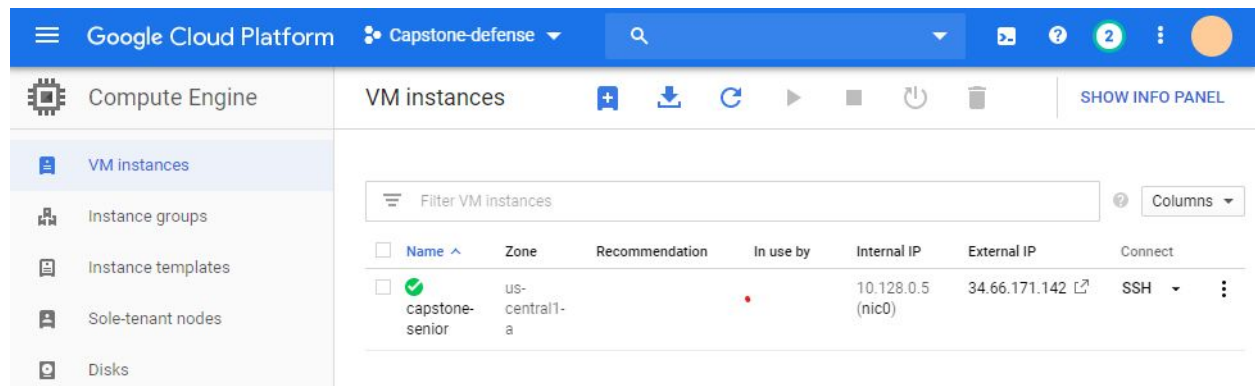


Jagjot Singh
Dr. Nilesh Patel
CSI4999
1/23/2020

LogBook Entry For Sprint 1

I wasn't sure how you wanted the proof for the work but I did two all nighters and drank a lot of coffee. Heres what I did, and can you provide feedback so I know what I can do for next logbook thanks in advance!

- 1) Developed backend server on google cloud



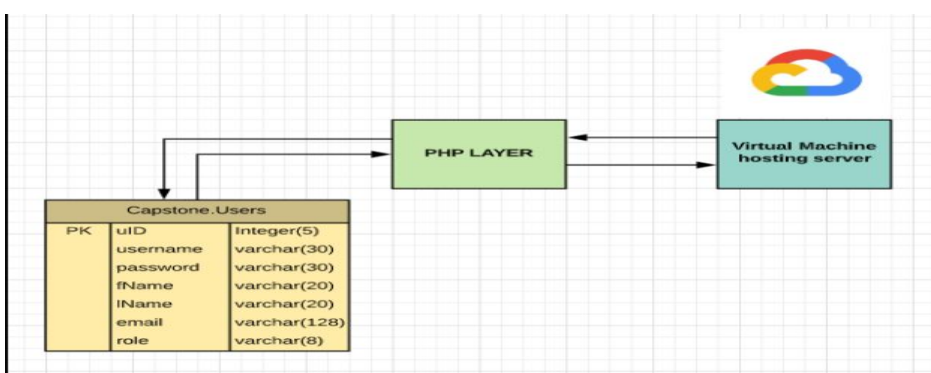
Setup the server in Ubuntu LTS 16, and created a LAMP server or (linux, apache2, mysql, and php). This virtual machine instance is being used to host the website at the moment. **Effort hours: ~3-4 hours** → mostly because issues arise with setting permissions for mysql reading.

- 2) Created tables in mySQL and ERD diagrams *UPDATE* status was added to table

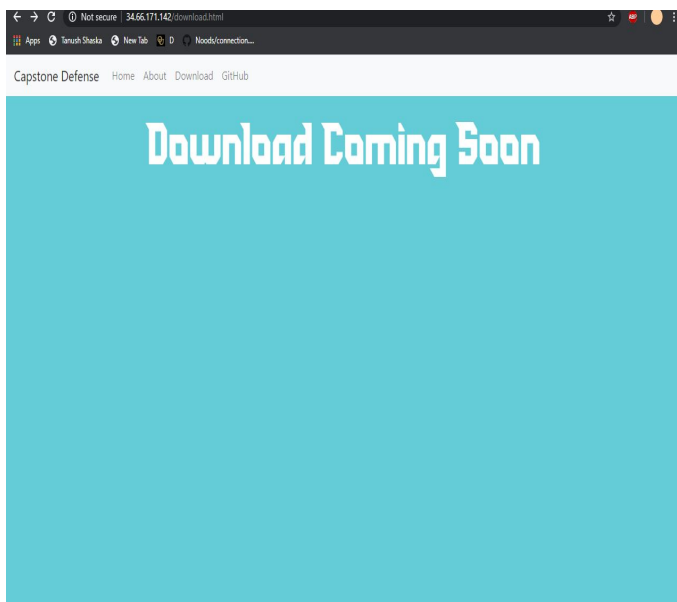
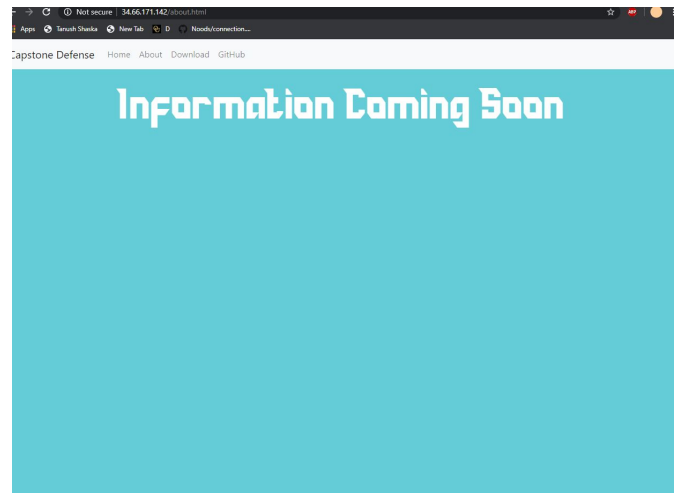
```
mysql> select * from users;
```

uID	username	password	fName	lName	email	role
8	Pogger	Pass	test	test	test@gmail.com	default
9	Admin	HelloWorld	Administrator	Jackson	johhnyappleseed@aol.com	admin

```
2 rows in set (0.00 sec)
```



