



# Secure and Remote 3D Printing

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# General Information:

Meeting Dates:

- November 1st

**Faculty Sponsor**

Dr. Sid Bhattacharyya

**Client**

Mike C Newton

# Milestone 2



1. Fix the broken database pipeline
2. Update the style of the web application
3. Implement, test & demo user features for uploads and creating accounts
4. Host Web Application on Raspberry Pi
5. Rework of the github repository



## How we fixed the database

1. Fixed the link from the `file_upload_form` to the model
2. Fixed the formatting of the `file_form` to actually store the data.

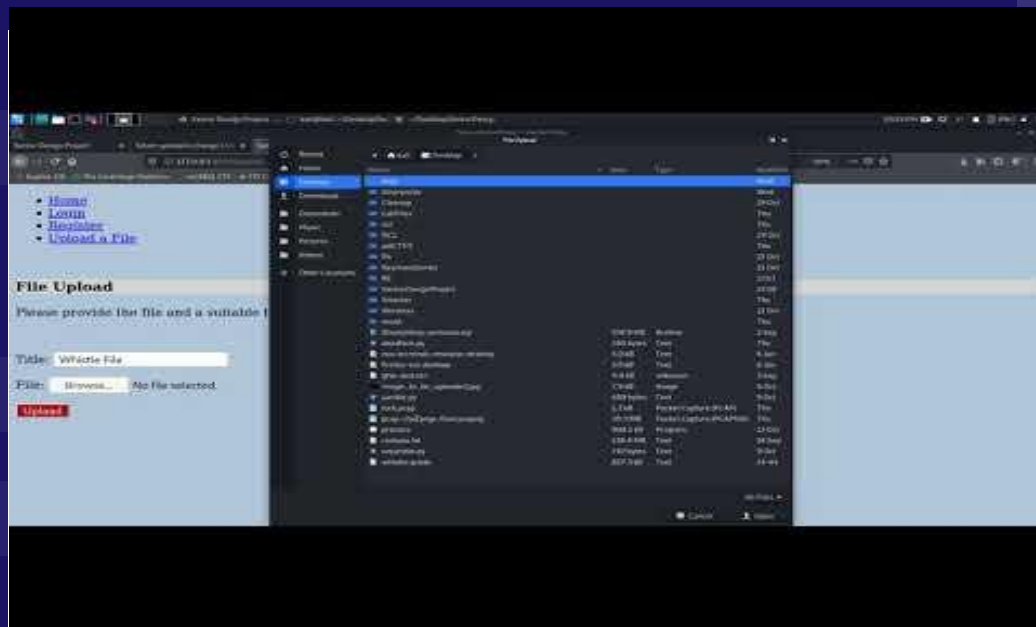


# Creating an account

Live Demo on Carl's Laptop



# User Upload



<https://www.youtube.com/watch?v=C19DPt-QB04>

## Dockerfile

```
1 # syntax=docker/dockerfile:1
2
3 FROM python:3.9.7-slim-buster
4 ENV PYTHONUNBUFFERED=1
5
6 # The directory for our code will be in /app
7 WORKDIR /app
8
9 # Installing required libraries
10 COPY requirements.txt .
11 RUN pip install -r /app/requirements.txt
12
13 # Copying over files
14 COPY . .
15
16 # Mounting spaces with data we prefer to keep
17 VOLUME [ "/app/data", "/app/uploads" ]
18
19 # Exposing port
20 EXPOSE 8000
21
22 # Ensure that the database is properly migrated
23 RUN python3 manage.py migrate
24
25 # Running application
26 CMD [ "python3", "manage.py", "runserver", "0.0.0.0:8000" ]
```

## Creating a docker image

### .dockerignore

```
1 # Personal data ignore
2 uploads
3 db.sqlite3
4
5 # Ignore python compile files
6 __pycache__
7 *.pyc
8 *.pyo
9 *.pyd
10
11 # ignore vscode settings
12 .vscode
13 workspace.sublime-project
```

# Plan for transferring Docker image to a Raspberry Pi

1. Install Docker on the Pi

```
curl -fsSL https://get.docker.com -o get-docker.sh  
sudo sh get-docker.sh
```

2. Add a non-root user to the docker group


















```
sudo usermod -aG docker [user_name]  
sudo usermod -aG docker Pi
```

