



# Secure and Remote 3D Printing

By: Tiffanie Petersen, Isaiah Thomas, Carl Mann, & Nick Cottrell

# General Information:

Meeting Dates:

- 4/18/22

**Faculty Sponsor**

Dr. Sid Bhattacharyya

**Client**

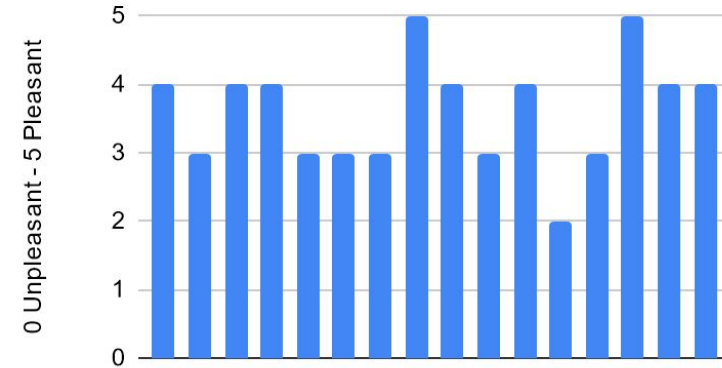
Mike C Newton

Milestone 6					
Task	Completion %	Tiffanie	Carl	Isaiah	Nick
1. Test/demo of the entire system	100%	33%	33%	34%	0%
2. Evaluation results	100%	100%	0%	0%	0%
3. Create user/developer manual	100%	0%	100%	0%	0%
4. MitM script for decryption	100%	0%	0%	100%	0%

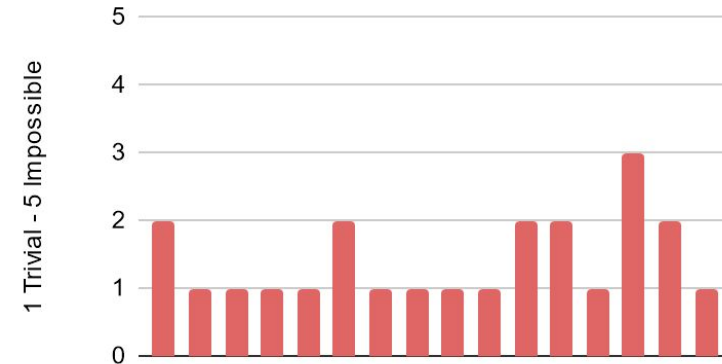
# Evaluation Results (Round 2)

- Multiple file uploads at the same time
- Add a robots.txt and a sitemap.xml
- Automatically delete files once a user is deleted / removed
- Admin approval on user creation
- Email validation before being able to upload
- Optional comment field for files
- Allow users to see how long it will take to reach their position in the queue
- Admins should be able to move a file around in the queue, not just by sorting the entire queue. Or add the option to sort by print time to allow for short prints at the end or the day or whatever fits the schedule.

Appearance of the website



Website Navigation



# Running the Server

```
sudo python3 manage.py makemigrations
sudo python3 manage.py migrate
sudo python3 manage.py createsuperuser
sudo python3 manage.py runserver
No changes detected
Operations to perform:
  Apply all migrations: Website, admin, auth, contenttypes, sessions
Running migrations:
  Applying contenttypes.0001_initial ... OK
  Applying contenttypes.0002_remove_content_type_name ... OK
  Applying auth.0001_initial ... OK
  Applying auth.0002_alter_permission_name_max_length ... OK
  Applying auth.0003_alter_user_email_max_length ... OK
  Applying auth.0004_alter_user_username_opts ... OK
  Applying auth.0005_alter_user_last_login_null ... OK
  Applying auth.0006_require_contenttypes_0002 ... OK
  Applying auth.0007_alter_validators_add_error_messages ... OK
  Applying auth.0008_alter_user_username_max_length ... OK
  Applying auth.0009_alter_user_last_name_max_length ... OK
  Applying auth.0010_alter_group_name_max_length ... OK
  Applying auth.0011_update_proxy_permissions ... OK
  Applying Website.0001_initial ... OK
  Applying Website.0002_alter_customuser_id_alter_fileupload_id_and_more ... OK
  Applying admin.0001_initial ... OK
  Applying admin.0002_logentry_remove_auto_add ... OK
  Applying admin.0003_logentry_add_action_flag_choices ... OK
  Applying auth.0012_alter_user_first_name_max_length ... OK
  Applying sessions.0001_initial ... OK
Email: tpetersen2018#^H@m^H^H^H^H^H^H^H^H[[3~^H
Error: Enter a valid email address.
Email: tpetersen2018@my.fit.edu
Password:
Password (again):
This password is too short. It must contain at least 8 characters.
This password is too common.
Bypass password validation and create user anyway? [y/N]: N^Hy^H^H
Password:
Password (again):
This password is too short. It must contain at least 8 characters.
This password is too common.
Bypass password validation and create user anyway? [y/N]: y
Superuser created successfully.
```

# Secure Connection

## DisallowedHost at /

Invalid HTTP\_HOST header: '127.0.0.1:8000'. You may need to add '127.0.0.1' to ALLOWED\_HOSTS.

**Request Method:** GET

**Request URL:** http://127.0.0.1:8000/

**Django Version:** 4.0.2

**Exception Type:** DisallowedHost

**Exception Value:** Invalid HTTP\_HOST header: '127.0.0.1:8000'. You may need to add '127.0.0.1' to ALLOWED\_HOSTS.

**Exception Location:** /usr/local/lib/python3.9/dist-packages/django/http/request.py, line 135, in get\_host

**Python Executable:** /usr/bin/python3

**Python Version:** 3.9.2

**Python Path:** ['/home/kali/Desktop/SeniorDesignProject',  
'/usr/lib/python3.9.zip',  
'/usr/lib/python3.9',  
'/usr/lib/python3.9/lib-dynload',  
'/usr/local/lib/python3.9/dist-packages',  
'/usr/local/lib/python3.9/dist-packages/boofuzz-0.2.1-py3.9.egg',  
'/usr/local/lib/python3.9/dist-packages/tornado-5.1.1-py3.9-linux-x86\_64.egg',  
'/usr/local/lib/python3.9/dist-packages/fancy-1.15-py3.9.egg',  
'/usr/local/lib/python3.9/dist-packages/backports.shutil\_get\_terminal\_size-1.0.0-py3.9.egg',  
'/usr/local/lib/python3.9/dist-packages/angr-9.0.gitrolling-py3.9.egg',  
'/usr/lib/python3/dist-packages',  
'/usr/lib/python3.9/dist-packages']

**Server time:** Sun, 17 Apr 2022 14:29:50 +0000

# Demo of full website

100% of the website is now available

# User Manual



# MitM Script

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# Lessons Learned

- Documentation takes just as long as implementation
- GreatFet cannot interface with serial ports
- 3D printers require a lot of recalibrations
- Octoprint has a lot of printer safety features in place, proving that we could not make the printer harm itself
- Only 1 docker container can run at a time on a raspberry pi

**Any  
Questions?**

**Thank You!**