CSE 341 Final project Proposal

# General Info

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# Application Info

## What will the API do?

**This app will allow users to log in, budget and set financial goals, and track goal progress by tracking income, spending and savings.**

## How will your API utilize a login system?

**We will utilize Google OAuth as our login system.**

## What database will you use?

**The database we will use is MongoDB.**

## How will the data be stored in your database?

**The data for our database will be stored in a Rest API service.**

## How would a frontend be able to manage authentication state based on the data you provide?

**To handle frontend authentication based on the data we provide we will use tokens.**

## What pieces of data in your app will need to be secured? How will you demonstrate web security principles in the development of this app?

* **For this use case, we will secure all data.**
* **We will demonstrate security principles by checking session authentication for all routes, except login.**

## What file structure and program architecture will you use for this project (how will you organize your node project)? Why?

**The file structure we will use for this project is the MVC architecture.**

## What are potential stretch challenges that you could implement to go above and beyond?

* **Use GraphQL**
* **Use TypeScript**
* **Custom login (with user-provided username and password)**
* **Custom logout**
* **Establish relationships between some of the collections.**

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# API Endpoint Planning

For this section, you’ll plan out what API endpoints you’ll need for your project. If you go to [editor.swagger.io](https://editor.swagger.io/) you’ll see the Pet Store application documentation that they have. This can be a good point of reference because they demonstrate how to have multiple database entities (ie: pet, store, user), and CRUD operations for each with various ways of performing them. For this section of the Final Project Proposal, you will make a list of each API endpoint that will be supplied for each database entity. So, if I was going to create the pet store app, I’d put something like this:

* users
  + POST /user - Create a new user
  + PUT /user/id - Update user data
  + GET /user - Read List of users
  + GET /user/id -Read user data
  + DELETE /user/id - Delete user
* categories
  + POST /categories - Create
  + PUT /categories - Update
  + GET /categories - Read List
  + GET /categories/id -Read
  + DELETE /categories/id - Delete
* transactions
  + POST /transaction - Add a transaction
  + PUT /transaction - Update specific transaction
  + GET /transaction - Read List of transactions
  + GET /transaction/id -Read specific transaction
  + DELETE /transaction/id - Delete transaction
* budgets
  + POST /budget - Create
  + PUT /budget - Update
  + GET /budget - Read List
  + GET /budget/id -Read
  + DELETE /budget/id - Delete

Thinking about this now will be extremely helpful for you because next week when you have to create the swagger documentation for all of this and publish it to Heroku so it is ready for the rest of your project.

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# Project Scheduling and Delegation

Plan out what tasks will get completed with each lesson remaining in the semester (Only edit highlighted text).

| Lesson 9 Tasks | *Project Proposal* |
| --- | --- |
| Lesson 10 Tasks | * *Create Git Repo* * *Create base project* * *Push to Render (deployment)* * *API DOCUMENTATION is complete and available at route ‘/api-docs’* * Make a database design sketch. * Research about the information we are missing for architecture and folder structure. Look for other information we may find useful. * HTTP Requests * Create Database on MongoDB |
| Lesson 11 Tasks | * Start development work on a Node.js API as part of a team. * Rank yourself against your peers * Error Handling |
| Lesson 12 Tasks | * Add OAuth Login/Logout * Data Validation |
| Lesson 13 Tasks | * Deploy to Web * Testing * Video presentation |

## How will you divide up work in your team to ensure the following tasks all get completed?

* HTTP GET, GET (all, single) ALL
* HTTP POST ALL
* HTTP PUT ALL
* HTTP DELETE ALL
* Node.js project creation CARLOS
* Sample data generation for collection in a JSON file CARLOS
* Google Authentication: Login and Logout BRIAN
* Create a git repo and share it with a group BRIAN
* MongoDB setup with sample collections FABIOLA
* Publish to Render CARLOS
* API Swagger documentation for all API routes ALL
* Video presentation of node project, all routes functioning, MongoDB data being modified, and API documentation. ALL

# Potential Risks and Risk Mitigation Techniques

## What are the risks involved with you being able to finish this project in a timely manner?

Some of the risks of us not being able to finish the project in a timely manner are a busy Schedule, Struggle with code, and communication

## How will you mitigate or overcome these risks?

To overcome these risks. First, we will set out with a clear timeline to complete this project, and clear roles for each member of the group. Second, We will meet for weekly check-in and help each other when struck. Last, we will use different technology like TEAMS to communicate with each other.