HSBC

Digital Walk-Around Project - Fat 6

Project Plan

Project Manager: Aidan Clarke Scott

Team Members: John Chapman, Willem van Doorn, Christopher Cliff, Matt Wilson, Sasha Maximovitch, Shane Labelle

April 4th, 2022
Version 1.1

Timeline

Planning (January 10th - January 25th)

TOR (January 10th - January 17th) - *All Members*

The initial design, planning and creation of the Terms of Reference (TOR) document which highlights our project goals and deliverables.

Estimated Effort: 10 hours

Project Plan (January 17th - January 25th) - *All Members*

The planning and creation of the Project Plan document which outlines our current high level plan for the project.

Estimated Effort: 20 hours

Requirements (January 24th - February 2nd)

Business Requirements Document (January 24th - February 2nd) - *All Members*

The creation of the Business Requirements Document (BRD), including the design of the technical requirements for the project development.

Estimated Effort: 20 hours

Trello Board (January 24th - February 2nd) - *All Members*

Initial setup of a Trello Board for managing development tasks, including the creation of user stories to match our requirements.

Estimated Effort: 5 hours

Design (January 31st - February 9th)

GitHub Documentation (January 31st) - *All Members*

Set up a pull request/review system within Github to facilitate collaboration and establish a formatting convention for Git messages.

Estimated Effort: 2 hours

Architecture Diagram (January 31st - February 3rd) - *All Members*

Iron out technology stack and information flow through the parts of the app. Determine which API endpoints are required, and which data is stored in our own database.

Estimated Effort: 5 hours

Design Frontend (January 31st - *February 9th) - *Aidan, Sasha, Shane, Willem*

* For MVP, actual design will continue with development

Extract main deliverables/structure from the requirements documentation and organise them into separate pages/sections of the app. Brainstorm concept designs for pages in the apps and how to represent features visually and intuitively. Create a design scheme/palette with fonts, colours and styles. Finally, determine which data is needed from the backend.

Estimated Effort: 20 hours

Design Backend (January 31st - February 3rd) - *Chris, John, Matt*

Decide on a naming convention for back-end endpoints and determine the requirements and responsibilities for the Lambda functions. Determine the exact format of data returned by endpoints and write detailed documentation including endpoint signatures, authentication requirements, and response formats.

Estimated Effort: 20 hours

Development (February 1st - March 30th)

Front End (February 10th - March 20th)

React & Typescript Boilerplate Setup (Feb 10th - Feb 15th) - Aidan, Sasha

Initial setup of React w/ Typescript in the project repository, along with gitignore, and config files.

Estimated Effort: 1 hour

Implementation of Main App Pages (Feb 16th - Mar 21st) - *Aidan, Sasha, Shane, Willem*

Develop three primary pages of the application, including the office exploration page, the user specific group creation page and the meeting calendar to view past/future meetings.

Estimated Effort: 60 hours

Integration with Backend/Endpoints using Axios (Feb 16th - Mar 21st) - *Shane Willem*

Connect the frontend to all the backend endpoints so it can make requests and receive appropriate data to display.

Estimated Effort: 15 hours

Final Frontend Features (Mar 10th - Mar 28th) - *Aidan, Sasha, Shane, Willem*

Implement a modal to show users when meetings are about to start, add browser notifications, and allow recorded meetings to be shown directly in the UI.

Estimated Effort: 10 hours

Back End (AWS/Cloud) (February 4th - *March 30th)

* For MVP, actual backend development may be extended with fewer people to accommodate stretch goals

Lambda Infrastructure Setup (Feb 4th - Mar 1st) - *Chris*

Initial setup of Lambda Infrastructure in AWS using NodeJS (with Typescript if requested).

Estimated Effort: 8 hours

Integrate Lambda with Front End (Feb 12th - Mar 20th) - *Chris*

Connect the front end web app with AWS Lambda by creating an API gateway to route requests to our Lambda functions.

Estimated Effort: 8 hours

Write Lambda Function for DynamoDB (Feb 12th - Mar 30th) - *Matt*

Create the Lambda functions for use with DynamoDB for storing web app data. Database will store favourites, personal call lists, sample employee directory, and Zoom and Outlook meetings. Lambdas will link Zoom employee ids to users in the database.

Estimated Effort: 30 hours

Write Lambda Function for Zoom API (Feb 12th - Mar 25th) - *John*

Create the Lambda functions for calling Zoom endpoints. Lambdas will search ongoing meetings to find current participants, create new meetings, invite people to meetings, and determine when upcoming meetings are close.

Estimated Effort: 40 hours

SSO Setup (Feb 20th - Mar 10th) - *Matt*

Create a sample SSO setup within AWS.

Estimated Effort: 8 hours

Testing (February 20th - April 1st)

API Testing with wscat (Back End) (Feb 20th - Mar 28th) - *Shane, Willem*

Create a batch automated suite of postman/Curl tests to test Back End API endpoints.

Estimated Effort: 20 hours

UI Testing Manually (Mar 1st - Mar 28th) - *Sasha, Shane, Willem*

Manually test UI components by doing bi-weekly WAM's to ensure proper functionality.

Estimated Effort: 10 hours

Performance Testing (Mar 28th - April 1st) - *John, Sasha, Aidan, Chris*

Simulate a real expected user load in order to test the platform at scale.

Estimated Effort: 10 hours

Deployment (March 21st - March 30th)

DynamoDB

Create "schema" & Populate Database (Mar 1st - Mar 30th) - *John, Chris, Matt*

Create the DynamoDB "schema" (non-relational, but set up base Objects and their attributes) and populate the database with sample employee hierarchy.

