CSCC01 Introduction to Software Engineering

Project Deliverable 5 - Final Deliverable

Team 9 + 10

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Product Backlog

Tasks

User Story	Task	Dependency	Story Points	Description
14	14a. Generate mock data for templates		3	
14	14c. Q1 - Create sample report with pie graph showing size of target groups	14f	4	
14	14d. Q2 - Create sample report with line graph showing number of clients using services by date	14f	4	
14	14e. Q3 - Create sample report with bar graph	14f	4	
14	14f. Query data for multiple agencies or templates		4	
12	12a. Create data editor tab to allow modification of data fields directly		5	

*The user Stories that are not included within our product:

19. As Joanna, a TEQ employee, I would like to be able to revoke access from any organization so that if an organization were to no longer be affiliated with our initiative, they would no longer have access to the service.

20. As Joanna, a TEQ employee I would like to be able to archive an organization's data from previous months so that outdated information is not stored with the present information.

Personas - Version 2.0

We now have combined all levels of TEQ (low, medium, high) as one persona. Therefore, we have 3 personas in total, as shown below: Joanna - TEQ, Alexandre - UTSC Management, John - Agency.

Joanna - TEQ (all levels)

Female, 27 years old

- Joanna, 27-year-old female
- Full-time software analyst at the TEQ. She is looking to become a software engineer in the near future.
- Role often involves writing scripts (bash, SQL) to assist with data management in several internal applications at the TEQ. Most data is stored in Oracle databases. Often writes many database queries in a single day, but simplifies her tasks with some scripting.
- Rarely involved in client-facing, most instruction comes from internal meetings and emails.
- Often in the office for most of the day, works overtime to help with production issues or production releases.
- Given the nature of her work, she is developing skills in JavaScript and very proficient in shell scripting, SQL, and Oracle databases.
- Loves to learn new technologies. Given her intent to transition into a full-stack development position, she recently learned JavaScript so that she can create applications in NodeJS and React.

Alexandre -

Male, 20 years old

- Proficient in English and French.
- Grew up in France, immigrated to Scarborough alongside immediate family when he was 11.
- Employee as a UTSC Management Co-op student working alongside the TEQ and CSCC01 students to complete his tasks.
- Strong connection to the task at hand as he wants to ensure immigrants like himself and his family are looked after.
- Can work with a computer well enough to navigate basic applications (i.e. understands the iCare template, how to maneuver software etc.)
- Has not previously been introduced to methods of data collection.

John

Male, 40 years old

- Canadian, he is fluent in both French and English.
- He is working as Data Analyst at Platinum Immigration Consultancy Services in a fast-paced environment.
- Compared to other workers in his department, he is considered by many as the most efficient worker.

- As a senior worker, he does not like new technology, but he is willing to learn a new application alongside some manual assistance.
- As part of his job, he is responsible for data entry and data analyzing.
- He has not had an enjoyable experience working with modern software, so he prefers to work with legacy user interfaces and systems.
- As an experienced worker, he is very familiar with iCare template.
- Many people in the office consider him a serious and generous old man.
- In term of his personality, he thinks of himself as a well-organized individual.
- He is proficient with Microsoft Office and prefers to work directly with data sets.
- Currently, he uploads the collective data set every month.
- He is using a Macbook for working.
- He is currently using IBM Cognos for data analytics.

