

Remote Assessment And Proctoring Using Intelligent Devices (RAPID)

Introduction

As online classes and examinations have become the norm for educational institutions, which allows students to take tests in the comfort of their own home. However, this brings about many risks of cheating despite conducting the test in a "secured", proctored environment.

Currently, there are various software proctoring available to aid educators to conduct proctoring from a remote location, however these solutions require installation on the PC. Furthermore, these solutions mostly aim to monitor surface level details, such as screen activities and recordings in a lockdown environment.

Objectives

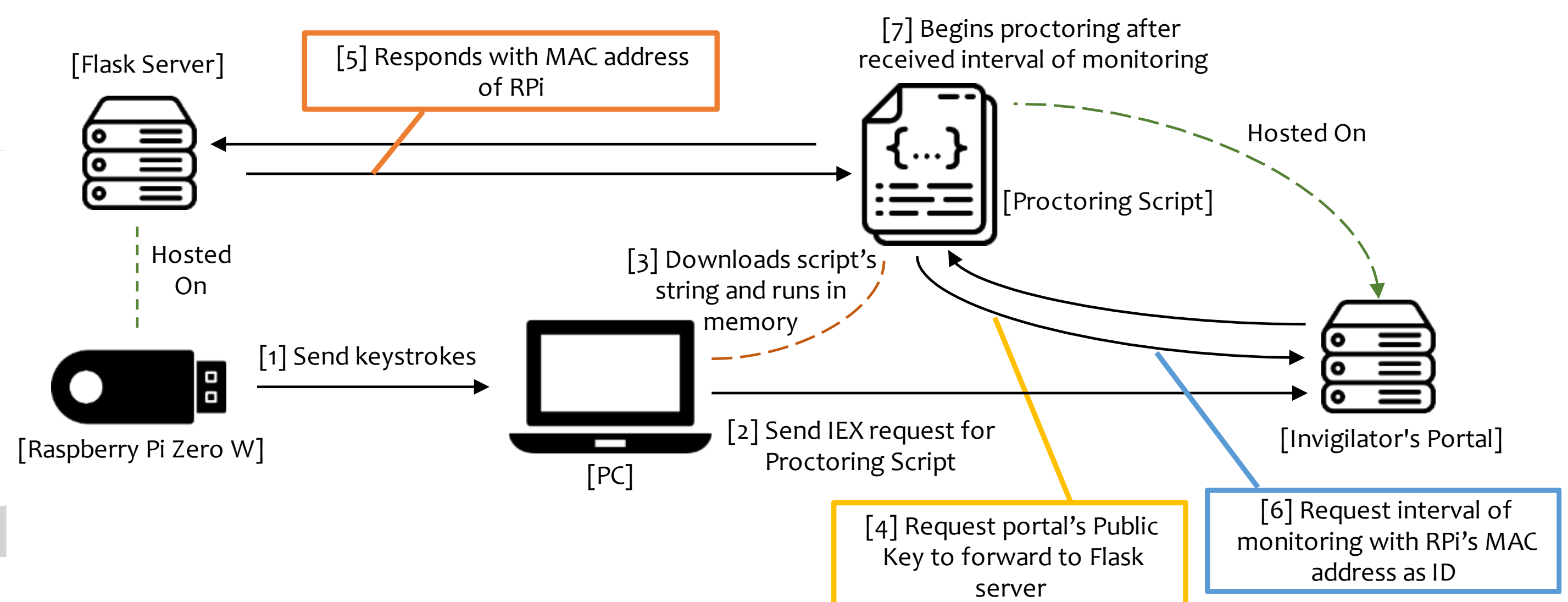
Utilizing unconventional methods and malware techniques, this project aims to create a **plug and play hardware proctoring tool** that requires no additional installation or setup that can monitor and process both the internals and surface level details of a student's PC to detect attempts at cheating. Processed information is sent to a web portal where it is stored and displayed for remote live proctoring.

Using a **Raspberry Pi Zero (2) W** as the base for hardware, the proctoring tool currently targets PC running **Windows 10/11**.

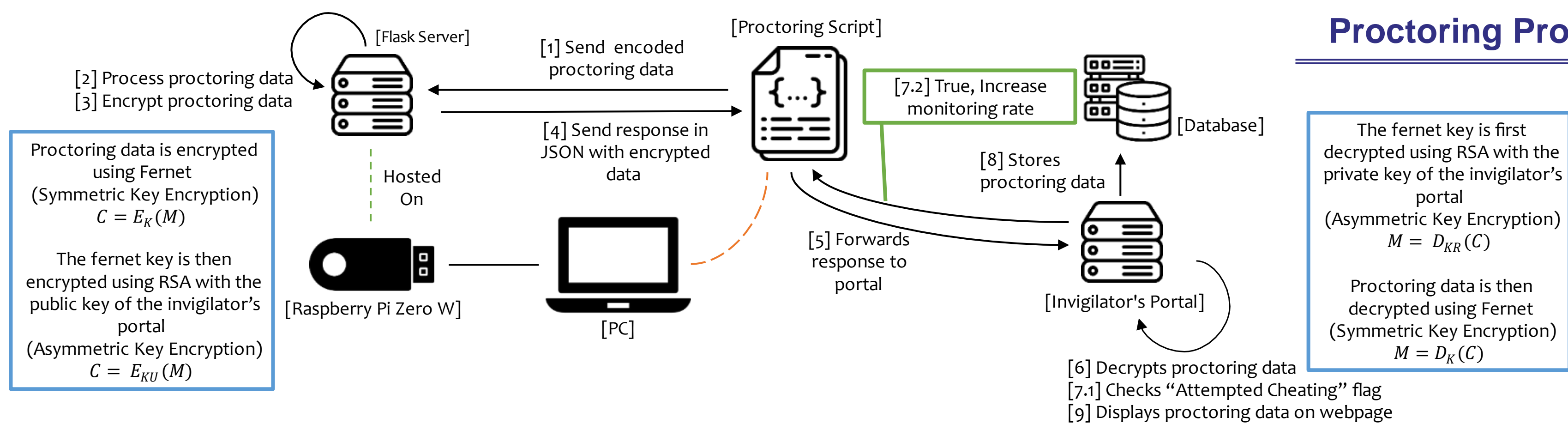
Our Solution

Initial Set-Up

When the Raspberry Pi is first plugged in, the service to host the Flask server begins and the RPi is configured to be in Ethernet and HID mode.



Proctoring Process



Future Works

- More proctoring features
 - Camera, screen and audio recording
 - Keystroke monitoring
- Efficient processing system to detect cheating
- Dashboard for the Invigilator's Portal
- Integration to Linux-based operating systems

Technologies Used

