Agile Assignment 2

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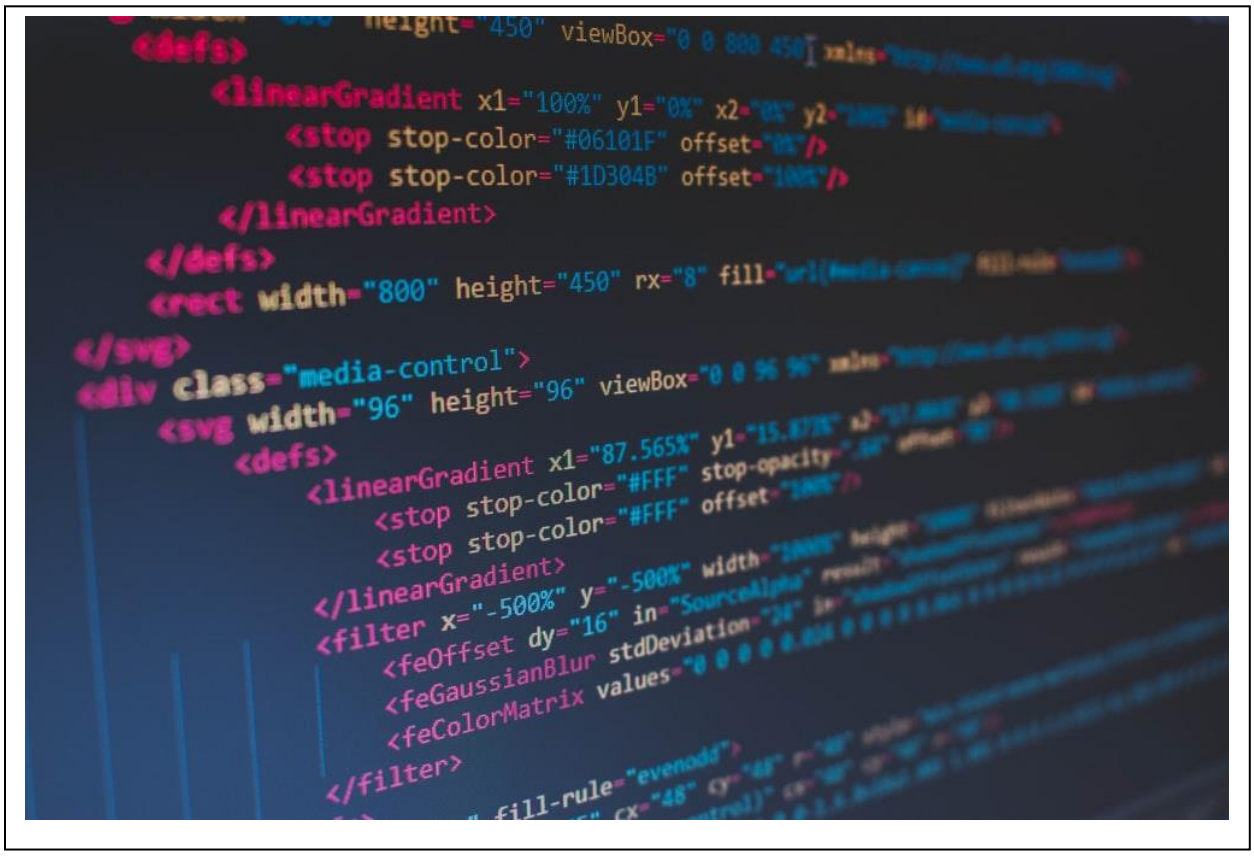

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GlobalShopApp Project

Short description of the project:

This project aims to build an open-source dynamic E-commerce website like Talabat or El Menus Applications, where the shop owners will be able to upload their shop data and customers can interact with the website GUI to navigate and buy what they desire.

Teams

Disclaimer: I'm aware that using agile concepts, the distribution of teams may not be exactly valid, however this division of teams aims to signify the strengths of each of the members.

We assume the basic T shaped skills of all the members, and the broad knowledge of web development skills/technologies among all the members and this tables only signifies each member strengths.