- 3) Created front end design for website: **All front end code can be viewed in website folder for master. Effort Hours: ~4-5 hours *number varies refer uptop**



```
mysql> select * from users;
```

uID	username	password	fName	lName	email	role
8	Pogger	Pass	test	test	test@gmail.com	default
9	Admin	HelloWorld	Administrator	Jackson	johhnyappleseed@aol.com	admin

```
2 rows in set (0.00 sec)
```

- 4) Backend connections to sql server and php made so users can register and input **~2-3 hours**
- 5) Setting up email server to send out emails: **Effort Hours ~3 hours**

Account Verification For Capstone Defense Inbox x



capstonedef@gmail.com
to me ▾

11:21 AM (3 minutes ago) ☆ ↩ ⋮

Visit the following link to activate your account:

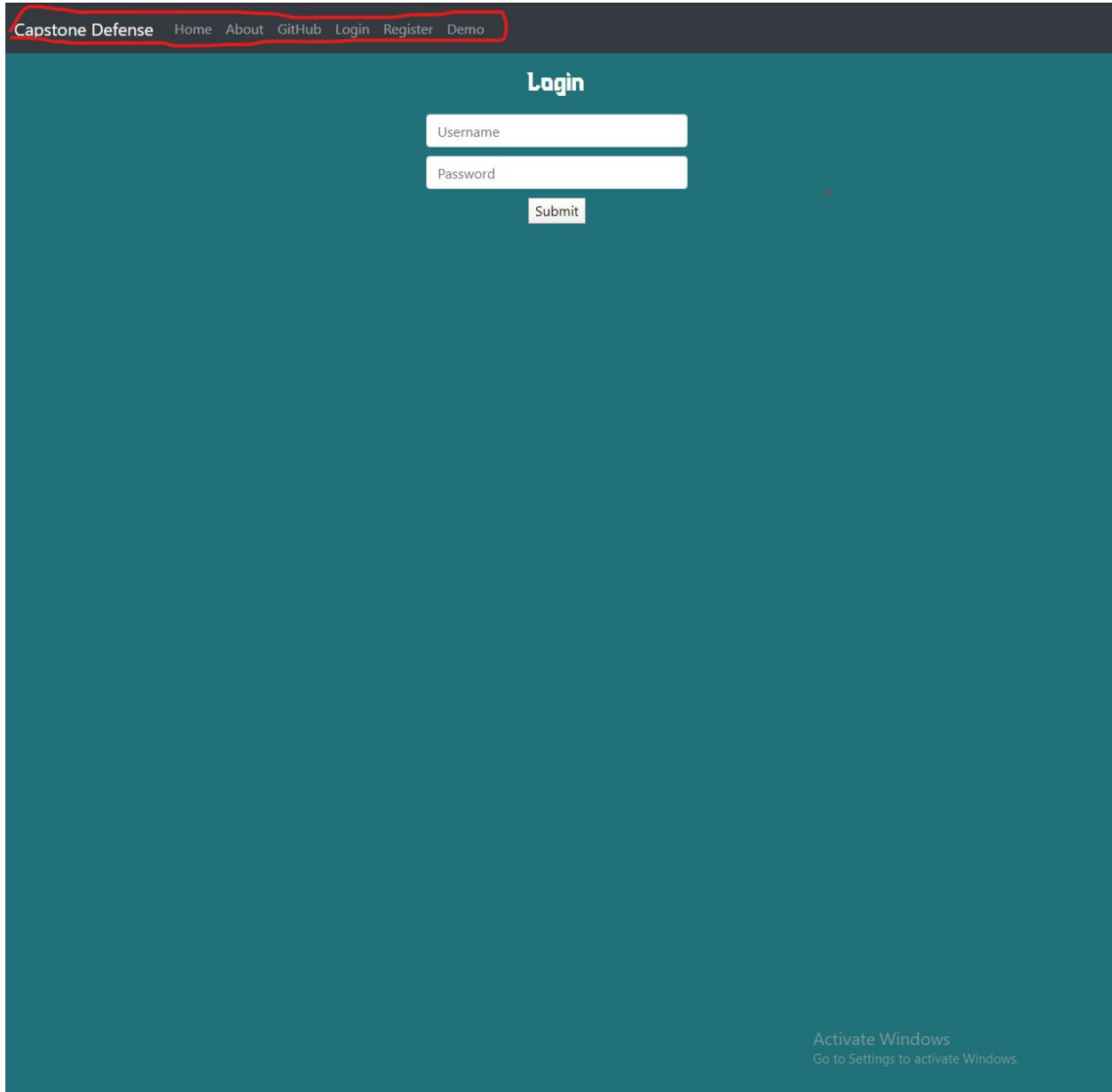
- 6) Creating code to handle security, behavior of inputs, and clean up of front end/backend **~5-6 hours**
 These include:
Carosoul view
Different php files
Email server clean up
Registration fix for incorrect inputs

