Eric Son
Progress Report 1
CSE 4500-01
David Turner

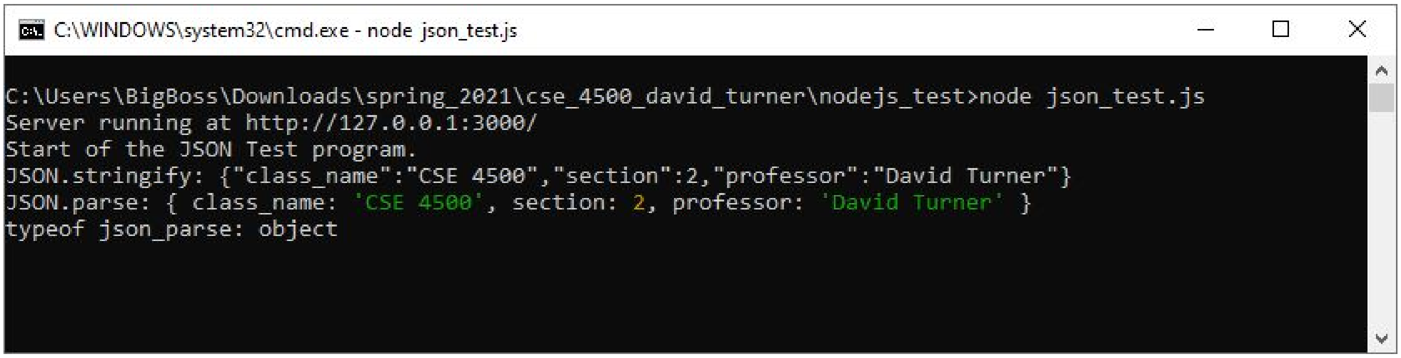
Core Assignment 1:

A private git repository on github will be maintained. Composed of mainly the basic Unity project files as well as a folder for the core assignments and a folder for all progress reports in PDF format.

Core Assignment 2:

A simple nodejs server is used to run code that demonstrates the usage of json.stringify and json.parse. The server code is modified from the official “hello world” tutorial on nodejs.org.
https://nodejs.org/en/docs/guides/getting-started-guide/

json_test.js Output:



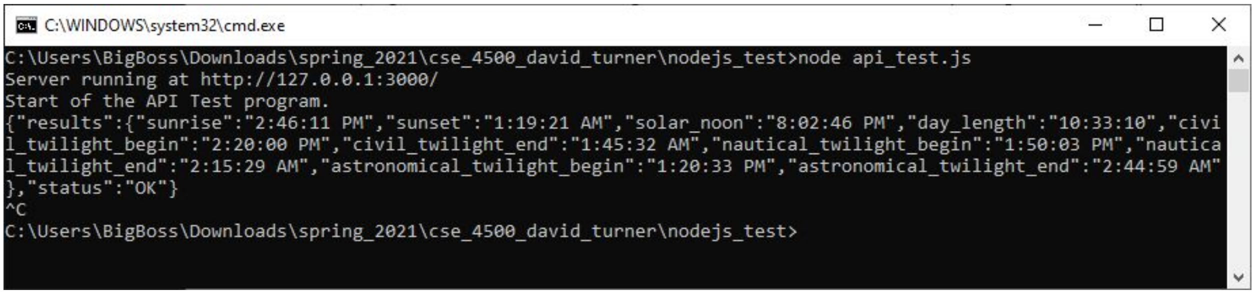
```
C:\Users\BigBoss\Downloads\spring_2021\cse_4500_david_turner\nodejs_test>node json_test.js
Server running at http://127.0.0.1:3000/
Start of the JSON Test program.
JSON.stringify: {"class_name":"CSE 4500","section":2,"professor":"David Turner"}
JSON.parse: { class_name: 'CSE 4500', section: 2, professor: 'David Turner' }
typeof json_parse: object
```

json_test.js Source Code:

```
const http = require('http');
const hostname = '127.0.0.1';
const port = 3000;

const server = http.createServer((req, res) => {
  res.statusCode = 200;
  res.setHeader('Content-Type', 'text/plain');
  res.end('CSE 4500-01 JSON Test Program');
});

server.listen(port, hostname, () => {
    console.log(`Server running at http://${hostname}:${port}/`);

    console.log("Start of the JSON Test program.");
    const json_test = {
      class_name: 'CSE 4500',
      section: 2,
      professor: 'David Turner'
    };

    const json_string = JSON.stringify(json_test);
    console.log("JSON.stringify: " + json_string);
    const json_parse = JSON.parse(json_string);


    process.stdout.write("JSON.parse: ");
    console.log(json_parse);
    console.log("typeof json_parse: " + typeof(json_parse));

});
```

