SoftwareTeamAwesome’s Final Project: Appointment Scheduler

CSCI 3308 - Software
Development Methods and Tools
Group Project - Milestone 6
Spring 2018

Team Members

- Imran Dawud
- Andrew Gelfman
- Kyle Gorges
- Abby Johnson
- Yuxiang Wang
- Dongyu Wu

Tools We Utilized

- Agile/Scrum, Peer Code Reviews - Project management
- Trello - To manage what each person had to do
- Github - To compile all of the work and code we did
- Slack - To communicate with each other
- Heroku - Utilized for deployment and hosting
- MySQL - Relational database management
- MyTAP - Database testing
- NodeJS (+plugins) - Runtime environment, front/back interaction
- EJS - View rendering

Project Management Methods

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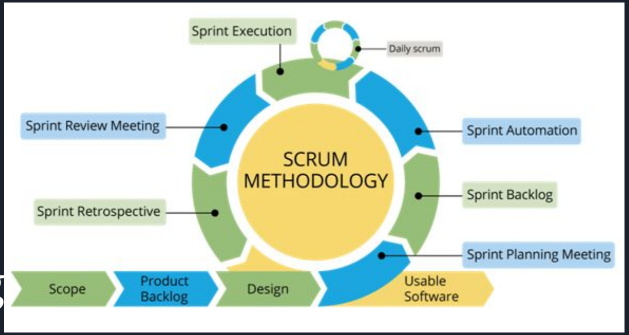
- Agile/Scrum Methodology
  - Continuous integration testing
  - Measured sprints
- Peer Code Reviews
  - Constant application feedback
  - Ensured universal understanding within group



Project Tracker

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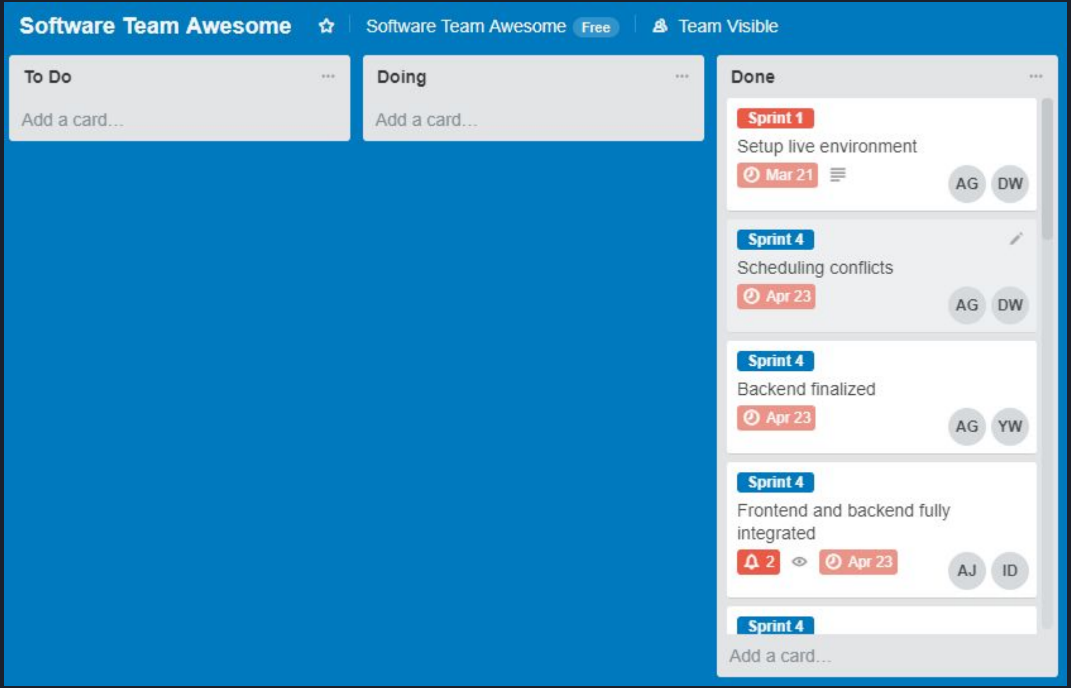
Trello

- Trello
  - Cards track task progress
  - Members assign themselves to tasks
  - Move cards as tasks are completed



Software Team Awesome ☆ | Software Team Awesome Free | Team Visible

To Do ···

Add a card...

Doing ···

Add a card...

Done ···

Sprint 1
Setup live environment
Mar 21
AG DW

Sprint 4
Scheduling conflicts
Apr 23
AG DW

Sprint 4
Backend finalized
Apr 23
AG YW

Sprint 4
Frontend and backend fully integrated
2 Apr 23
AJ ID

Sprint 4

Add a card...