Sprint Backlog

Sprint 5 Planning

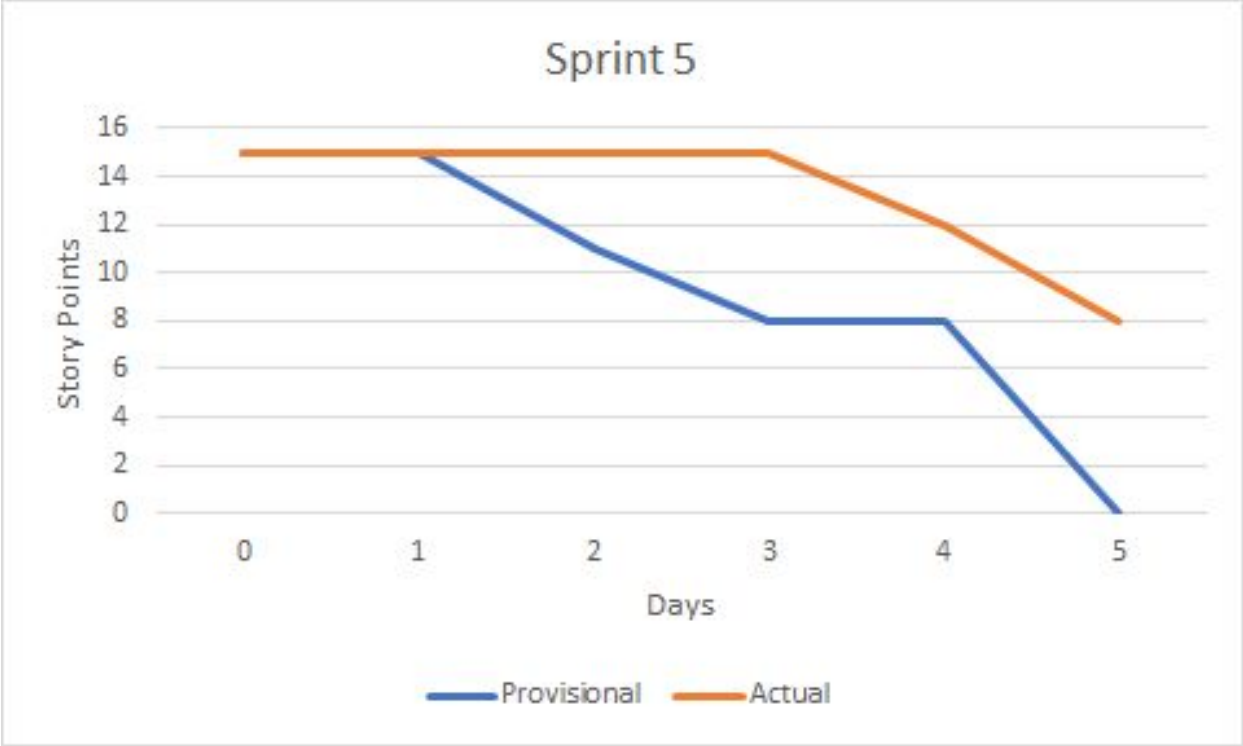
Sprint 5 Planning								
User Story	Tasks	Dependencies	Story Points	1	2	3	4	5
14	14a		3		A:2	A:1		
14	14f		4	D:2	D:2			
14	14c	14f	4				S:2	S:2
14	14d	14f	4				A:2	A:2

Sprint 5 Execution

Sprint 5 Execution								
User Story	Tasks	Dependencies	Story Points	1	2	3	4	5
14	14a		3			A:2	A:1	
14	14f		4				D:3	D:1
14	14c	14f	4					S:1
14	14d	14f	4					A:1

Sprint 5 Burndown Chart

	0	1	2	3	4	5
Provisonal	15	15	11	8	8	0
Actual	15	15	15	15	12	8



Sprint 6 Planning

Sprint 6 Planning								
User Story	Tasks	Dependencies	Story Points	1	2	3	4	5
14	14e		4	R:2	R:2			
12	12a		5	D:1	D:2	D:2		

Sprint 6 Execution

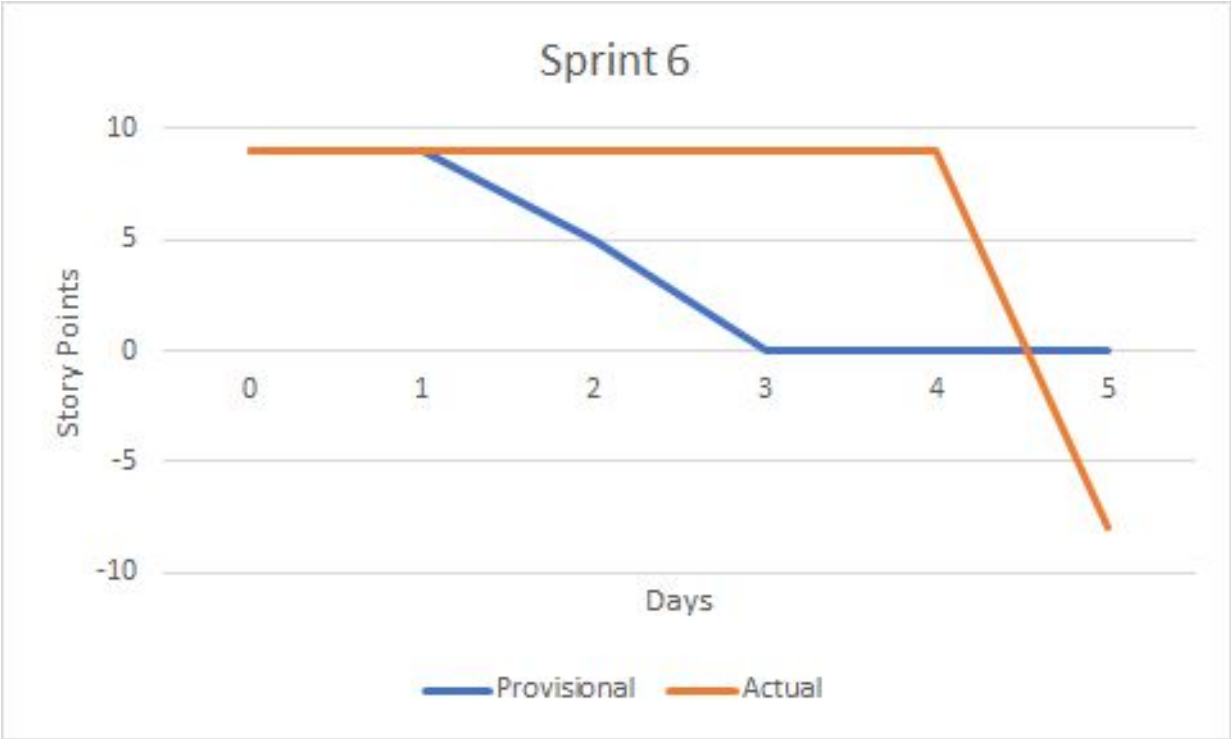
Sprint 6 Execution								
User Story	Tasks	Dependencies	Story Points	1	2	3	4	5
14	14c		4				S:2	S:1
14	14d		4					A:3
14	14e		4			R:2		R:2
12	12a		5			D:1	D:2	D:2

