



Web Application Project

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Concept

- I first thought about what I want interesting in and how I would implement it into a database.
- I love music, so I decided to use music to reference for my database that would store what the artist names is, the song name, genre and what date the song was released.



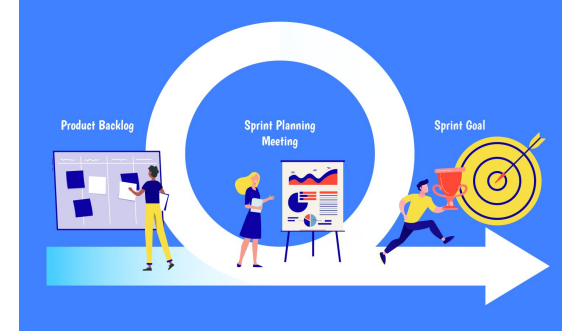
Sprint Plan

For this project what was included was:

- Agile and project management, databases and cloud fundamentals, Java/Spring Boot for API development, HTML, CSS and Javascript for front-end development, and automated testing through JUnit and Mockito.

What I hoped to achieve:

- Was to develop a Front and Back end web application that was able to utilise the CRUD (create, read, update and delete) at both ends.
- My project was based around creating a Music database, where the user would be able to input the song they want, browse through the database table, update any entries in the table as well as delete



Consultant Journey



- Spring Boot
- Jira - for Agile Project Management
- Postman - for persistence
- Eclipse - for coding the java project
- Git (Bash) and GitHub - version control and source code management
- MySQL - locally hosted server
- HTML, CSS, Javascript - for front end programming
- Java - for back end programming
- JUnit and Mockito - for integration and Unit testing
- Maven - as a build tool



Jira Software

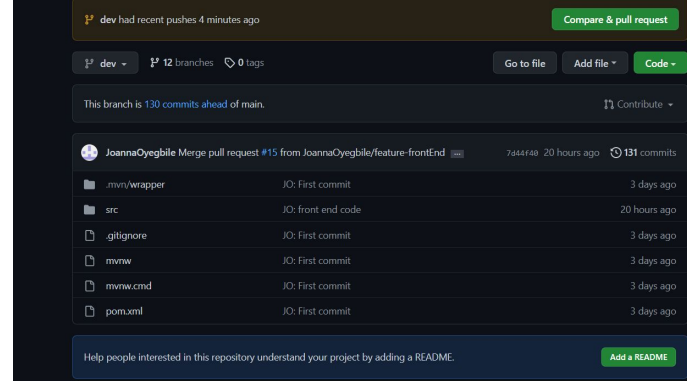


Continuous Integration

I used GitHub as a means of version control.

I created a dev branch through Git Bash and within the dev branch I created several feature-branches where different aspects of code for the project was stored and pushed to GitHub to be merged late on with the dev branch.

To prevent me from merging uncompileable code, I merged even feature branch and any other elements needed for this project to run to the dev branch before merging to main.



Testing

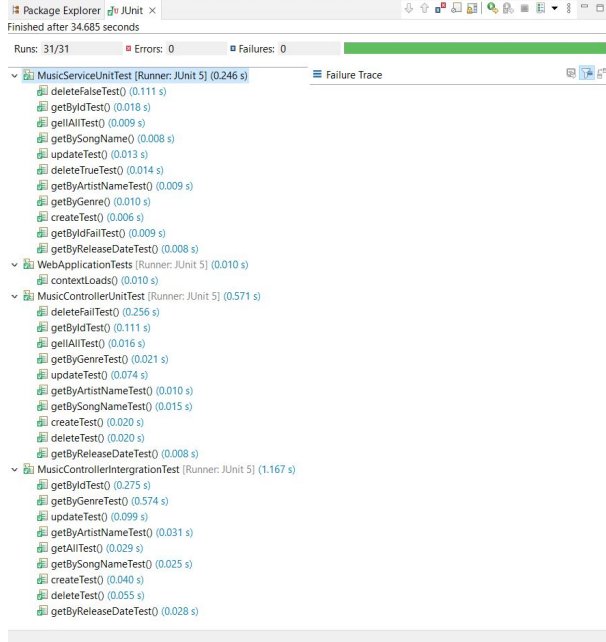
To test the web application, I ultised JUnit and Mockito for Unit and Integration testing.

There was a:

- MusicControllerUnitTest
- MuiscControllerIntergrationTest
- MusicServiceUnitTest

All 3 of these test were completed and passed when ran.

The converge that I got at the end with 3 tests was 96.8%. And for src/main/java - 87.1%.



Element	Coverage	Covered Instru...	Missed Instruct...	Total Instructio...
WebApplication	96.8 %	1,383	46	1,429
src/main/java	87.1 %	278	41	319
com.BAE.main.entities	76.6 %	118	36	154
com.BAE.java	76.6 %	118	36	154
com.BAE.main	37.5 %	3	5	8
WebApplication.java	37.5 %	3	5	8
com.BAE.main.controllers	100.0 %	63	0	63
MusicController.java	100.0 %	63	0	63
com.BAE.main.exceptions	100.0 %	3	0	3
MusicNotFoundException.java	100.0 %	3	0	3
com.BAE.main.services	100.0 %	91	0	91
MusicService.java	100.0 %	91	0	91
src/test/java	99.5 %	1,105	5	1,110
com.BAE.main.services	98.5 %	323	5	328
MusicServiceUnitTest.java	98.5 %	323	5	328
com.BAE.main	100.0 %	4	0	4
WebApplicationTests.java	100.0 %	4	0	4
com.BAE.main.controllers	100.0 %	778	0	778
MusicControllerIntergrationTest	100.0 %	338	0	338
MusicControllerUnitTest.java	100.0 %	440	0	440

Element	Coverage	Covered Instru...	Missed Instruct...	Total Instructio...
WebApplication	96.8 %	1,383	46	1,429

Demonstration

These User Stories were created as a way to meet the MVP requirements through the use of the CRUD functionality.