VCS Repository

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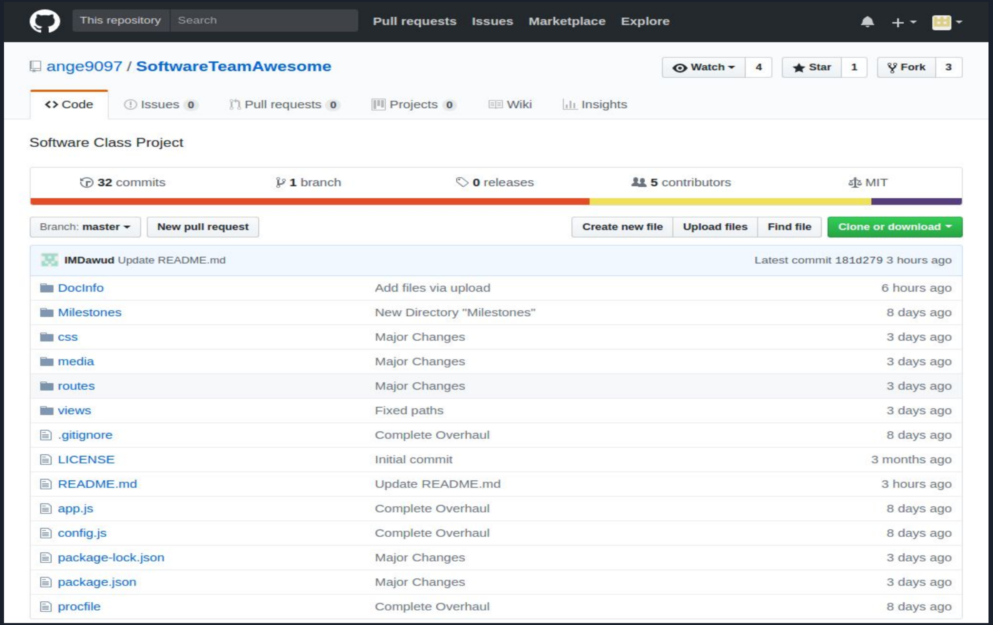
- Git/GitHub
  - Ensured team was in sync
  - Latest version of code (version control)



ange9097 / SoftwareTeamAwesome

Software Class Project

32 commits | 1 branch | 0 releases | 5 contributors | MIT

IMDawud Update README.md — Latest commit 181d279 3 hours ago

DocInfo	Add files via upload	6 hours ago
Milestones	New Directory "Milestones"	8 days ago
css	Major Changes	3 days ago
media	Major Changes	3 days ago
routes	Major Changes	3 days ago
views	Fixed paths	3 days ago
.gitignore	Complete Overhaul	8 days ago
LICENSE	Initial commit	3 months ago
README.md	Update README.md	3 hours ago
app.js	Complete Overhaul	8 days ago
config.js	Complete Overhaul	8 days ago
package-lock.json	Major Changes	3 days ago
package.json	Major Changes	3 days ago
procfile	Complete Overhaul	8 days ago

Communication Tool

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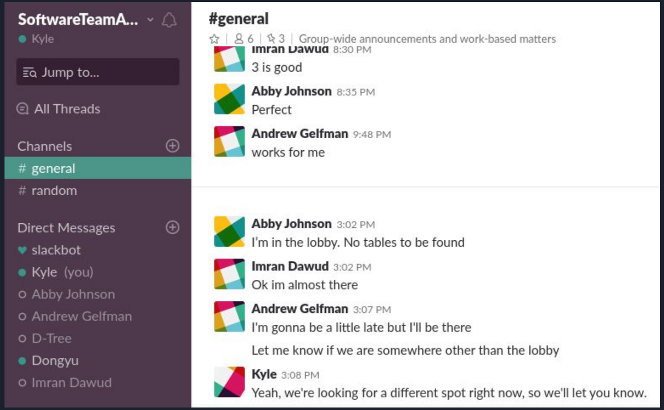
- Slack
  - Used to facilitate communication between team members
  - Functions well on both computers and mobile devices



Imran Dawud 8:30 PM
3 is good

Abby Johnson 8:35 PM
Perfect

Andrew Gelfman 9:48 PM
works for me

Abby Johnson 3:02 PM
I'm in the lobby. No tables to be found

Imran Dawud 3:02 PM
Ok im almost there

Andrew Gelfman 3:07 PM
I'm gonna be a little late but I'll be there

Let me know if we are somewhere other than the lobby

Kyle 3:08 PM
Yeah, we're looking for a different spot right now, so we'll let you know.