Alot more but I didn't log everything
- 7) Worked on presentation **~1 hour**

Sprint 2 Documentation

Details: This sprint was used as a way to tidy up backend, and add features to the website. This also included fixing up the backend logic and incorporating demo developed by team onto website. Refer below to all the work done...ALL COMMITS AND WORK ARE SEEN ON GITHUB UNDER <https://github.com/JTBridges/Capstone-Defence> and specific commits <https://github.com/JTBridges/Capstone-Defence/commits?author=jagjotsingh1>

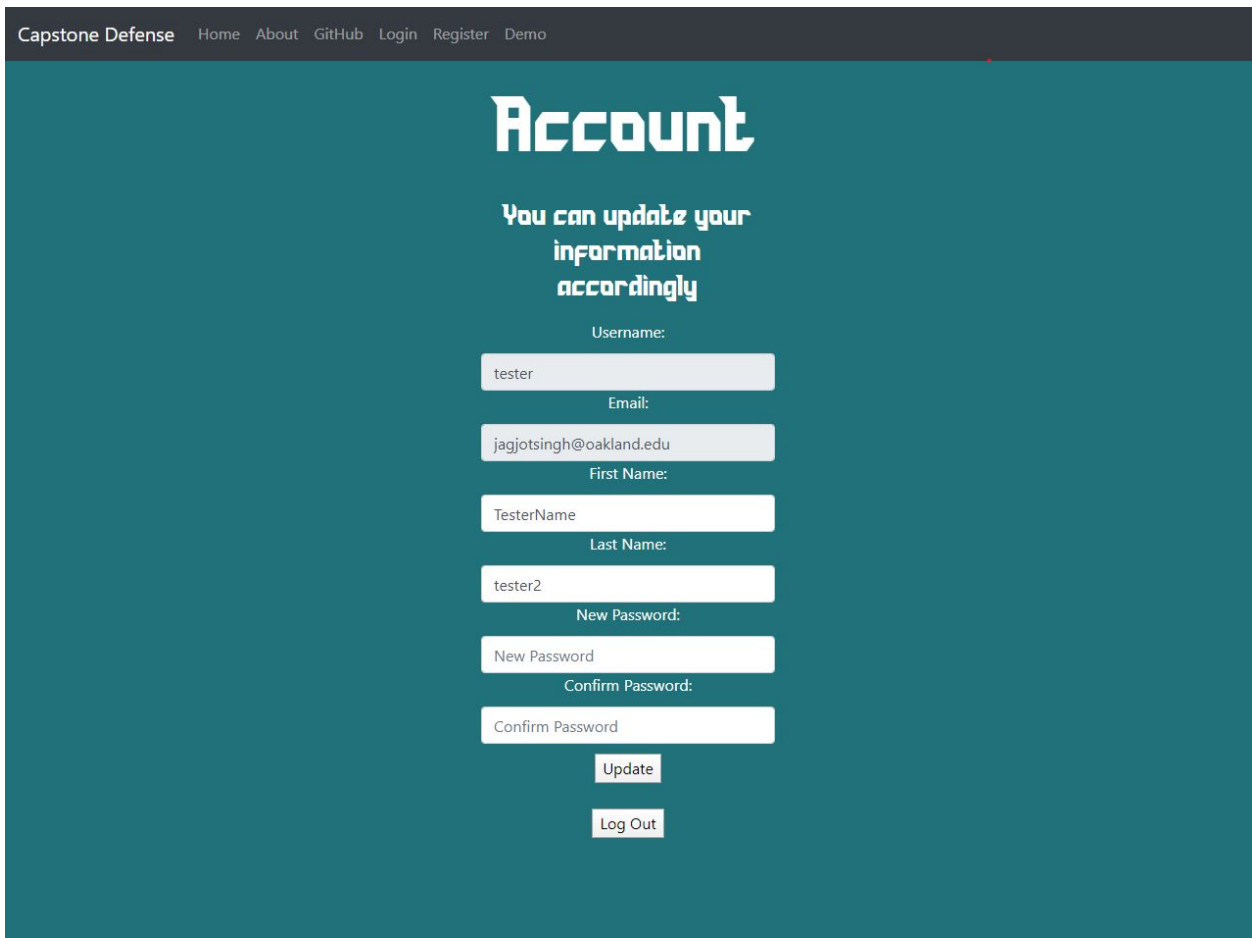
(1) Clean up pages and fix navbar issues ~2 hours



The screenshot displays the 'Capstone Defense' website's login page. The top navigation bar (navbar) is dark grey and contains the following links: 'Capstone Defense', 'Home', 'About', 'GitHub', 'Login', 'Register', and 'Demo'. The 'Login' link is highlighted with a red rectangular box. Below the navbar, the main content area has a teal background. Centered on this page is a white login form with the title 'Login' in bold. The form includes two input fields: 'Username' and 'Password', followed by a 'Submit' button. In the bottom right corner of the teal area, there is a small, light grey text overlay that reads 'Activate Windows' and 'Go to Settings to activate Windows.'

