Team Loophole (Christopher Liu, Lucas Lee, Ella Krechmer, Andrew Juang, Eliza Knapp)
SoftDev   Ship Date: 6/10
P04 — Design Doc
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Description

We will be making a site with the primary function of allowing students to see important information about their teachers—most importantly, emails, course syllabi, and free periods/office hours. There will be a student login, which uses google sign-in to create an account (must be done with a Stuy email to ensure privacy from those who do not attend the school). There will also be a separate teacher portal, which uses a google sign-in also and makes sure that the email used is in a prewritten list of faculty emails. From the student side, you will be able to search for teachers and "star" their information, to be added to a student's "saved teachers." From the teacher's side, once you log in through the portal, you can mark which periods you are busy and free (because this does not always coincide with when one teaches class, i.e. lunch periods/work periods). Teachers will also be able to star other teachers. The site will be set up so the teacher will also be prompted to enter the email they are most reachable at and their course syllabus if they have one.

Another important aspect of our project that was less relevant in other projects before is the site's security. If we have actual users logging in and submitting important data, we will need to implement stronger security measures like hashing (and possibly also salting and peppering), as well as string sanitation to protect against SQL injection attacks.

Ted Talk/New Learnination Incorporation

We will be using the theory/lesson on SQLite injections to prevent them from happening to our site. Our database will be SQLite since we all have the most experience using it, and we can use a relational database to implement the associations between teachers, students, and schedules that we plan to have.

Steps Towards Feasibility

A large part of this project is getting teachers to input their schedules onto this new platform. While we are still developing the bulk of the site, we will just create our own teacher accounts (we can add a fake email and password to the list of teachers that are allowed to log in temporarily as a tester account). When we finish the actual site, every group member will ask a few teachers to try it out. In the future, Dr. Haber could help reach out to more teachers. We will prioritize the documentation of this project in order to allow future students to continue improving the platform.

Program Components

Backend

__init__.py and loophole.py
- App initialization

routes.py
- Contains all website routes
- Handles all connections between various Python modules, requests, and frontend

database.py
- Connections to SQLite3 database
- Reading and writing authentication information
- Reading and writing teacher data

Frontend/Styling
- Bootstrap for layout
- Various html files for site pages:
    - base.html -- contains navbar styling and is extended into other html files
    - edit_teacherprofile.html -- teachers can edit their profiles
    - index.html -- dashboard
    - starred_teachers.html -- for viewing starred teachers
    - student_searchresults.html -- search results on student profile
    - student.html -- student landing page, has a list of all teachers
    - teacher_landing.html -- teacher landing page
    - view_teacherprofile -- shows teacher profile, for both student and teacher
- CSS
    - star.css -- formatting for stars

Design on Figma
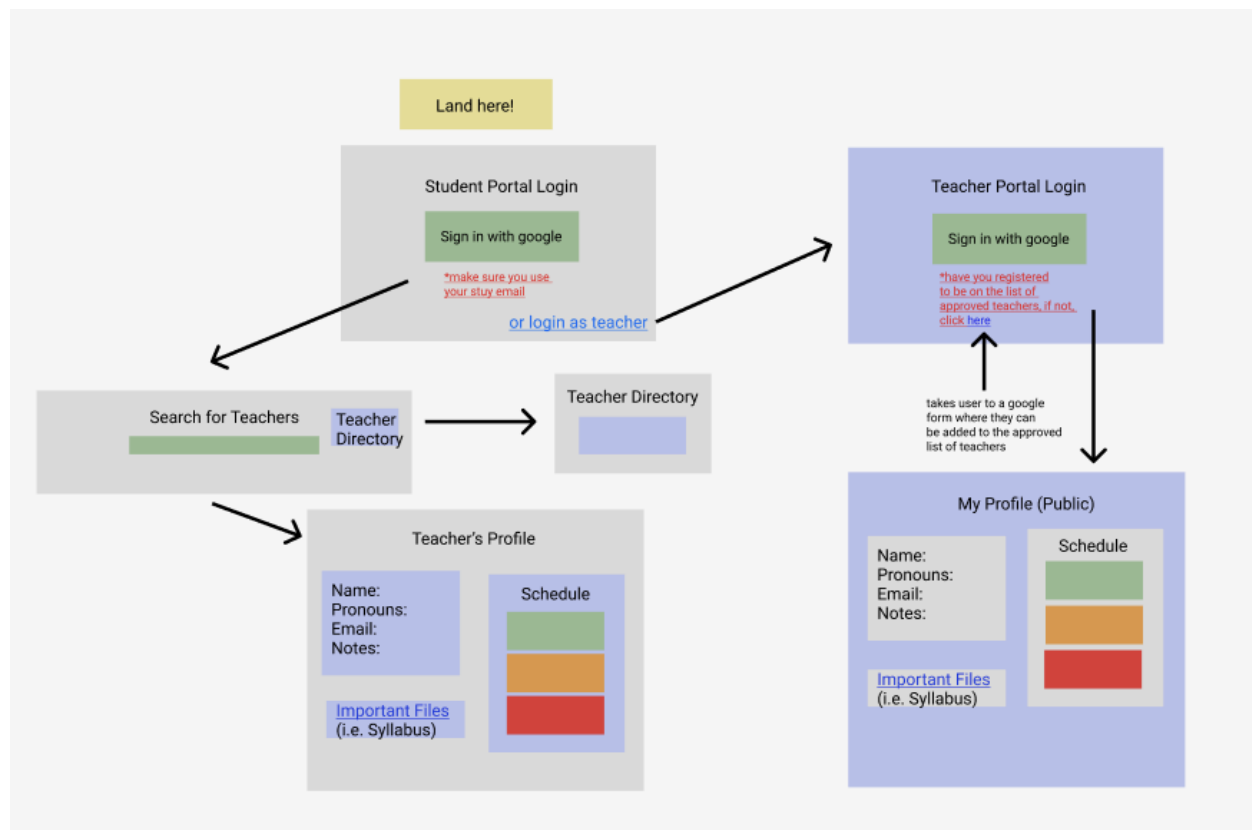
**note that as we do not have a list of all the teachers yet, the actual teacher directory does not yet exist and has filler teachers
**the google form where teachers are approved is not yet up and running, but as we contact teachers to use this site, it will be added

Database

Student
- _id: int
- email: str

Teacher
- _id: int
- name: str
- email: str
- pronouns: str
- title: str (ie. Mr. Ms. Mrs. Mx. Dr.)
- schedule: schedules foreign key
- period notes: str array
  - Annotations about each period for students
- files: files foreign key

Schedules
- _id: int
- teacher: teacher foreign key
- column for each pd:
    - [p1: "free", p2: "prep", p3: "rm 103", …]
    - Options might be: free, prep, room #, not in building, etc.
- column for notes for each pd:
    - Annotations about each period for students

Files
- _id: int
- teacher: teacher foreign key
- file name: str
- file: blob

Starred Teachers
- _int
- teacher: teacher foreign key
- student: student foreign key

Tasks
Andrew
- Database stuff
- Deployment
- Login
- Viewing saved files

Chris
- Database stuff
- Teacher directory list
- Deployment

Eliza
- CSS/Sass/styling
- Auth/Login
- View teacher's profiles

Ella
- HTML/JS

- Helping out w styling
- Teacher/student profile pages

Lucas
- Flask routing
- Search for teachers
- Database
- File handling