

Project Status Update

The Terminal

Status Overview

- The design and prototyping phase has been completed
- We have already started implementing the key features of the system
 - E.g. login system (Req 1.0.0 in RTM)
- Currently implementing ability to add new contractors (Req 1.1.0 in RTM)
- Over this presentation, we will be giving you detailed ranging from least technical to most technical sections of the system with time for questions at the end
- Order is as follows:
 - Anushka - UI
 - Maia and Shrey - Front-end Implementation
 - Stephen - Back-end Implementation

RTM

REQ No.	Reference	Requirement Description	Type	Priority	MVP	Related Test Case	Test Status	Comments
1.0.0	Use Case 9	User and Admin login	Functional	1	Y	TBD	TBD	
1.1.0	Use Case 1	Adding or editing contractors	Functional	1	Y	TBD	TBD	
1.2.0	Use Case 2	Filtering Data to extract information from the larger database	Functional	1	Y	TBD	TBD	
1.3.0	Use Case 3	Generating graphs for trend report analysis	Functional	2	Y	TBD	TBD	
1.4.0	Use Case 4	Managing user permissions or adding new users for the system	Functional	2	Y	TBD	TBD	
1.5.0	Use Case 5	Adding or editing skills table	Functional	2	Y	TBD	TBD	
1.6.0	Use Case 6	Maintaining HR Pay Equivalent table	Functional	2	Y	TBD	TBD	
1.7.0	Use Case 7	Maintaining HR Role table	Functional	2	Y	TBD	TBD	
1.8.0	Use Case 8	Maintain a list of Hiring Managers	Functional	2	Y	TBD	TBD	
2.0.0	NA	Support UI on IE 11	Non Functional	1	Y	TBD	TBD	
2.1.0	NA	Support UI on Firefox	Non Functional	3	Y	TBD	TBD	

User Interface / User Experience

Front-end Prototype

- In the design document, I included mock-up screens of how the main pages would look like
- While I'm sure you've read through the documentation and have had a chance to look through our workflow diagram, I've made the prototype interactive for you to visually see how one page moves to the next
- (If you have any questions during the workflow, please let me know)
- <https://xd.adobe.com/view/7978ecdb-018a-44bc-a7df-85da93d0cae5/>

Front-end Implementation

What's been done so far...

- Environment setup
 - ReactJS
 - Redux
- Login page
- Add contractor skeleton
- Working on navigation bar

Coming Up Next...

Data Filtration:

- Simplifying the filter for the pivot table
- Using redux to implement it

Pre-generated graphs:

- Graphs for Costs and Contractor costs
- Using d3.js to visualize the graphs

Coming Up Next...

Calling back-end from front-end

- To receive the data needed from the database to the UI
- RESTful APIs
- HTTPS

Back-end Implementation

Back-end - Implementation Details

- Application
 - Using Java as the main programming language for back-end
 - Using RESTful web services for communication between back-end and front-end
- Database
 - Using MySQL database
 - Database schema is normalized to allow for extensibility
- Testing
 - Testing all of the back-end functionality as we write the code via automated unit tests
- Hosting
 - Hosting database on AWS Relational Database Service
 - Hosting web application on AWS Elastic Beanstalk
 - AWS provides cheap, scalable server infrastructure with a strong monthly uptime percentage

Back-end - What's been done so far

Back-end Implementation

- Login
 - Database table has been created with admin user inserted
 - REST server endpoint has been created for frontend to backend communication
- Database
 - MySQL database has been created with necessary tables for login feature

Back-end Deployment

- Database Hosting
 - Database has been deployed to AWS Relational Database Service and is online

Back-end - Coming up next

Back-end Implementation

- Add Contractor and Contractor Records
- Edit Contractor
- Admin functionality (editing Skills table, HR Pay Equivalence, etc)

Back-end Deployment

- Back-end Server Hosting
 - The back-end server application still needs to be hosted, this will be done on AWS Elastic Beanstalk

Demonstration

- Login page
 - Admin login vs user login
- Add contractor
 - Html page

Assumptions and Risks

Key assumptions we've made:

- The data needs to be communicated in a secure manner so we have decided to use https
- We assumed that the data needs to be encrypted at rest

Key Risks we've highlighted:

- The database and the application is dependent on Amazon Web Services and they will suffer if AWS goes down like it did earlier this year.

Conclusion

Development is going smoothly and we believe we will be able to meet all the main requirements as highlighted by our RTM and subset of the stretch goals.

We would like clarification about the following things:

- Is our assumptions for encrypting the database valid?
- Is it ok if we use https?

Can we please get some feedback on the following:

- Pre-generated graphs that we have selected for reporting? Did we miss any that you would like us to incorporate?