This included separating login page, register, demo, and everything else to tidy up backend for server

(2) Work on update profile page, link backend, and working on sessions php ~5 hours



The screenshot shows a web application with a dark header containing the text 'Capstone Defense' and navigation links: Home, About, GitHub, Login, Register, Demo. The main content area has a teal background and is titled 'Account' in large white letters. Below the title, a subtitle reads 'You can update your information accordingly'. The form contains several input fields: 'Username' (with 'tester' entered), 'Email' (with 'jagjotsingh@oakland.edu' entered), 'First Name' (with 'TesterName' entered), 'Last Name' (with 'tester2' entered), 'New Password', 'Confirm Password', and another 'Confirm Password' field. At the bottom of the form are two buttons: 'Update' and 'Log Out'.

Included setting up all the formatting, and the majority of the time came into incorporating sessions to hold global variables to search with. The front end looks a bit bad, but that can be fixed with an overhaul on UI design for the website sprint 3.

(3) Updated table backend and got email verification with link working. ~4 hours



The screenshot shows an email interface. The sender is 'capstonedef@gmail.com' with a profile icon. The recipient is 'to me'. The email content includes: 'Your code: 'BDDYED''. Below this is a redacted code '***'. The email concludes with the instruction: 'Visit the following link to activate your account: <http://capstonedefense.org/verify.php>'. At the bottom, there are two buttons: 'Reply' and 'Forward'.

Capstone Defense Home About GitHub Login Register Demo

Verify your account

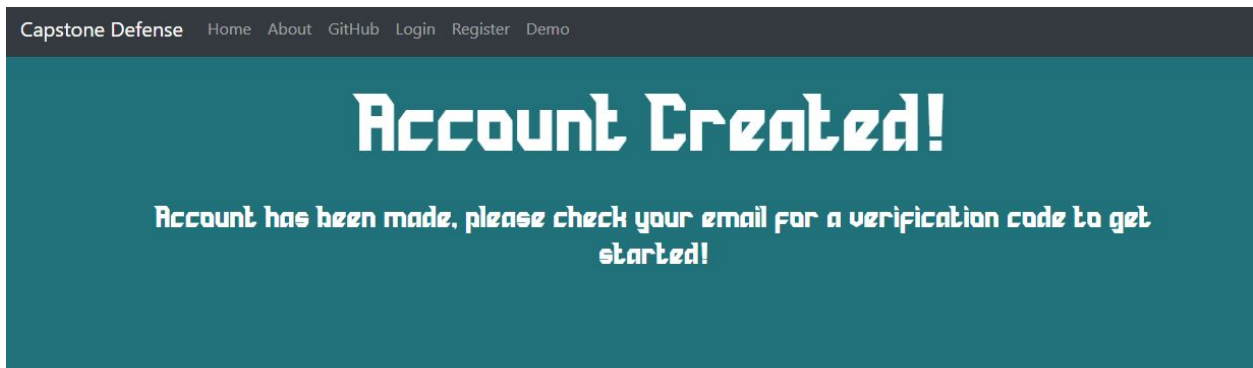
jmoney5468@gmail.com

TXBMXY

Submit

The hash is generated and sent via the mail exchange server to target email. The email also includes a verification page to unlock accounts to post scores.

- (4) Created landing pages and also incorporated logic on inputs fe)required forms, valid email, etc. **~6 hours**



Landing pages didn't take too long but the logic and what security we need took a long time. As its hard to demonstrate that looks, the backend is processing inputs on what the user submits in forms and checks if they are valid responses. This took a very long time.