Core Assignment 3:
This program demonstrates the usage of a function from the node-fetch package called fetch(). fetch() is used to interact with the api from sunrise-sunset.org, in which the latitude and longitude can be specified from modifying the api URL. The text of the response (res) is extracted and subsequently outputted to the console.

api_test.js Output:



```
C:\Users\BigBoss\Downloads\spring_2021\cse_4500_david_turner\nodejs_test>node api_test.js
Server running at http://127.0.0.1:3000/
Start of the API Test program.
{"results":{"sunrise":"2:46:11 PM","sunset":"1:19:21 AM","solar_noon":"8:02:46 PM","day_length":"10:33:10","civi
l_twilight_begin":"2:20:00 PM","civil_twilight_end":"1:45:32 AM","nautical_twilight_begin":"1:50:03 PM","nautica
l_twilight_end":"2:15:29 AM","astronomical_twilight_begin":"1:20:33 PM","astronomical_twilight_end":"2:44:59 AM"
},"status":"OK"}
^C
C:\Users\BigBoss\Downloads\spring_2021\cse_4500_david_turner\nodejs_test>
```

api_test.js Source Code:

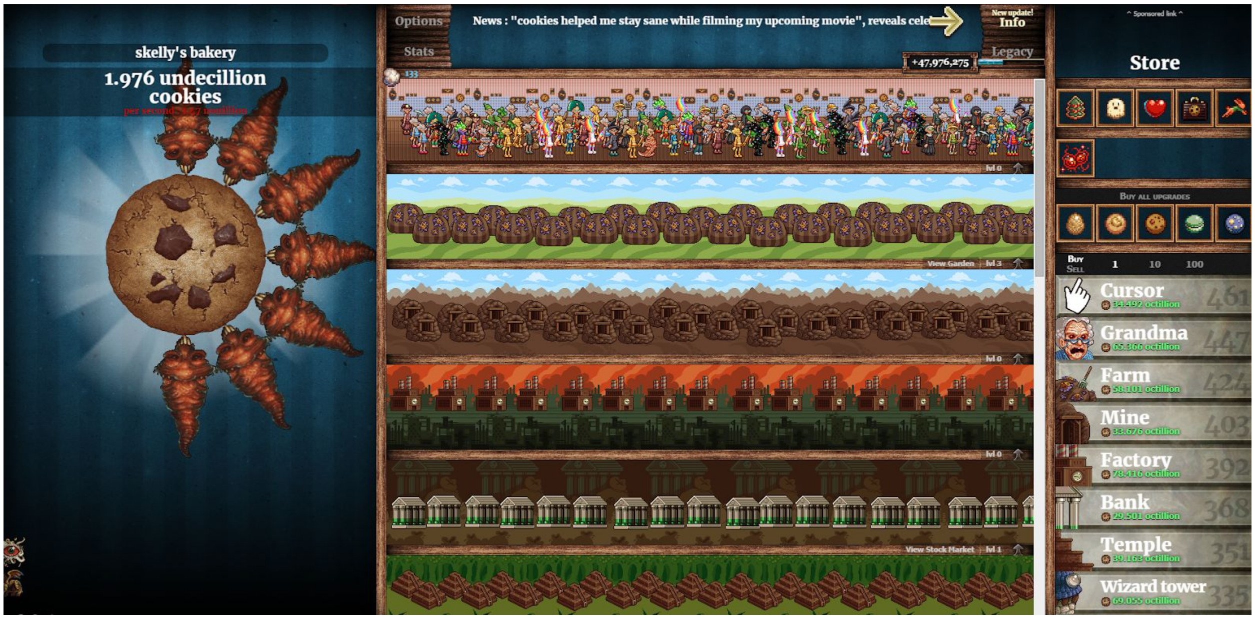
```
const http = require('http');
const hostname = '127.0.0.1';
const port = 3000;

const server = http.createServer((req, res) => {
  res.statusCode = 200;
  res.setHeader('Content-Type', 'text/plain');
  res.end('CSE 4500-01 API Test Program');
});

server.listen(port, hostname, () => {
   console.log(`Server running at http://${hostname}:${port}/`);

   console.log("Start of the API Test program.");

   const fetch = require('node-fetch');

   //san bernardino coords - Latitude: 34.115784, Longitude:         -117.302399
   fetch('https://api.sunrise-sunset.org/json?lat=34.115784&lng=-117.302399')
   .then(res => res.text())
   .then(text => console.log(text))


});
```

Project Assignment:
The project will be a Unity game with Firebase support.