Appendix

Use Case Diagrams

Use Case 1: Add A Contractor For A New Project	
Description	A hiring manager hires a new contractor for a project and needs to record it in the contractor management system. The hiring manager creates a new Contractor and Project in the system representing the newly hired contractor and newly added engagement contract.
Preconditions	The hiring manager is logged into the contractor management system.
Postconditions	<ul style="list-style-type: none">- A new contractor is created in the system with the supplied details and the contractor's status is set to active.- A new engagement contract is created in the system.- The newly added contractor is associated with the newly added engagement contract.
Main Scenario	<ol style="list-style-type: none">1) Hiring manager selects "Add Contractor"2) Application displays an "Add Contractor" form<ol style="list-style-type: none">a. Tombstone data fieldsb. Skills category option fieldsc. Engagement contract subform3) Hiring manager fills out tombstone data fields (first name, surname, agency source, status, rehire)4) Hiring manager fills out skills category free format dropdowns with information relating to contractors skills5) Hiring manager fills out engagement contract subform with details of contractor's engagement contract
Alternate Scenarios	<ul style="list-style-type: none">- (5) A contractor is engaged in multiple engagement contracts.<ul style="list-style-type: none">• The hiring manager can select an "Add Engagement Contract" button to display another engagement contract subform within the "Add Contractor" page.- (3,4,5) The hiring manager does not fill in some or all of the required fields.<ul style="list-style-type: none">• The application displays an error stating which fields still need to be filled in.

Use Case Diagrams

Use Case 2: Filter Data

Description

An HM wants to extract information from the larger table to analyse specifics.

Primary Actor

Hiring Manager (HM)

Preconditions

The HM must be logged into the system.

Postconditions

The table shown in the Data Filter tab has been changed according to the user's specifications.

Main Scenario

- 1) HM selects "Data Filter" tab.
- 2) Current page displays a table with an "Edit Table" option.
- 3) HM selects "Edit Table".
- 4) A pop-up appears with four ways to edit the table.
 - (i) Filter
 - (ii) Values
 - (iii) Rows
 - (iv) Columns
- 5) HM selects these values according to the information they need to extract.
- 6) Select "Done" and view table.

Alternate Scenarios

- (5) If the HM does not select any values the page will show the previous table that was loaded before filtering.

Use Case Diagrams

Use Case 3: Generating Graphs/Reports	
Description	A user wants to view trends and prepare for future plans by generating reports and graphs from the contractor's data.
Primary Actor	Hiring Managers (HM) - i.e. the system's users
Preconditions	The user has to be logged in and have permissions to view the data and generate reports.
Postconditions	The desired graph or report is generated for the user.
Main Scenario	<ol style="list-style-type: none">1) User selects "Generate Reports & Graphs" tab2) User chooses which graph or report to generate from a menu. The options are the following:<ol style="list-style-type: none">a) Number of active contractorsb) Trending report of active contractors<ol style="list-style-type: none">i) Bar graphii) Tablec) Contractor costsd) Trending report of the contractor costs<ol style="list-style-type: none">i) Bar graphii) Table3) The graph is generated
Alternate Scenarios	<ul style="list-style-type: none">- (4) User chooses to filter the data in the graph<ul style="list-style-type: none">• The graph is regenerated based on the filters

Use Case Diagrams

Use Case 4: User Management for System Admin	
Description	An admin user can add or remove non-admin users from the system so that they can maintain contractor records and perform data visualization.
Primary Actor	System Admin
Preconditions	An administrator is logged into the system. Editing their own information and/or deleting their own account is disallowed.
Postconditions	A user is edited, added to, or deleted from the system.
Main Scenario	<ol style="list-style-type: none">1) Admin user selects "Administrator Panel"2) Application displays the "Administrator Panel" screen3) Admin selects "Add User" button4) Application displays "Username", and "Password" input fields, and "Is Administrator" checkbox5) Admin fills in "Username" and "Password" fields with desired values, "Is Administrator" is unchecked by default6) Admin selects "Save User" button
Alternate Scenarios	<ul style="list-style-type: none">• (3,4,5,6) Administrator wants to delete a user<ul style="list-style-type: none">◦ Admin selects "View Current Users"◦ Admin selects checkboxes beside users they wish to delete◦ Admin selects "Delete Users" button◦ Prompt displays asking if the admin is sure they want to delete those users◦ Admin selects "Yes" or "No" buttons• (3,4,5,6) Administrator wants to edit a user's information<ul style="list-style-type: none">◦ Admin selects "View Current Users"◦ Admin selects the user they wish to edit◦ Interface shows user's information◦ Admin clicks on "Edit User"◦ User information becomes editable and admin can edit the information as needed◦ Admin selects "Save" to save the new edits or "Cancel" to go back to viewing the user• (3,4,5,6) Administrator wants to add, edit or delete another admin<ul style="list-style-type: none">◦ Admin selects "Add User" button◦ Application displays "Username", "Password", and "Is Administrator" fields◦ Admin fills in "Username" and "Password" fields with desired values, and checks the box next to "Is Administrator"◦ Admin selects "Save User" button