- 1 story point was completed in Sprint 5 for 14c & 14d - therefore, 3 points completed this sprint - for the task to burn.

Sprint 6 Burndown

	0	1	2	3	4	5
Provisional	9	9	5	0	-	-
Actual	9	9	9	9	9	-8

- Although, the tasks were started midweek, majority of the tasks were completed and burned on the last day,as seen from the execution chart. Tasks 14c and 14d were not burned in Sprint 5, but were completed for Sprint 6. Hence, on the last day, we ended up burning -8 points.



Code Review

Code: Abbas
Reviewer: Shruti
Topic: Report Generation Q2

Summary: The code was functional and is self-explanatory. Therefore, comments were not needed. There weren't any long methods or unnecessary if-statements. Code was well organized into its own classes, where modification would not be an issue in the future. Naming conventions were also followed appropriately according to Google Style Guide.

Code: Dennis
Reviewer: Raya
Topic: Query View Controller

Summary:

The code is functional and overall self-explanatory. However, the method used to execute queries is essentially one line of code spaced out with new lines. The spacing makes it

much easier to read, however, the content is still quite confusing and could use more detailed documentation.

Code: Raya
Reviewer: Abbas
Topic: Account Management

Summary:

Overall, the code written for the account management tab is well written and easily readable. The methods and variables are well named and can be deduced to their respective functions within the app without much trouble. I noticed that all of the variables and methods were named in accordance to the Google Styling methodology, adhering to camelCase rulings as well. This provides a concise and organized class for anyone to use. However, there seems to be a lot of loading of datatables and such in the initialize method that aren't fully documented which could be confusing at time due to the larger blocks of code.

Code: Shruti
Reviewer: Dennis
Topic: Report Generation

Summary:

Code is functional and self-explanatory, relatively efficient and easy for anyone to read. However, the only improvement I would suggest is to simplify the code syntax. Moreover, debug statements were still present in the code. While the code lacked some documentation, the code's excellent readability made commenting somewhat unnecessary. In addition to this, methods were well broken down for isolated responsibilities which allowed for optimal testing. The code followed proper naming conventions per the *Google Style Guide,* and our established design patterns and design model (MVC) was followed as necessary.

Guidelines

Running the Product

The source code is contained within the *immigration-analytics* directory. Maven commands must be executed from within this directory.

Requirements

- Maven
- Java JDK 10

Running the Application
Please ensure you are in the *immigration-analytics* directory before running the following commands:

First, compile the code with:

```
mvn compile
```

Then, you can run the application directly (without packaging) with the following commands:

- On Linux/Mac: **`mvn exec:java`**
- On Windows: **`mvn exec:java`**

To package and install the application, run:

```
mvn package
```

Then, you can run the packaged version with the following command (replacing <version> with the application version): **`java -cp "target/immigration-analytics-<version>-SNAPSHOT-jar-with-dependencies.jar" "com.nineplusten.app.App"`**

Running the Tests

(how to run unit/integration tests and acceptance/production tests on the final release version of your product)

From Terminal

Unit Tests can be performed, by simply running **`mvn compile`** then **`mvn test`**. It will let you know how many tests failed and passed.

From Eclipse

If you are using eclipse, the tests can be performed within **`~/test`** directory, and clicking the run button.

Acceptance Test

Note: If the User wants to close this application, they can always click the close on the top left corner of the page.

