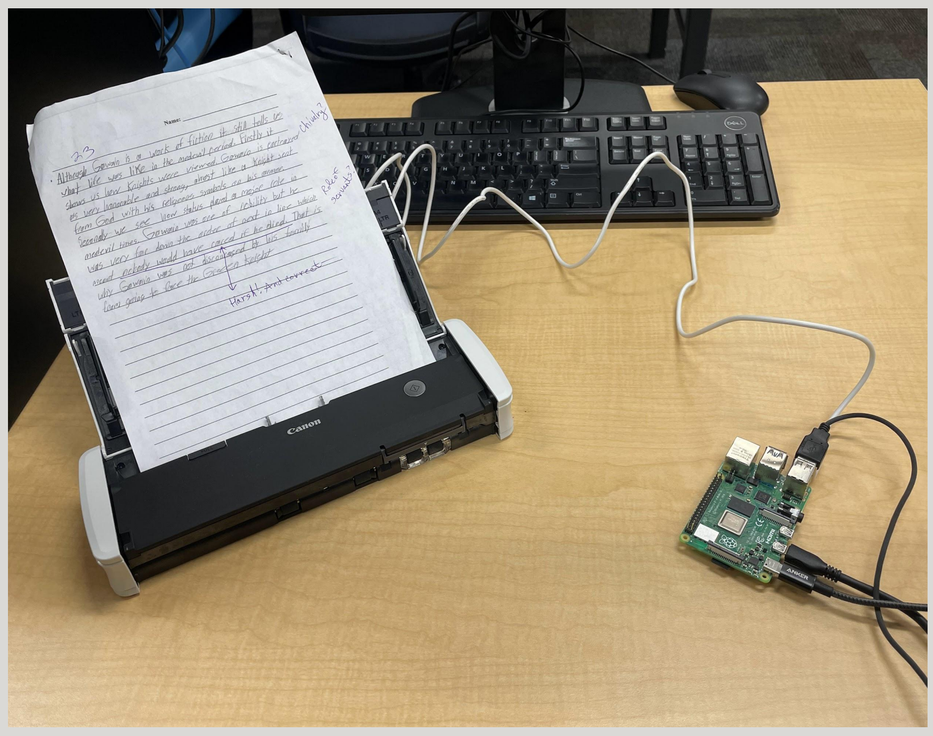
College of Engineering Document Scanner

Hunter Peri, Hexin Liu, Nick Sonntag

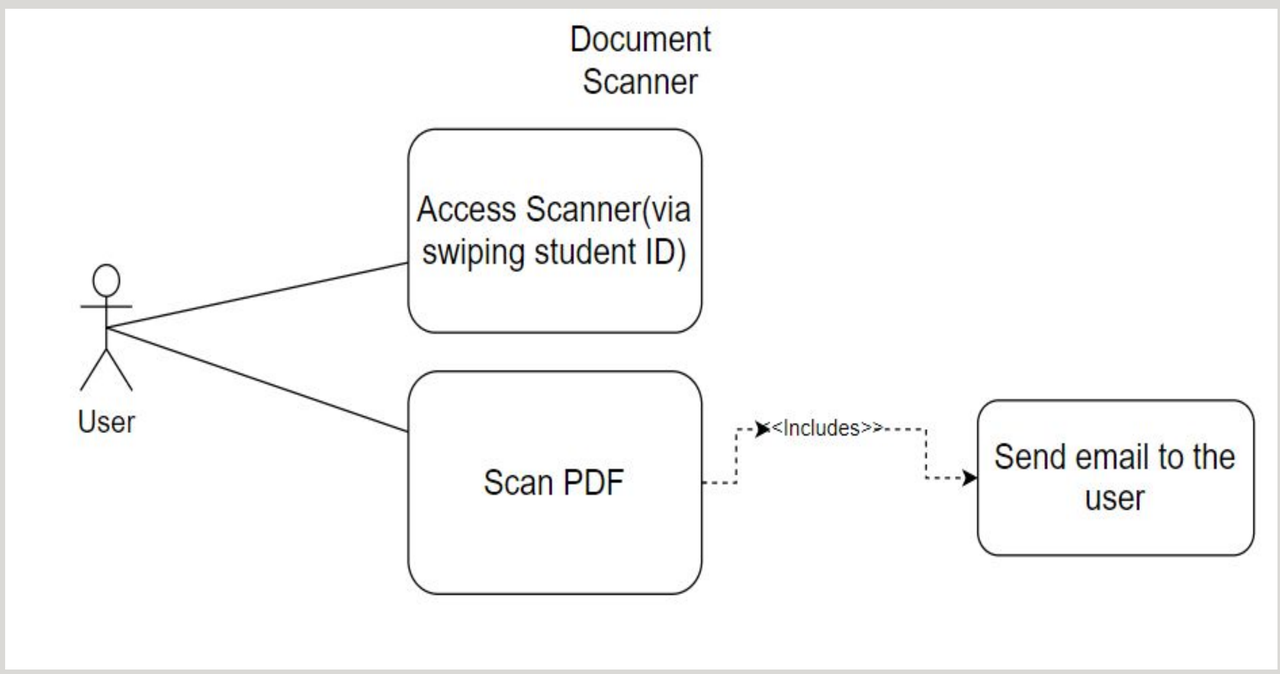
Abstract

Engineering students are expected to submit their assignments in a specific paper format. Methods that attempt to address this (such as Camscanner and similar applications) are known to produce issues with quality and legibility. This project aims to create a system that streamlines the document submission process for students. The new tool will allow students to scan their documents and have them sent directly to their email accounts by providing their University ID cards for identification. The project involved an iterative, agile software/system development method, and specialized software selections including Python and XSane running on Raspberry Pi hardware.

Deployed Prototype



UML – Use Case Diagram



How It Works

The College of Engineering Document Scanner is built around a Raspberry Pi 4. The Pi is connected to the Scanner which captures an image of the document through XSane. XSane is preferred to use for the project because it allows us to handle the data directly from the Scanner. After this data has been collected, the students information that was gained from the University ID is then used to send an email directly to the student containing their newly scanned document.

Difficulties

- ❏ Linux hardware incompatibility.
- ❏ Finding a scanner that cooperates with Sane and provides the tools needed.
- ❏ Obtaining a scanner that is solely a scanner to limit user error

Next Steps

When working on this project, portability was a concept that was always involved in the design process. This scanner serves as a proof of concept for more scanners that can be made and stationed around the entirety of the College of Engineering. This would provide more convenient ways for students to submit documents.

Tools

Python **Sane** **Raspberry Pi**

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