Deployment Environment

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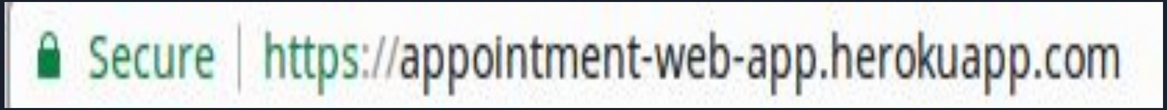

Secure | https://appointment-web-app.herokuapp.com

- Heroku
  - PaaS (Platform as a Service)
  - Used to deploy and host our web application
  - Cloud-based hosting
  - Free version is limited:
    - Sleeps after inactivity
    - RAM limited
    - Workers limited

Database

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- MySQL
  - Relational database management system
  - Stores the data for:
    - User information
    - Available appointments
    - Scheduled appointments

Testing Tool

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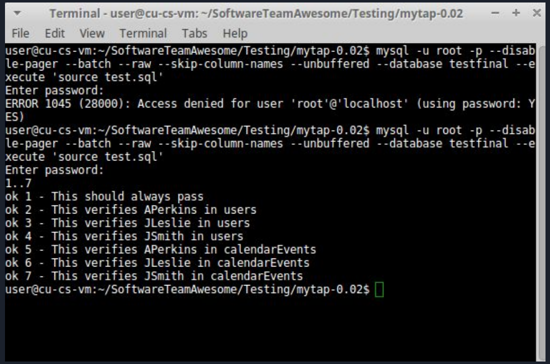
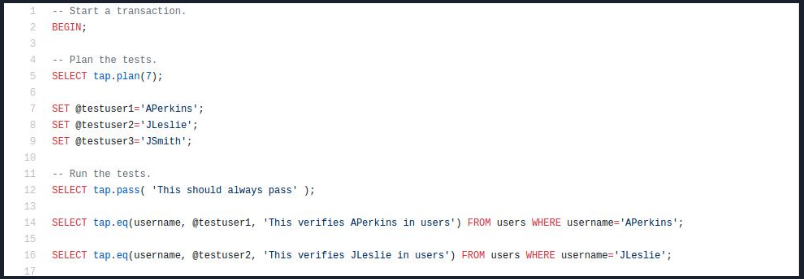
- MyTAP
  - “Test Anything Protocol”
  - MySQL testing suite
  - Used to verify existences and values of database tables


Terminal - user@cu-cs-vm: ~/SoftwareTeamAwesome/Testing/mytap-0.02
File Edit View Terminal Tabs Help

```
user@cu-cs-vm:~/SoftwareTeamAwesome/Testing/mytap-0.02$ mysql -u root -p --disab
le-pager --batch --raw --skip-column-names --unbuffered --database testfinal --e
xecute 'source test.sql'
Enter password:
ERROR 1045 (28000): Access denied for user 'root'@'localhost' (using password: Y
ES)
user@cu-cs-vm:~/SoftwareTeamAwesome/Testing/mytap-0.02$ mysql -u root -p --disab
le-pager --batch --raw --skip-column-names --unbuffered --database testfinal --e
xecute 'source test.sql'
Enter password:
1..7
ok 1 - This should always pass
ok 2 - This verifies APerkins in users
ok 3 - This verifies JLeslie in users
ok 4 - This verifies JSmith in users
ok 5 - This verifies APerkins in calendarEvents
ok 6 - This verifies JLeslie in calendarEvents
ok 7 - This verifies JSmith in calendarEvents
user@cu-cs-vm:~/SoftwareTeamAwesome/Testing/mytap-0.02$
```



```sql
-- Start a transaction.
BEGIN;

-- Plan the tests.
SELECT tap.plan(7);

SET @testuser1='APerkins';
SET @testuser2='JLeslie';
SET @testuser3='JSmith';

-- Run the tests.
SELECT tap.pass( 'This should always pass' );

SELECT tap.eq(username, @testuser1, 'This verifies APerkins in users') FROM users WHERE username='APerkins';

SELECT tap.eq(username, @testuser2, 'This verifies JLeslie in users') FROM users WHERE username='JLeslie';

