assignment.

After completing Lab 4, students will navigate to Lab 5: Installing RetroPie. In Lab 5, students will install RetroPie. Lab 5: Installing RetroPie should take about 45 minutes for students to complete. However, some students may experience issues that may require diagnostic time, even so Lab 5: Installing RetroPie should take about one class period to complete.
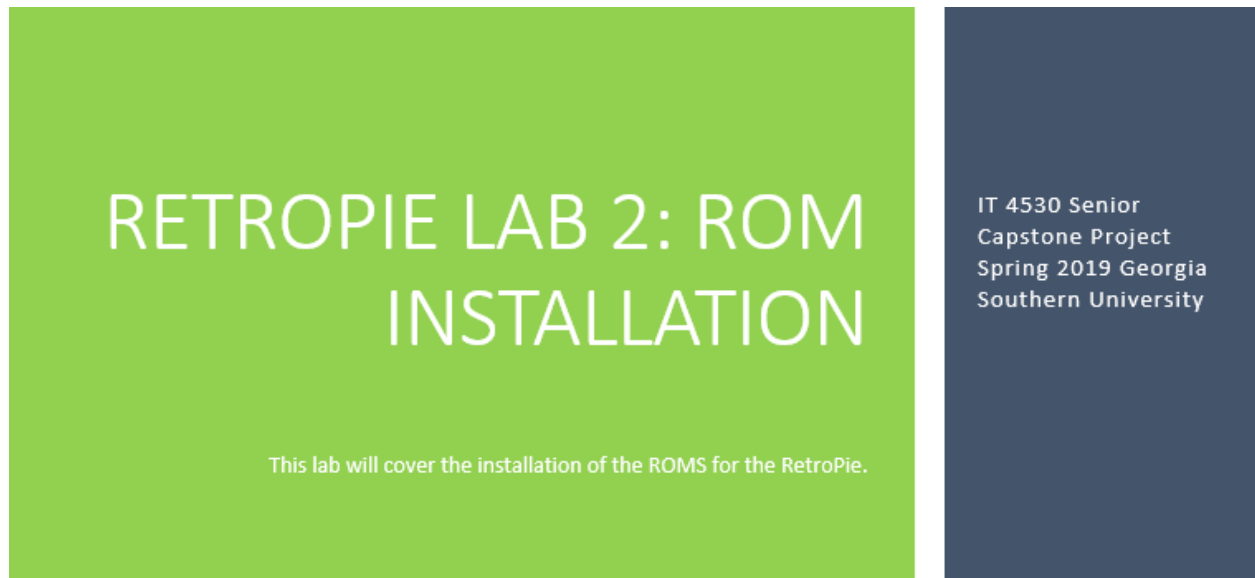
Figure 5

LAB 5: INSTALLING RETROPIE

This lab is the seventh in a series. In this lab the student will learn about the operating system RetroPie, a OS that allows for easy-to-use retro gaming. The ultimate of objective of this lab is to reformat the users current SD card to show that the Raspberry Pi can be used for many different things.

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After completing Lab 5, students will navigate to RetroPie Lab 2: ROM Installation. In RetroPie Lab 2: ROM Installation students will install the ROM's that will be used for the RetroPie Arcade system. RetroPie Lab 2 should take about 30 minutes for students to complete. However, some students may experience issues that may require diagnostic time, even so RetroPie Lab 2: ROM Installation should take about one class period to complete.

Figure 6

After completing RetroPie Lab 2: ROM Installation, students will navigate to RetroPie Lab 3: XML/Themes. In RetroPie Lab 3: XML/Themes students will create themes with XML for their Raspberry Pi Arcade machines. RetroPie Lab 3: XML/Themes should take about 30 minutes for students to complete. However, some students may experience issues that may require diagnostic time, even so RetroPie Lab 3: XML/Themes should take about one class period to complete.

Closing

After completing RetroPie Lab 3: XML/Themes students should have a fully functioning RetroPie Arcade Machine. Thank you for choosing RetroPie.