- As a User, I want to be able to create/add songs, so that I can add new Music to the database.
- As a User, I want to be able to read the songs in my music playlist, so that I can see all the songs in my music playlist that are saved.
- As a User, I want to be able to update the songs in my music playlist, so that I can change the songs in my music playlist.
- As a User, I want to be able to delete the songs in my music playlist, so that I can delete any song in my music playlist.

The screenshot displays a Jira board interface. On the left, a sidebar shows a hierarchy: 'Epic' (with a close button), 'Issues without epic', 'User Stories' (selected and highlighted with a green bar), 'API', and 'Testing'. The main area shows a sprint titled 'WAPM Sprint 1' running from '12 Sep' to '16 Sep', with '4 of 42 issues visible'. The sprint progress bar is at 40%. Four user stories are listed, each with a green icon, a title, a 'USER STORIES' label, a '10' point value, a red flag icon, a 'DONE' status with a green checkmark, and a 'JO' assignee icon.

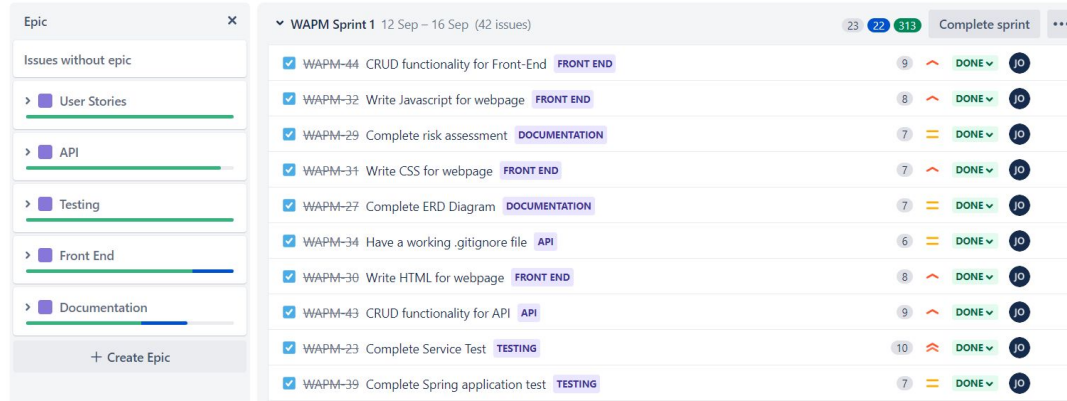
Issue Key	Summary	Type	Points	Status	Assignee
WAPM-1	As a User, I want to be able to create/add songs, so that I can add new Musi...	USER STORIES	10	DONE ✓	JO
WAPM-2	As a User, I want to be able to read the songs in my music playlist, so that I c...	USER STORIES	10	DONE ✓	JO
WAPM-3	As a User, I want to be able to update the songs in my music playlist, so that ...	USER STORIES	10	DONE ✓	JO
WAPM-4	As a User, I want to be able to delete the songs in my music playlist, so that I...	USER STORIES	10	DONE ✓	JO

+ Create issue

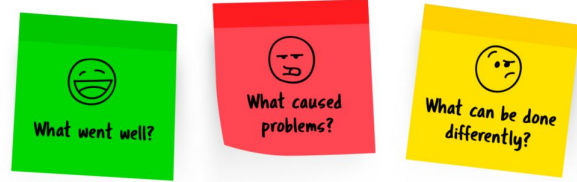
Sprint Review

With careful planning and the use of Jira as a Project Management tool I was able to complete all the task that I set for this project for this week sprint. The only thing left to do would be to merge my dev branch into my main and to complete my README.md file on GitHub.

I was able to meet all the important aspect to make sure the User Stories were met.



Sprint retrospective



- What went well? What could be improved?

What went well:

- Time management was something I felt that went well. I was able to plan my time and make sure that was was most important needed to be done before anything else such as my Jira board for project management, the API and the front-end.
- The version control with the use of Git and GitHub went well. I was able to build my feature-branches and successfully merge them with my dev branch.
- I was able to complete all the important elements needed to meet the MVP requirements.

What could be improved:

- I would like to improve on my design of Front-End with CSS and JavaScript. I felt that it was a bit simple and could do more.

Conclusion

Reflections on the project, future steps, any other relevant info

I felt that this project was a success. I was able to complete my sprint through the use of Jira and produce a successful web application. This week I have learned many different tools and programmer aspects that I know would be beneficial to my work in the future.

If I was to conduct this project again I would probably improve more on my front-end by adding different types of functionality to improve the webpage.