3. Run the container

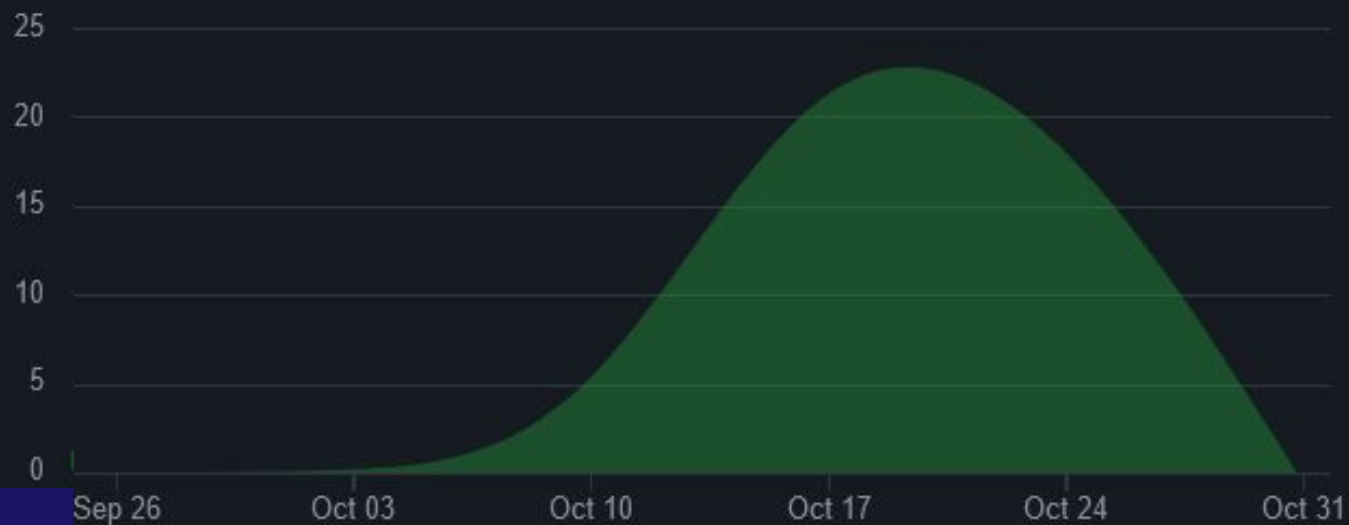
```
docker run [container name]
```



# Reworked Github Repository

 .vscode	Added settings to remove compiled python from IDE view
 <a href="#">Pages</a>	Converted all these files to use spaces instead of tabs
 PrinterSite	Linked the basic style sheet and all the pages share the same style
 Upload	Trying to limit files
 static	update to style sheet. Need to fix after html updates
 templates	update to style sheet. Need to fix after html updates
 .dockerignore	Made dockerfile that successfully containerizes application
 .editorconfig	Added editorsettings for web development
 .gitignore	Added folder to gitignore
 .nanorc	Added nanorc file for nano users
 Dockerfile	Made dockerfile migrate database on run
 Pipfile	Made runserver script point to right place
 Pipfile.lock	Updated piplock with dev tools
 README.md	Update README.md
 manage.py	Renamed trydjango to PrinterSite
 requirements.txt	Added requirements.txt for legacy dependency recognition
 workspace.sublime-project	Added sublime project folder for sublime users

## Contributions to main, excluding merge commits and bot accounts



# Milestone 3



1. Implement, test, and demo the remote printing of a gcode project through the web application.
2. Implement, test, and demo edge cases for web application usage and printing.
3. Implement, test, and demo queue system for current projects.

Task	Tiffanie	Carl	Isaiah	Nick
Implement, test, and demo the remote printing of a gcode project through the web application.	Testing and also helping with implementation. It cannot be tested until we get access to the raspberry pi in the lab.	Help with the demo	Testing	Implement the remote printing of the gcode (interface with octoprint)
Implement, test, and demo edge cases for web application usage and printing.	Help with the demo and implementation	Testing	Implementation	Help with the demo
Implement, test, and demo queue system for current projects.	Help with the demo	Implementation	Help with the demo	Testing

**Any  
Questions?**

**Thank You!**