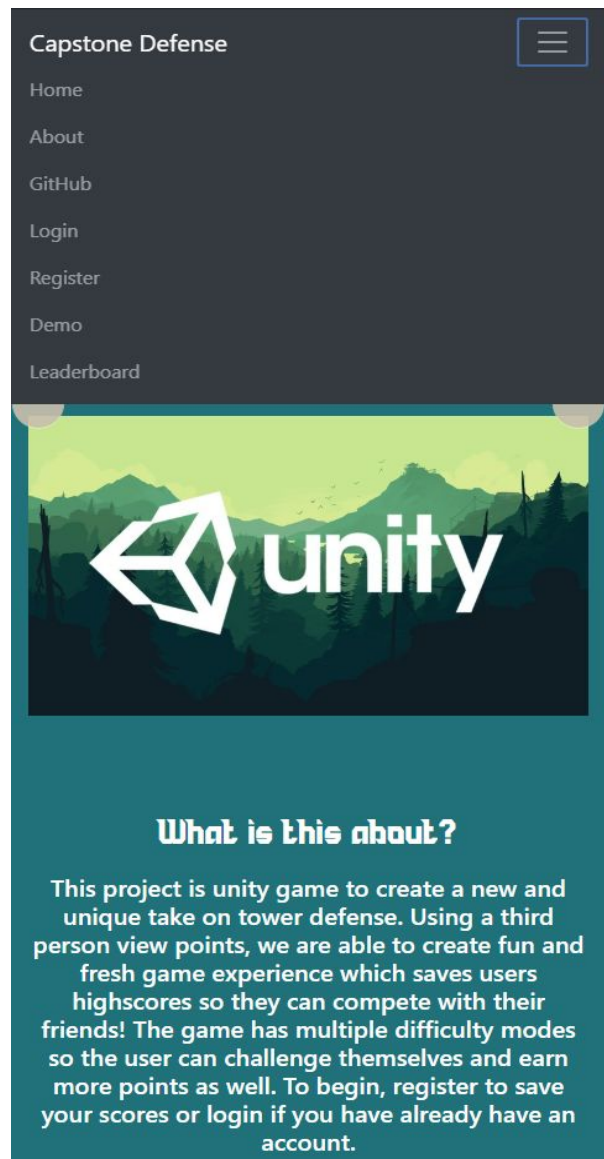
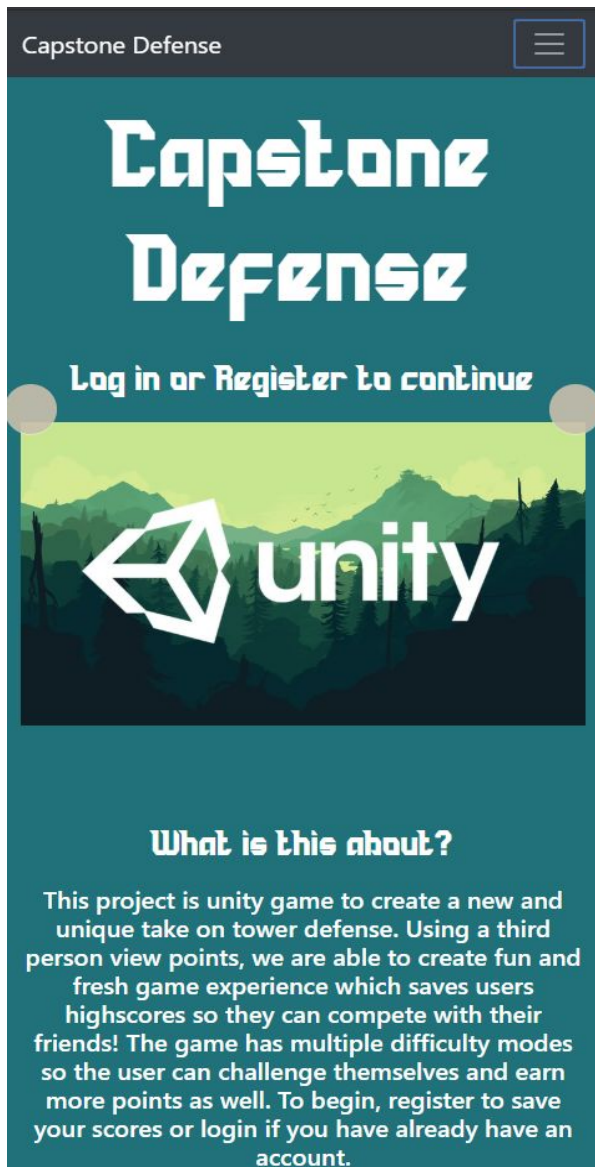
- (5) Presentation, documentation, and extra information **~1 hour**

This part includes adding to slides, and also documentation/commenting the code so other people can view. I also created a guide on how to connect to the server using filezilla; however, have not made this public because of security concerns for our server. We essentially are using a ppk file to connect in using FILEZILLA SFTP.

Sprint 3 Documentation

Details: This sprint was an overhaul on the backend logic and integrating ORM, firebase, and leaderboards. The backend is being prepped for integrating the unity mobile game to communicate with website end using python, php, and unity backend. Bugs were also fixed. Refer below to all the work done...ALL COMMITS AND WORK ARE SEEN ON GITHUB UNDER <https://github.com/JTBridges/Capstone-Defence> and specific commits <https://github.com/JTBridges/Capstone-Defence/commits?author=jagjotsingh1>

(1) Bug fixes on navbar for mobile were fixed ~1 hour



(2) Adding leaderboards table and some tweaks on website ~4 hours

This part included connecting databases to the table to generate scores table for leaderboards. At the moment, they are dummy data generated in SQL but this part also included making some cosmetic changes to the website. The functions are ready to be implemented for unity data. Added leaderboards to own page, home page showing top 10, and profile page showing recent scores.

Current Top Leaderboard			
Check out the top users for our game thus far!			
#	Alias	Name	Score
1	Destroyer	Denis	25500
2	Jacko	Jackson	25240
3	Cheese	Chad	25002
4	Dackary234	Damon	20321
5	Cheese	Chad	20000
6	Cheese	Chad	24902
7	Jameson	James	23132
8	Jacob	Thornton	22100
9	ChaosElemental	Chastrov	21003
10	ChaosElemental	Chastrov	20100

(3) Porting PHP to Python logic/queries ~7 hours

This was a huge accomplishment this sprint because now we were able to write easier API and handle logic a lot better. As well, this adds another layer of security separating the backend from the front end. All PHP except a few logic here and there were ported to Python. Not sure how to show this, but please refer to the code in github commits.

Build	File folder	2/2/2020 11:16:52 PM	drwxrwxrwx	root root
css	File folder	1/30/2020 7:53:13 PM	drwxrwxrwx	root root
img	File folder	1/28/2020 11:25:47 PM	drwxrwxrwx	root root
js	File folder	1/28/2020 11:19:47 PM	drwxrwxrwx	root root
python	File folder	2/16/2020 9:43:21 PM	drwxrwxrwx	root root
templateData	File folder	2/2/2020 11:17:06 PM	drwxrwxrwx	root root
about.html	2,469 HTML File	2/17/2020 2:32:01 AM	-rwxrwxrwx	root root
connection.php	349 PHP File	1/21/2020 12:19:49 AM	-rwxrwxrwx	root root
index.php	8,707 PHP File	2/17/2020 2:29:15 AM	-rwxrwxrwx	root root
landing.php	2,636 PHP File	2/17/2020 2:31:57 AM	-rwxrwxrwx	root root
leaderboards.php	7,333 PHP File	2/17/2020 2:31:58 AM	-rwxrwxrwx	root root
login.php	4,128 PHP File	2/17/2020 2:31:59 AM	-rwxrwxrwx	root root
myaccount.php	7,383 PHP File	2/17/2020 2:31:59 AM	-rwxrwxrwx	root root
register.php	6,242 PHP File	2/17/2020 2:32:00 AM	-rwxrwxrwx	root root
sender.php	852 PHP File	2/3/2020 2:15:57 AM	-rwxrwxrwx	root root
UnityIndex.html	2,889 HTML File	2/17/2020 2:32:01 AM	-rwxrwxrwx	root root
verify.php	4,115 PHP File	2/3/2020 12:33:28 AM	-rwxrwxrwx	root root