```

Runtime Environment

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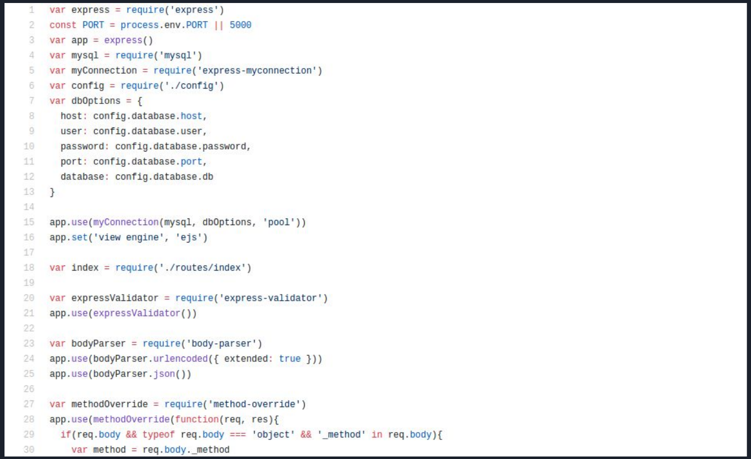
- Node.js
  - JavaScript runtime environment
  - Used to allow for dynamic content on the web pages
  - Interaction between web pages and database



```
var express = require('express')
const PORT = process.env.PORT || 5000
var app = express()
var mysql = require('mysql')
var myConnection = require('express-myconnection')
var config = require('./config')
var dbOptions = {
  host: config.database.host,
  user: config.database.user,
  password: config.database.password,
  port: config.database.port,
  database: config.database.db
}

app.use(myConnection(mysql, dbOptions, 'pool'))
app.set('view engine', 'ejs')

var index = require('./routes/index')

var expressValidator = require('express-validator')
app.use(expressValidator())

var bodyParser = require('body-parser')
app.use(bodyParser.urlencoded({ extended: true }))
app.use(bodyParser.json())

var methodOverride = require('method-override')
app.use(methodOverride(function(req, res){
  if(req.body && typeof req.body === 'object' && '_method' in req.body){
    var method = req.body._method
```

Javascript Templating Tool

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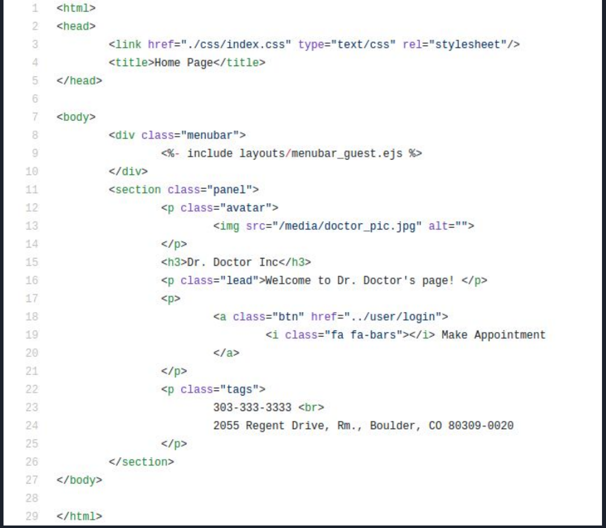
<%= EJS %>

- EJS
  - “Embedded JavaScript”
  - Allows for HTML markup via JavaScript
  - Used to manage web page view rendering



```
<html>
<head>
        <link href="./css/index.css" type="text/css" rel="stylesheet"/>
        <title>Home Page</title>
</head>

<body>
        <div class="menubar">
                <%- include layouts/menubar_guest.ejs %>
        </div>
        <section class="panel">
                <p class="avatar">
                        <img src="/media/doctor_pic.jpg" alt="">
                </p>
                <h3>Dr. Doctor Inc</h3>
                <p class="lead">Welcome to Dr. Doctor's page! </p>
                <p>
                        <a class="btn" href="../user/login">
                                <i class="fa fa-bars"></i> Make Appointment
                        </a>
                </p>
                <p class="tags">
                        303-333-3333 <br>
                        2055 Regent Drive, Rm., Boulder, CO 80309-0020
                </p>
        </section>
</body>

</html>
```

Challenges Encountered

- Calendar
  - Tried to create an interactive calendar
  - Interaction with database was difficult
- Communication
  - Initially difficult to set up meetings
  - Initially struggled to maintain consistent communication about project status
- Managing the form input and output
  - Front-end/back-end interaction

Overcoming the Challenges

- Calendar
  - Instead decided to utilize the built-in date/calendar functionality of HTML
- Communication
  - Utilized Slack, texting, and email more frequently
  - Scheduled more regular meetings, even if not everyone could attend
- Managing the form input and output
  - Practice with node.js was able to resolve this issue

Project Demonstration

- https://appointment-web-app.herokuapp.com

Image Sources

- https://assets-cdn.github.com/images/modules/logos_page/GitHub-Mark.png
- https://www.mysql.com/common/logos/logo-mysql-170x115.png
- https://brand.heroku.com/static/media/heroku-logotype-horizontal.81c49462.svg
- https://d2k1ftgv7pobq7.cloudfront.net/meta/u/res/images/brand-assets/Logos/0099ec3754bf473d2bbf317204ab6fea/trello-logo-blue.png
- https://zaynabzahrablog.files.wordpress.com/2017/10/11-e1507403418292.png?w=588
- https://nodejs.org/static/images/logos/nodejs-new-pantone-black.png
- https://cdn.dealstreetasia.com/uploads/2016/04/Slack-e1459571703586.png?resize=750,417
- http://ejs.co/#promo