- Unity project
- Android / Windows 10
- Firebase packages for login authentication, leaderboards, cloud saves, etc
- Genre: Idle/Incremental Game

The game itself will be inspired by the likes of Cookie Clicker and similar Idle/Incremental games in the genre. In these games, the goal is for the player to simply acquire large amounts of a resource through clicking an object, generating passive income from purchased buildings, and other gameplay interactions.

Screenshot of the original game that popularized the genre (https://orteil.dashnet.org/cookieclicker/):

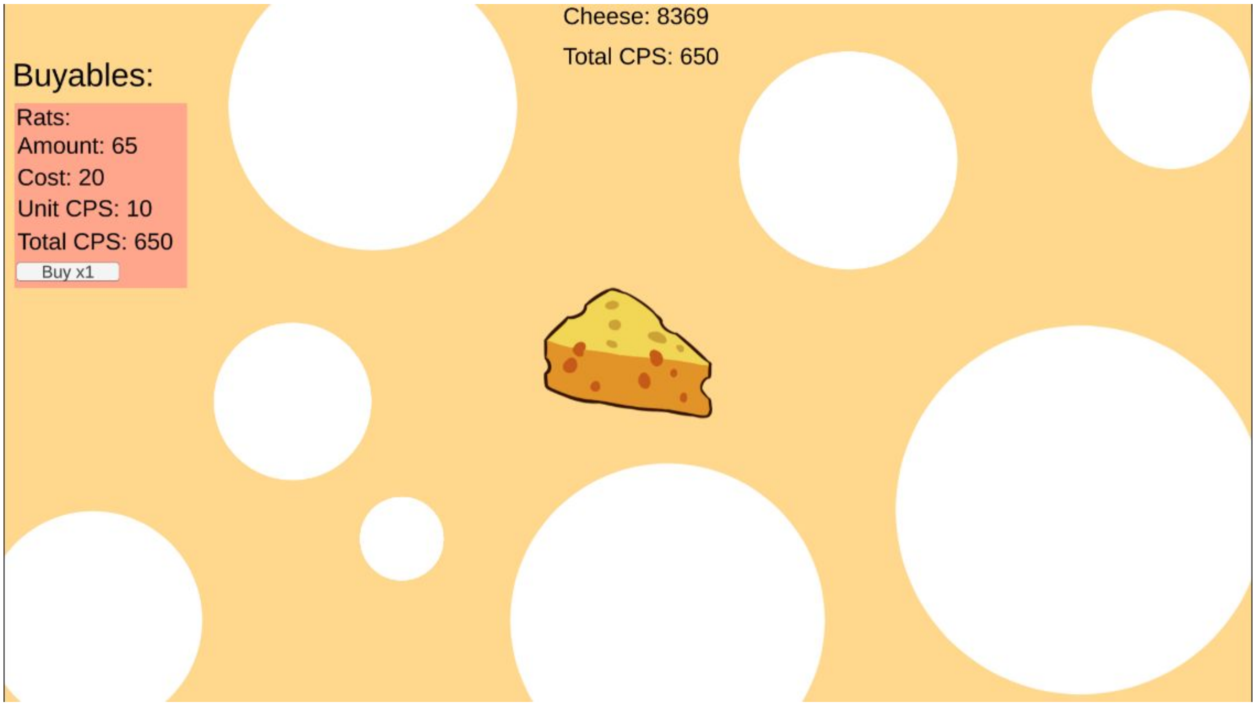

skelly's bakery
1.976 undecillion cookies
Options
Stats
News : "cookies helped me stay sane while filming my upcoming movie", reveals cele
New update!
Info
Legacy
+47,976,275
133
lvl 0
View Garden lvl 3
lvl 0
lvl 0
View Stock Market lvl 1
^ Sponsored link ^
Store
Buy all upgrades
Buy
Sell
1
10
100
Cursor 34.492 octillion 461
Grandma 65.366 octillion 447
Farm 58.101 octillion 424
Mine 33.676 octillion 403
Factory 78.416 octillion 392
Bank 29.501 octillion 368
Temple 39.163 octillion 351
Wizard tower 69.055 octillion 335

This project will be similar, albeit with different resources and buildings to acquire. Instead of acquiring cookies, the goal is to acquire cheese.

Project Progress for Week 1:

-cheese sprite and background image
-functionality for acquiring cheese through clicking
-functionality for buying a basic building and gaining a passive cheese per second (CPS)
-ui text that reflects changes in game data

First prototype of the “Cheese Clicker” UI:



Cheese: 8369

Total CPS: 650

Buyables:

Rats:
Amount: 65
Cost: 20
Unit CPS: 10
Total CPS: 650