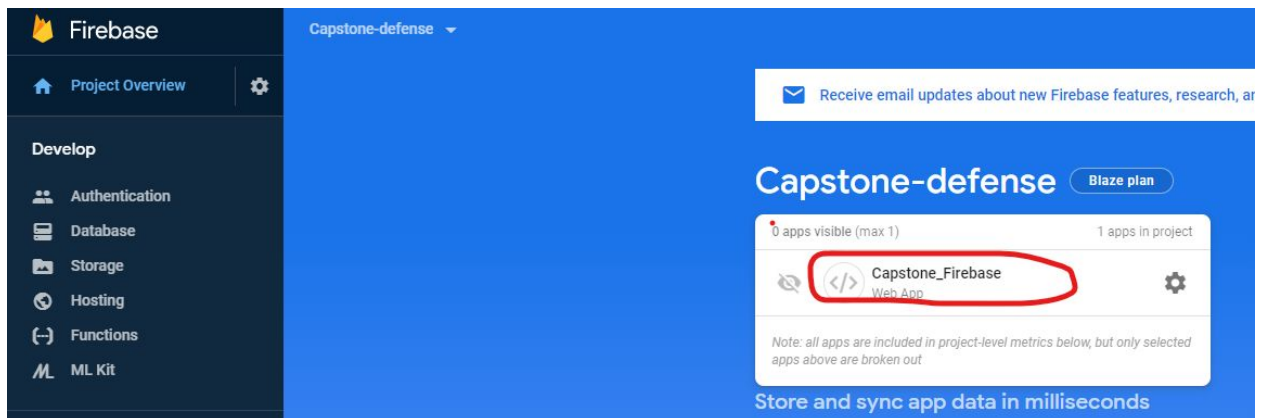

```

jmoney5468@capstone-senior:/var/www/html$ python3.6 --version
No command 'python3.6' found, did you mean:
  Command 'python3.5' from package 'python3.5-minimal' (main)
python3.6: command not found
jmoney5468@capstone-senior:/var/www/html$ python3 --version
Python 3.5.2
jmoney5468@capstone-senior:/var/www/html$

```

(4) Firebase Research/Implementation + google authentication ~6 hours +

I did a lot of research on firebase and whether it would work for our project. I tried to implement the noSQL into our website but continuously got errors to the point realized that the communication between noSQL and a relational database is pretty hard to implement. Also there really is no need for a noSQL database because that would mean scraping all of our current config in SQL to port over to noSQL config. Firebase handles setting up google auth backend but at this moment, I was able to implement google sign in to a degree but also realized its not really a necessity at this point. If we decide to go the google auth route that is fine, but firebase seems to be off the table in terms of noSQL configurations. I had the code included showing work I did on it but scrapped it out because it was making the code look messy.



Sprint 4 Documentation

Details: This sprint was an overhaul on the backend logic and integrating ORM, firebase, and leaderboards. The backend is connected; however, the unity game is not ready to send scores data yet. An API was built to so the server side duties are done and just need to be implemented on client side. Bugs were also fixed, UI changes, navbar cleanup, etc. Refer below to all the work done...ALL COMMITS AND WORK ARE SEEN ON GITHUB UNDER <https://github.com/JTBridges/Capstone-Defence> and specific commits <https://github.com/JTBridges/Capstone-Defence/commits?author=jagjotsingh1>

(1) Bug fixes on navbar to show login status and logic handling **~2 hours**

This part includes adding logic so once a user logs in, a session is started and if a session is active, clicking that button takes the user to account page. If a user logs out, the button returns back to the standard login button.

The screenshot displays the Capstone Defense web application. The top navigation bar is dark teal with the text 'Capstone Defense' and a hamburger menu icon on the left, and a 'Tester' button on the right. The main content area has a teal background. On the left, the 'Capstone Defense' logo is prominently displayed in a stylized white font. Below it, the text 'Log in or Register to continue' is centered. A Unity game logo is featured in a central image. At the bottom left, there is a link that says 'What is this about?'. On the right side, the 'Account' section is visible, with the heading 'You can update your information accordingly'. It contains several input fields for 'Username', 'Email', 'First Name', 'Last Name', 'New Password', and 'Confirm Password'. The 'Username' field is pre-filled with 'Tester'. At the bottom of the account section are 'Submit' and 'Logout' buttons.

(2) Leaderboards connection to mySQL ported over to Python **~3 hours**

*This part includes updating the dummy values held in the tables to pull data from DB.
Every leaderboard has unique logic where the DB in index pulls top 10 scores while
myAccount page pulls data for logged in user (top 5 scores). Leaderboards displays all
data within the scores and ranks them.*

The screenshot shows a registration form on a teal background. The form fields are: Username (with 'Tester' entered), Email (with 'jagjotsingh@oakland.edu' entered), First Name (with 'TesterName' entered), Last Name (with 'Derulo' entered), New Password, and Confirm Password. There are 'Submit' and 'Logout' buttons. Below the form is a section titled 'Latest Scores' with the subtitle 'Here are your top scores (limit 5)'. It contains a table with 5 columns: #, Alias, Name, Score, and Kills. The table has two rows of data.

