

Stack Justification Report

Internship Group 6

May 22, 2025

- **Backend:** Python with Django; Django is a high-level Python web framework that is suited for our use case, additionally, our team members are more familiar with python than JavaScript.
- **Frontend:** React with TypeScript; React is a declarative popular JavaScript library for building appealing user interfaces, and TypeScript adds static typing to JavaScript, which helps catch errors early in the development process.
- **Database:** MariaDB; Since our members are most familiar with MySQL, we chose MariaDB as similar but modern and scalable database management system that better suits our platform.
- **Hosting:** Initially on a Raspberry Pi 5, later on the university's servers; We will use a Raspberry Pi to assist on collaboration and testing without the need of a proper server, and later on we will deploy the application on the university's once it's ready.
- **Version Control:** Git with GitHub; All of our team members are familiar with Git and GitHub, and it is a very common and widely used version control system.
- **File Storage:** Initially Locally on a hard drive, later on AWS; We will use a hard drive to store files locally for testing and development, and later on we will use AWS S3 for file storage, which is a scalable and secure solution.
- **Authentication:** AURAK's SSO Integration; We will use AURAK's SSO integration for authentication, which is a secure and convenient solution for our users.