Use Case Diagrams

Use Case 5: Maintaining Skills Tables for System Admin	
Description	An admin user can add, remove and edit a predefined list of skills to be associated with contractors.
Primary Actor	System Admin.
Preconditions	An administrator is logged into the system.
Postconditions	A skill is added, removed, or edited in the database.
Main Scenario	<ol style="list-style-type: none">1) Admin user selects "Administrator Panel".2) Application displays the "Administrator Panel" screen.3) Admin chooses the "Skills" table.4) Admin chooses the "Add Skill" option.5) Admin fills in the form and clicks "Save" to add the new skill or "Cancel" to return to view the skills table.
Alternate Scenarios	<ul style="list-style-type: none">- (4,5) Admin would like to edit a skill.<ul style="list-style-type: none">o Admin chooses the skill they want to edit.o Admin can edit the information of the skill, and hit "Save" to update the skill or "Cancel" to return to the table.- (4,5) Admin would like to delete a skill.<ul style="list-style-type: none">o Admin chooses the skill(s) they'd like to delete.o Admin chooses the "Delete" option.o A pop-up prompts and asks for confirmation on whether or not admin is sure they want to delete the rows.o Admin confirms to delete the rows or clicks "Cancel" to return to the table.

Use Case Diagrams

Use Case 6: Maintaining HR Pay Equivalent Table for System Admin	
Description	An admin user can add, remove, and edit a predefined list of tiers of pay equivalences associated with contractors.
Primary Actor	System Admin.
Preconditions	An administrator is logged into the system.
Postconditions	A tier is added, deleted, or edited in the database.
Main Scenario	<ol style="list-style-type: none">1) Admin user selects "Administrator Panel".2) Application displays the "Administrator Panel" screen.3) Admin chooses the "HR Pay Equivalent" table.4) Admin chooses the "Add Tier" option.5) Admin fills in the form and clicks "Save" to add the new tier or "Cancel" to return to view the table.
Alternate Scenarios	<p>(4,5) Admin would like to edit a tier.</p> <ul style="list-style-type: none">○ Admin chooses the tier they want to edit.○ Admin can edit the information of the tier, and hit "Save" to update the tier or "Cancel" to return to the table. <p>(4,5) Admin would like to delete a tier.</p> <ul style="list-style-type: none">○ Admin chooses the tier(s) they'd like to delete.○ Admin chooses the "Delete" option.○ A pop-up prompts and asks for confirmation on whether or not admin is sure they want to delete the rows.○ Admin confirms to delete the rows or clicks "Cancel" to return to the table.

Use Case Diagrams

Use Case 7: Maintaining HR Role Table for System Admin	
Description	An admin user can add, remove, and edit a predefined list of HR roles associated with the contractors.
Primary Actor	System Admin.
Preconditions	An administrator is logged into the system.
Postconditions	A role is added, deleted, or edited in the database.
Main Scenario	<ol style="list-style-type: none">1) Admin user selects “Administrator Panel”.2) Application displays the “Administrator Panel” screen.3) Admin chooses the “HR Role” table.4) Admin chooses the “Add Role” option.5) Admin fills in the form and clicks “Save” to add the new role or “Cancel” to return to view the table.
Alternate Scenarios	<p>(4,5) Admin would like to edit a role.</p> <ul style="list-style-type: none">○ Admin chooses the role they want to edit.○ Admin can edit the information of the role, and hit “Save” to update the skill or “Cancel” to return to the table. <p>(4,5) Admin would like to delete a role.</p> <ul style="list-style-type: none">○ Admin chooses the role(s) they’d like to delete.○ Admin chooses the “Delete” option.○ A pop-up prompts and asks for confirmation on whether or not admin is sure they want to delete the rows.○ Admin confirms to delete the rows or clicks “Cancel” to return to the table.