#	Alias	Name	Score	Kills
1	Tester	TesterName	210391	5231
2	Tester	TesterName	201332	5829

(3) UI changes to website including button changes, page design redirects **~5 hours**

*Simply made the website more user friendly and more appealing. After user logs in, it takes the user to demo page, a logged in user can see their account info and change information as well.
Added a confirm password in registration, have redirect links for 'need account?' 'Have account?'*

The 'Register' form is on a teal background. It has a title 'Register' in white. The form fields are: Username, Password, Confirm Password, First Name, Last Name, and Email. There are two buttons at the bottom: 'Submit' (blue) and 'Already Registered?' (grey).

The 'Login' form is on a teal background. It has a title 'Login' in white. The form fields are: Username and Password. There are two buttons at the bottom: 'Submit' (blue) and 'Need an Account?' (grey).

(4) RESTAPI, and flask setup. Backend ready to go. **~12 hours**

This is what took the longest time this sprint. I essentially created our webAPI to handle POST requests sent to the server from our client machine. Kinks are being worked out in terms of security; however, the API is working and I am able to push data via url. This means our connection between server and game are almost complete.

```
jmoney5468@capstone-senior: ~/restapi - Google Chrome
ssh.cloud.google.com/projects/capstone-defense/zones/us-central1-a/instances/capstone-senior?authuser=0&hl=en_US&projectNum...
AB:84:A6:E4:E3:99:24:9B:0C:C8:33:F2:08:C9:FC:79:53:61
Welcome to Ubuntu 16.04.6 LTS (GNU/Linux 4.15.0-1055-gcp x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/advantage

 * Multipass 1.0 is out! Get Ubuntu VMs on demand on your Linux, Windows or
   Mac. Supports cloud-init for fast, local, cloud devops simulation.

   https://multipass.run/

 * Latest Kubernetes 1.18 beta is now available for your laptop, NUC, cloud
   instance or Raspberry Pi, with automatic updates to the final GA release.

   sudo snap install microk8s --channel=1.18/beta --classic

0 packages can be updated.
0 updates are security updates.

New release '18.04.4 LTS' available.
Run 'do-release-upgrade' to upgrade to it.

Last login: Wed Mar  4 06:39:16 2020 from 173.194.95.160
jmoney5468@capstone-senior:~$ cd restapi
jmoney5468@capstone-senior:~/restapi$ ls -l
total 4
-rwxr-xr-x 1 jmoney5468 jmoney5468 1663 Mar  4 05:48 api.py
jmoney5468@capstone-senior:~/restapi$ python3 api.py
 * Serving Flask app "api" (lazy loading)
 * Environment: production
   WARNING: This is a development server. Do not use it in a production deployment.
   Use a production WSGI server instead.
 * Debug mode: on
 * Running on http://0.0.0.0:5000/ (Press CTRL+C to quit)
 * Restarting with stat
 * Debugger is active!
 * Debugger PIN: 891-199-014
98.209.220.42 - - [04/Mar/2020 07:49:24] "GET / HTTP/1.1" 404 -
98.209.220.42 - - [04/Mar/2020 07:49:31] "GET /leaderboards HTTP/1.1" 200 -
98.209.220.42 - - [04/Mar/2020 07:49:35] "GET /leaderboards/all HTTP/1.1" 200 -
```

← → ↻ ⓘ Not secure | 34.66.171.142:5000/leaderboards/all

Apps Tanush Shaska D Noods/connection.... (16) Pygame

```
[
  [
    {
      "fname": "TesterName",
      "kills": 5231,
      "score": 210391,
      "username": "Tester"
    }
  ],
  [
    {
      "fname": "jason",
      "kills": 5231,
      "score": 210391,
      "username": "1"
    }
  ],
  [
    {
      "fname": "TesterName",
      "kills": 5829,
      "score": 201332,
      "username": "Tester"
    }
  ],
  [
    {
      "fname": "jason",
      "kills": 4421,
      "score": 10921,
      "username": "1"
    }
  ]
]
```

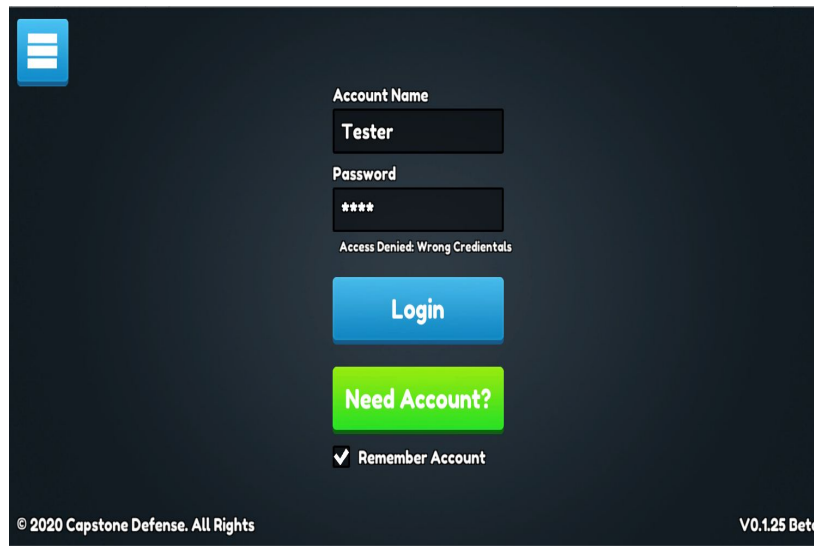
Sprint 5 Documentation

Details: This sprint was a bit slow in terms of progress but the major updates include creating the login screen and making the api fully functional for login and inserting scores