Estimated Effort: 10 hours

Serverless Backend

Ensure Lambda can be Successfully Reached (Feb 20th - Mar 10th) - *Chris, John, Matt*

Implement API Gateway to our Lambda functions and confirm that it can be reached from our frontend app hosted using AWS Amplify.

Estimated Effort: 20 hours

Cloud Formation

Integrate AWS Cloud Services into Terraform (Mar 1st - Mar 14th) - *Matt, Chris, John*

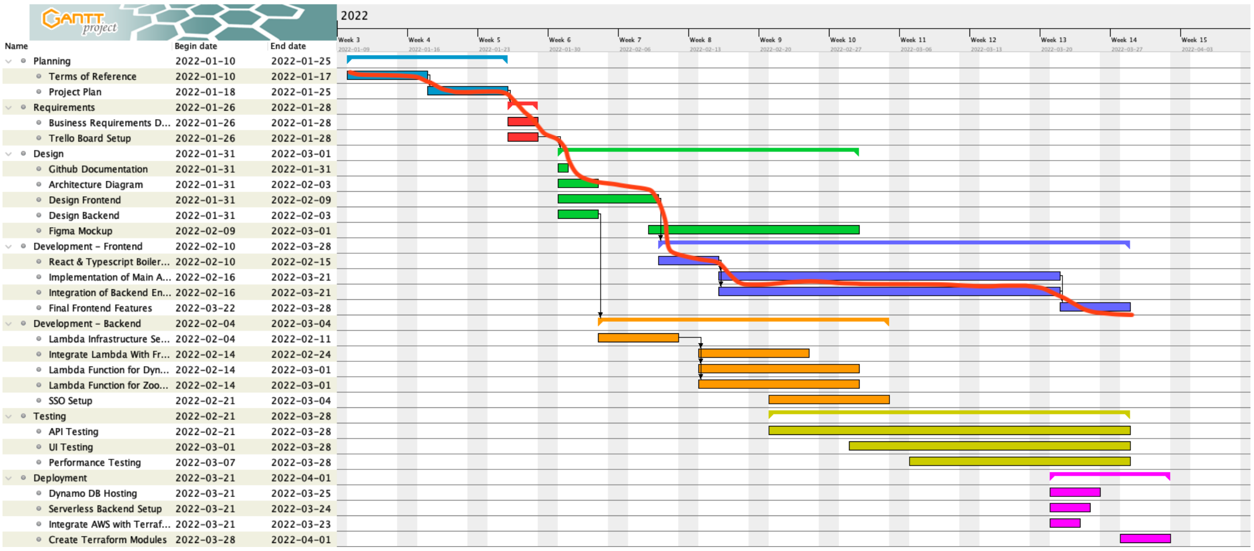
Define our used AWS services in a Terraform configuration file, and use that to provision our cloud infrastructure.

Estimated Effort: 10 hours

Critical Path

We identified that the frontend development phase would take us the longest, which is why it is a part of the critical path. It starts off with our design and requirements, which are necessary to work on the design of the frontend. Afterwards, the majority of the time is spent on frontend development and then, in the end we focus on deploying the frontend. If any of these pieces get delayed then our whole project gets delayed, thus it's our critical path.

Gantt Chart (Deprecated)



Name	Begin date	End date
Planning	2022-01-10	2022-01-25
Terms of Reference	2022-01-10	2022-01-17
Project Plan	2022-01-18	2022-01-25
Requirements	2022-01-26	2022-01-28
Business Requirements D...	2022-01-26	2022-01-28
Trello Board Setup	2022-01-26	2022-01-28
Design	2022-01-31	2022-03-01
Github Documentation	2022-01-31	2022-01-31
Architecture Diagram	2022-01-31	2022-02-03
Design Frontend	2022-01-31	2022-02-09
Design Backend	2022-01-31	2022-02-03
Figma Mockup	2022-02-09	2022-03-01
Development – Frontend	2022-02-10	2022-03-28
React & Typescript Boiler...	2022-02-10	2022-02-15
Implementation of Main A...	2022-02-16	2022-03-21
Integration of Backend En...	2022-02-16	2022-03-21
Final Frontend Features	2022-03-22	2022-03-28
Development – Backend	2022-02-04	2022-03-04
Lambda Infrastructure Se...	2022-02-04	2022-02-11
Integrate Lambda With Fr...	2022-02-14	2022-02-24
Lambda Function for Dyn...	2022-02-14	2022-03-01
Lambda Function for Zoo...	2022-02-14	2022-03-01
SSO Setup	2022-02-21	2022-03-04
Testing	2022-02-21	2022-03-28
API Testing	2022-02-21	2022-03-28
UI Testing	2022-03-01	2022-03-28
Performance Testing	2022-03-07	2022-03-28
Deployment	2022-03-21	2022-04-01
Dynamo DB Hosting	2022-03-21	2022-03-25
Serverless Backend Setup	2022-03-21	2022-03-24
Integrate AWS with Terraf...	2022-03-21	2022-03-23
Create Terraform Modules	2022-03-28	2022-04-01

Note: The red line is our critical path

Legend

- **Light Blue** - Planning Phase
- **Red** - Requirements Phase
- **Green** - Design Phase
- **Purple** - Frontend Development Phase
- **Orange** - Backend Development Phase
- **Yellow** - Testing Phase
- **Pink** - Deployment Phase

Appendix

To arrive at the breakdown of tasks and delegation of labour we began by consulting the typical software development life cycle to provide a general overview of main stages. Then, we reviewed the project specifications and requirements in detail and extracted key actionable objectives at a high level. From this, we investigated which technologies would be required to complete each step and what tools were available to us, while remaining in the outlined tech stack. We then used group members' personal development preferences to delegate labour and divided each task into steps based on experience and research of what will be involved.