Use Case Diagrams

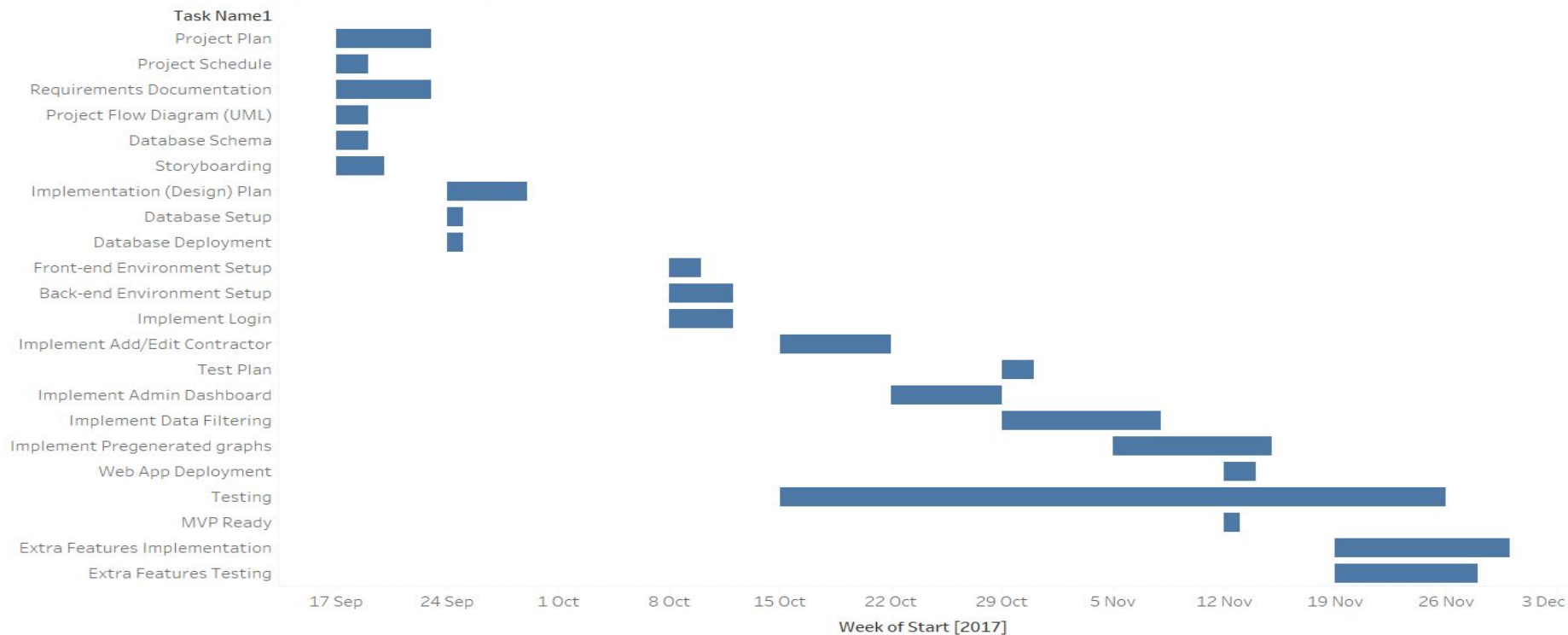
Use Case 8: Maintaining a list of Hiring Managers for System Admin	
Description	An admin user can add, remove and edit hiring managers.
Primary Actor	System Admin.
Preconditions	An administrator is logged into the system.
Postconditions	A hiring manager is added, removed, or edited in the database.
Main Scenario	<ol style="list-style-type: none">1) Admin user selects "Administrator Panel".2) Application displays the "Administrator Panel" screen.3) Admin chooses "Hiring Managers".4) Admin chooses the "Add Hiring Manager" option.5) Admin fills in the form and clicks "Save" to add the new hiring manager or "Cancel" to return to view the list of hiring managers.
Alternate Scenarios	<ul style="list-style-type: none">- (4,5) Admin would like to edit a hiring manager.<ul style="list-style-type: none">o Admin chooses the hiring they want to edito Admin can edit the information of the hiring manager, and hit "Save" to update the hiring manager or "Cancel" to return to the list.- (4,5) Admin would like to delete a hiring manager.<ul style="list-style-type: none">o Admin chooses the hiring manager(s) they'd like to delete.o Admin chooses the "Delete" option.o A pop-up prompts and asks for confirmation on whether or not admin is sure they want to delete the hiring managers.o Admin confirms to delete the rows or clicks "Cancel" to return to the list.

Use Case Diagrams

Use Case 9: Login to the system	
Description	Any user with valid login credentials can login to the web application.
Primary Actor	Hiring Managers or System Admins (ie. users of the system).
Preconditions	None.
Postconditions	A user is logged into the system.
Main Scenario	<ol style="list-style-type: none">1) User encounters login screen.2) User enters username into “username” field, enters password into “password” field.3) User clicks “Login”4) User is displayed with home screen.
Alternate Scenarios	<ul style="list-style-type: none">- (4) User types in wrong username or password<ul style="list-style-type: none">o Prompt is displayed stating that the login credentials were invalid.

Project Breakdown

Gantt Chart: Coast Capitals Savings Project



Start Week for each Task Name1. Size shows sum of Duration.