1. Loading page:
    a. It should show the name of this software in the middle of the page
    b. It should show the user a loading icon and tell the user that it is currently fetching data from database.
    c. After it finishes the fetching process, it goes to the login page.
2. Login page:
    a. It should show the user two text fields (username & password), and a login button.
    b. Users can enter their username and password for the corresponding fields. After that, Users must click the login button to login to their account and access the features.
    c. If the User enters the wrong username or password, the software should show user a message: Authentication Failure. User are allowed to try it numerous times.
3. Landing Tab
    a. Depending on the user's role, each user will see a different set of tabs(Feature).
        i. As admin/teq, you will see three tabs.
        Given Account: UserName: teq Password: teq
            1. Account creation Tab
            2. Template Editor Tab
            3. Data Browser Tab
        ii. As Utsc
        Given Account: UserName: utsc Password: utsc
            1. Template Browser Tab
            2. Data Browser Tab
        iii. As Agency
        Given Account: UserName: agent Password: agent
            1. My Data Tab
    b. User can click the header of each tab to switch tabs.
    c. When User switch tabs, the entered field will not be clear, User can feel free and switch back to original tab to continue his/her work.
    d. Once the user finishes their work, they can click the logout button(shown on the top left of the page) to logout. It should leads the user back to the login page.
4. Account creation Tab

a. It should shows user three text fields for entering new user's UserName, Password, Email.
b. It should shows user a dropdown box that contains 6 role: TEQ High-level, TEQ Mid-level, TEQ low-level, Agency, UTSC Management, Administrator.
c. When select Agency, a new text field should appear below for user to enter the new user's corresponding agency name. This Text field should only be showing when user select the Agency. If User select any other role, this text field should be hidden.
d. In addition, the value entered in the Agency Name text field will be set to empty when user select other roles(Not Agency).
e. It should also show user two button: Submit, clear
f. User can click submit button to create a new user
g. User can click clear button to clear all the text field and selection field

5. Template Editor Tab
    a. It should shows User an empty table and a dropdown box selection field, four buttons.
    b. Currently, there are total 8 template available for the selection.
    c. User can select the one of template in the dropdown box. So that the table can load the selected template from database.
    d. User allows to select on column at time.
    e. User can double click the header of each column to edit its name
    f. User can click the "..." Button at the left side of table, it will add a new column to current table. Note: It will set column name to be default value: "New Column".
    g. User can click the "." Button at the left side of table, it will delete the selected column form the table.
    h. After User make all his/her changes. They can click the save icon button on the bottom right of the table. It will save the changes on the template to the database.
    i. User can also click the Cross icon button beside the Save button. It will clear the current changes and set the table back to its previous state.
    j. When the template has too many columns, the table should present a horizontal scroll bar for user to drag. So that User can drag and view all the columns in the current template.
6. Data Browser Tab
    a. It should show user a dropdown box for agency selection.
    b. The drop down box should contain all the agency name in the current database
    c. Once the user select the agency name, it will shows another drop down box for template selection. It should contain 8 type of template
    d. Once the user select the template. It will shows table below the dropdown box.
    e. After the above selection, the table will load the selected agency's selected template data.
    f. The data shown in the table are not editable, it is only for the viewing.
    g. If the selection for template changes, the table below will load the new selected template data.

h. If the agency selection changes, then the template selection drop down box will be set to empty and the table will be not longer be visible unital User select the template.
i. **New!** There is now a “Download” button which allows the user to download the set of data!

7. Template Browser Tab
    a. It should shows User an empty table and a dropdown box selection field
    b. Currently, there are total 8 template available for the selection.
    c. User can select the one of template in the dropdown box. So that the table can load the selected template from database.
    d. Table one this tab should not be editable.
    e. When the template has too many columns, the table should present a horizontal scroll bar for user to drag. So that User can drag and view all the columns in the current template.
8. My Data Tab
    a. It should show user a dropdown box for template selection.
    b. Currently, there are total 8 template available for the selection.
    c. After User select a template, it will shows a table that contains the selected template data for the the user’s agency.

New! 9. Query Tool

a. Query Tool tab can be accessed for the TeQ account and the Admin Account.
b. The users have the option to select the agencies, templates and properties (column names) to build the query.
c. The users can select the Agencies they would like to execute the query.
d. They then have the option to select any ONE template to execute the query.
e. Lastly, they can selected multiple properties (i.e column names) to execute the query.
f. After clicking the Execute Query button, the user will see a new table, of the information they selected
g. The user can then click the “Generate Report” button, to generate the report for their selected query.
h. After clicking the “Generate Report” button, the user will be prompted with an option to select where they would like to save the report. They should then find the generated report in PDF format.

New! 10. Data Editor Tab

a. The Agency has access to the Data Editor Tab
b. The user can select the template and the agency they would like to retrieve the data.
c. This should display a TableView of the Data generated, Users then have the option to modify this data within that view!

New! 11. Data Upload Tab

a. The Agency has access to the Data Upload Tab
b. Users can select the template for which they would like to upload the data.
c. After selecting the Template, the User will be prompted to select an Excel file from their Computer

d. A tableview of their uploaded data will be displayed

Project Presentation Video

https://youtu.be/nVeZtbuWHPI