<https://github.com/JTBridges/Capstone-Defence> and specific commits

<https://github.com/JTBridges/Capstone-Defence/commits?author=jagjotsingh1>

(1) Creating login screen for unity game ~6 hours



(2) Creating login api and leaderboards functionality ~5 hours

```
98.209.220.42 - - [16/Mar/2020 02:49:32] "GET /leaderboards HTTP/1.1" 200 -  
98.209.220.42 - - [16/Mar/2020 02:49:32] "GET /favicon.ico HTTP/1.1" 404 -  
98.209.220.42 - - [16/Mar/2020 02:49:38] "GET /leaderboards?userid=11 HTTP/1.1" 200 -
```

(3) Worked on presentation ~1 hour

Sprint 6 Documentation

Details: This sprint was again slow but I was able to get what I needed to get done in terms of server side code, and unity leaderboards code. I also fixed a couple of bugs on website.

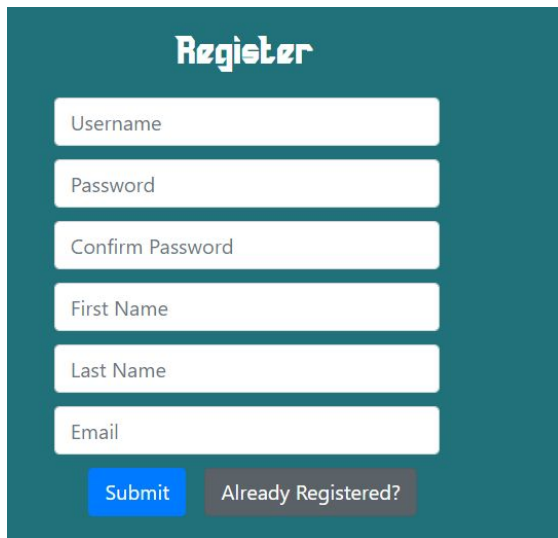
<https://github.com/JTBridges/Capstone-Defence> and specific commits

<https://github.com/JTBridges/Capstone-Defence/commits?author=jagjotsingh1>

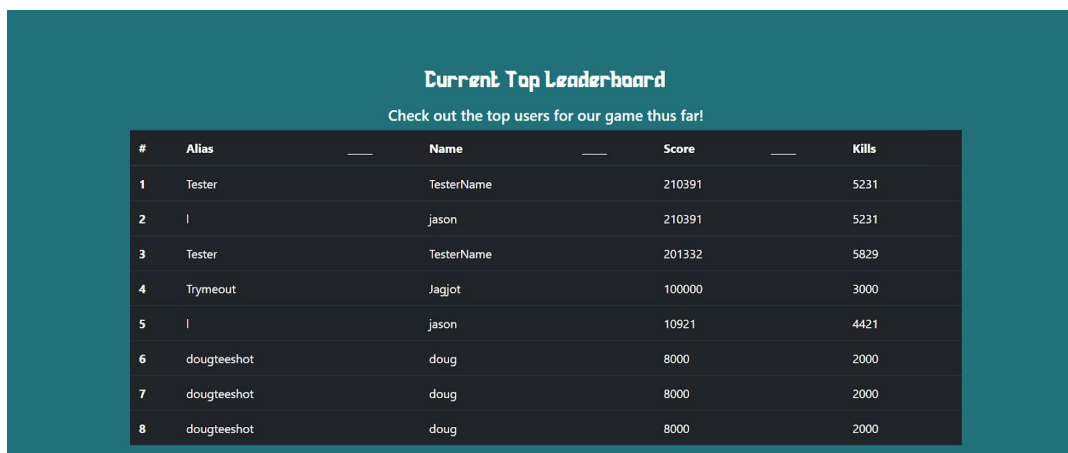
- (1) Scores are added to end game via post request ~5-6 hours

```
98.209.220.42 - - [16/Mar/2020 02:49:32] "GET /leaderboards HTTP/1.1" 200 -
98.209.220.42 - - [16/Mar/2020 02:49:32] "GET /favicon.ico HTTP/1.1" 404 -
98.209.220.42 - - [16/Mar/2020 02:49:38] "GET /leaderboards?userid=11 HTTP/1.1" 200 -
```

- (2) Bug fixes on website ~4 hours



Fixed already registered bug



Check out the top users for our game thus far!				
#	Alias	Name	Score	Kills
1	Tester	TesterName	210391	5231
2	I	jason	210391	5231
3	Tester	TesterName	201332	5829
4	Trymeout	Jagiot	100000	3000
5	I	jason	10921	4421
6	dougteeshot	doug	8000	2000
7	dougteeshot	doug	8000	2000
8	dougteeshot	doug	8000	2000

Leaderboards security bug so locked users could post scores

(3) My part is essentially done, just doing some wrap up stuff on unity game and website ~1
hour

I have been a bit sick through the last week or so. Its been tough to be ontop of my stuff such as submitting the logbook. I hope you can understand and not give me late penalty. Its bit of a medical emergency at the moment..