Team Turtle (AE: #3)

Terms of Reference

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Version 1.0

Document Information

Revision History

Date	Version	Status	Prepared By	Comments
30/03/2020	0.2		Siddhartha Gupta	

Document Control

Role	Name	E-mail	Telephone
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Approval

Role	Name	Signature	Sign-off Date
Full-Stack Developer	**Eddie Huang**		07/04/2020
Back-End Developer	**Bob Ghosh**		07/04/2020
Database Manager	**Siddhartha Gupta**		07/04/2020
Front-End Developer	**Shuaiqi Zhang**		07/04/2020
Front-End Developer	**Wenhong Zhang**		07/04/2020
Full-Stack Developer	**Jungwook Jang**		07/04/2020

Post Approval Distribution

Role	Name	Signature	Sign-off Date
Teacher Of CS319	**Jerry Jim**		07/04/2020
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Contact For AE	**Shawn Goulet**		07/04/2020
Contact For AE	**Nash Naidoo**		07/04/2020

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Project Information

Project Overview

Background Information

- Associated Engineering (AE) is one of the largest engineering consultants in Canada with over 1000 staff and offices from small communities like Whitehorse to urban areas of Metro Vancouver, Calgary and Toronto.

Problem/Opportunity Statement

- The existing system of AE has difficulty to track down all of the skills and disciplines of local teams.
- The current processes of AE take extensive time to appropriately assign individuals for both new projects and existing initiatives, in accordance with, skills and disciplines.

Goals and Objectives

- By the end of the semester, we aim to provide a Web-based application that provides 5 different modules (User, Project, Forecasting, Search, and Administration), so that all staff in AE can utilize an optimized resource system.

Deliverables

- The Admin will have a separate login page.
- The following information will be displayed in the User Module; Name(both First and Last), Location, Username, Role, the name of the disciplines and their corresponding Skills, Hours Allocated
- The following information will be displayed in the Project Module; Project Title, Location, Status, Start Date, To Date, Hours

Benefits

- A successful solution will be able to provide an efficient search module so that managers/project bidders can find suitably skilled staff effectively.
- A successful solution will provide an efficient forecasting module so that resource managers can easily review to identify where both overutilization and underutilization of resources occur.
- A Successful solution will provide an efficient project module so that all AE employers can easily create a new project and update their current disciplines and their information.
- A Successful solution will prove an efficient way for Administration to add and delete users and update their skills and disciplines.
- A Successful solution will provide an efficient way for Users to add, delete and update their skills and disciplines.

Project Constraints, Assumptions, Dependencies and Risks

Constraints/Proposed Technology

- AE prefers JavaScript for front end development
- AE prefers .Net core 3.1 development language on server-side (C#)
- AE prefers Microsoft SQL server
- For authentication, AE will provide an API.
- It requires a test environment based on Microsoft Window 10 (IE11 and Chrome browser)

Assumptions

- As AE provides us with an API for authentication, we can assume that all retrieved data from the API will be valid data (data required in valid/accepted format).
- The Admin will have a different permissions to the User.
- A Project can be searched by the amount of hours required for a particular month.

Dependences

- React Library
- Initial Database and Source Code provided by the company.

Risks

Risk ID	Risk Description
1	Authentication API might not give us data in required format, and it could be invalid.
2	Not completing the minimal viable product.
3	Run-time bugs which crash the software system or operating system.
4	SQL Injection Attack; Invasion of privacy through hacking of the database.
5	Slow computations with larger than polynomial time (optimal).
6	Incomplete or misunderstanding of the specifications.
7	Employees accessing personal information of others for their personal reasons (privacy).

Summary Risk Assessment

Risk ID	Assessment
1	If a third-party API that is provided to us by the sponsor gives us invalid data, there is nothing we can do to correct this risk.
2	A lack of decisiveness or time-management skills might mean that important decisions which impact the project aren't made until much later. This could also be caused by over-engineering and "intellectualization". Please note that we are following the Waterfall methodology.
3	If the software system crashes, then the program will be unusable. Programs should also work as robust as it to be.
4	Personal data of users could be used by malicious characters for shaming. The data could also be sold to external vendors without users' consent. (Intrusion and Privacy)
5	Can make the website seem slow, make the website seem buggy and make the user experience arduous.
6	Company gets a feature implemented in a wrong way by developers. This is frustrating as it is preventable through excellent understanding of the requirements which go through iterations of company and developer communication and feedback.
7	May make people within the company and others weary of using this service. This might also lead to many privacy concerns for the staff of the company

Project Approach and Acceptance Criteria

Project Approach

- This project will be approached with traditional Waterfall design.
- All deliverable products for this project will be uploaded in Gitlab.

Estimated Schedule

- Estimated schedule will likely to be modified or updated.

Milestone or Key Activity	Start	Complete
Initiation	**07/01/2020**	**N/A**
Requirements	**18/01/2020**	**30/01/2020**
Design	**18/01/2020**	**06/02/2020**
Implementation – Branch Visit	**02/06/2020**	**07/04/2020**
Project Completion	**N/A**	**07/04/2020**

Estimated Cost

Enter the estimated effort, development costs and ongoing costs in the table below

Identify the individual who signed off on the data conversion, their role in the project and when.

- The project requires a server to host in order to connect front-end module and back-end module. Estimated cost for the server is $131.49 CAN. Estimated Cost(s) may be updated as the project proceeds. We have attached invoices in the “Docs” folder.

Acceptance Criteria

Criterion

- All functionalities that are highlighted by AE
  - User/project module
  - Forecasting module
  - Search module
  - Administration module

How it is measured

- All criterion will be tested by automated test module

When it is measured

- Every deliverable for this project will be tested whenever it is modified or expanded.

Project Governance

Project Team Responsibilities

- All six members of the team will mainly work on development, as well as taking on one additional role within the team.

Role	Name	Responsibilities
Project Manager	**Jungwook Jang** **Bob Ghosh**	● **Motivating and organizing a project team so that successful deliverable will be provided by end of the semester** ● **Control overall time management for the project** ● **Collect all questions regarding to the project before meeting with business stakeholders**
Testing Lead	**Eddie Huang** **Wenhong Zhang**	● **Estimate the testing plan and configure necessary resources for entire testing module** ● **Control overall testing plan for the project**
Development Lead	**Shuaiqi Zhang**	● **Guide team development efforts towards successful project** ● **Monitor entire project deliverable to ensure that there is no bug in the project.**
Database	**Siddhartha Gupta**	● **Add or edit tables as needed.** ● **Add tuples to the project**

Project Communication Plan

Project Meetings

- Meet twice a week after lecture. (May hold more meetings if necessary)
- Communicate through Slack

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Open Source Declaration

List of Open Source Licenses

The list will be updated as the project proceeds.

1. For deliverable in this project, GitHub is likely to be used. GitHub is licensed under Creative Commons Zero license.
2. For testing module, Mocha and Chai expectations might be used. Mocha and Chai are licensed under a MIT license.
3. For front-end development, Angular, React, Bootstrap could be used. Those are licensed under MIT license. The licenses can be found here: Angular, React, Bootstrap.

Appendix

Glossary of Terms / Abbreviations

Terms / Abbreviations	Description
N/A	

Attached Referenced Documents

Title	Purpose	Version
Associated Engineering Final	Referencing	N/A