Members strong in Front-End Development

Team Member Names	Role	Expertise
Skylar Gates	React JSX Coding.	React, HTML, CSS, JSX, and JavaScript.
Marcus Hudson	Front-End Styling.	CSS, Photoshop, WordPress, JSX, and React.
Margot Arthur	UI Design.	Photoshop, Assets Creating, Graphic Design, and Adobe XD.

Members strong in Back-End Development

Team Member Names	Role	Expertise
Olivia Naruto	Database Creation	SQL, Mongo, MySQL, Oracle, and Database Linking.
Hinata Haruki	API Routing	Node JS, Open API, REST API, Express, and JavaScript.
Honokaa Minato	JavaScript Coding	JavaScript, Problem Solving, EJS, Node JS, and JSX.
Sakura Yamato	Authentication	Firebase, Google Authentication, DB Design, SQL and, JavaScript.

Members strong in various testing techniques

Team Member Names	Role	Expertise
Isabella Bezos	Web Testing	Wireshark, Postman, Debugging, APIs, and automation.
Klara Adison	GUI Testing	Black Box Techniques, Selenium IDE, Debugging, and Perfecto.
Morgan Erin	Code Testing	Unit Testing, Automation, Integration, Debugging, Black Box Techniques, APIs.
Kareem Ayman	Penetration Testing	Reverse Shell Script, Port Scanning, Packet Manipulation, Burp suite and SQL Injection.

Product Owner and Scrum Master

- Our Scrum Master will be a part time job, The Scrum Master will be selected from Teams based on the characteristics of our members; those who are aware with all the agile methodologies and principles and are able to follow the Scrum Master responsibilities such as a being a coach, servant leader and exhibits the suitable skills as being patient, knowledgeable, collaborative, … etc. Will be assigned as a part time Scrum Master for the duration of a specific sprint when they do not have much work on hand to avoid conflicts. Members that qualify as a scrum master, based on their characteristics and the ability to handle the scrum master responsibilities are Sakura Yamato, Klara Adison, and Kareem.
- Our Product Owner used to work previously as a product owner in various application development project, he is well knowledgeable in the business domain and got the right amount of a technical background, he is able to manage economics and communicate well with all of the stake holders and technical teams, he proved his skills in grooming the product backlog, and defining acceptance criteria, his very responsible and accountable and his name is Paul Mask.

Possible Stakeholders

- Primary Stakeholders: Creditors/Sponsors, Shop Owners, Unions, Customer Representatives, and Component Sellers (COTS).
- Secondary Stakeholders: Regulators, Law Experts, Money Handlers such as Bank or Fawry Company.

  And of course, depending on how we define stakeholders, some definitions would include the various type of Employees.

Near Vision

Note: This is Agile and not waterfall model, therefore we expect to finish a little of everything in each sprint.

Sprint 1

By the end of Sprint one, we desire to show our clients/stakeholders a glimpse of their investment, and the capabilities of the project saying that we need to capture and simulate the core features which defines an E-Commerce Website, according to this we can start with implementing an initial version for the product display page and a cart home page.

- Initial design of the cart and product display page, this design shall include only the necessary UI-assets for simulating the product selection and the addition to cart functionality, later in another sprints the UI shall expand to include various of other features and UX friendly methods.
- Initial design of the database including the implementation of a basic shop-product tables so that it can be displayed in our discussed simple initial UI.
- Necessary routing implementation for displaying the desired UI of this sprint through a local server.
- Simple usage of an online free open API, to give the client an idea of how things will look like.
- Linking of the implemented code.
- Designing necessary testing units for testing the code implemented later.

We expect the usage of node, express, react, adobe XD, MySQL for the required development in this sprint, and we expect the sprint to take about 4 weeks.

Sprint 2

In Sprint two we expect an input of a basic functionality of addition/removal of products in and out of a cart through interactions with the product display page, and we desire to have a complete implementation of login/signup pages which is discussed as follows:

- UI Design of Login/Signup pages, this includes the design of necessary assets required to create this page.
- Ability to signup either as a customer or a shop owner.
- Implementation of a database table to store the user authentication information.
- UI/Integration Testing and debugging of the previous input.
- Researching various methods for login/signup penetration testing, so that the testing can be ready in an upcoming sprint.
- Necessary routing implementations for displaying the two pages.

We Expect this sprint to take about 4 weeks, and usage of the previously mentioned tools/technologies.

Jira Setting Up Screenshots

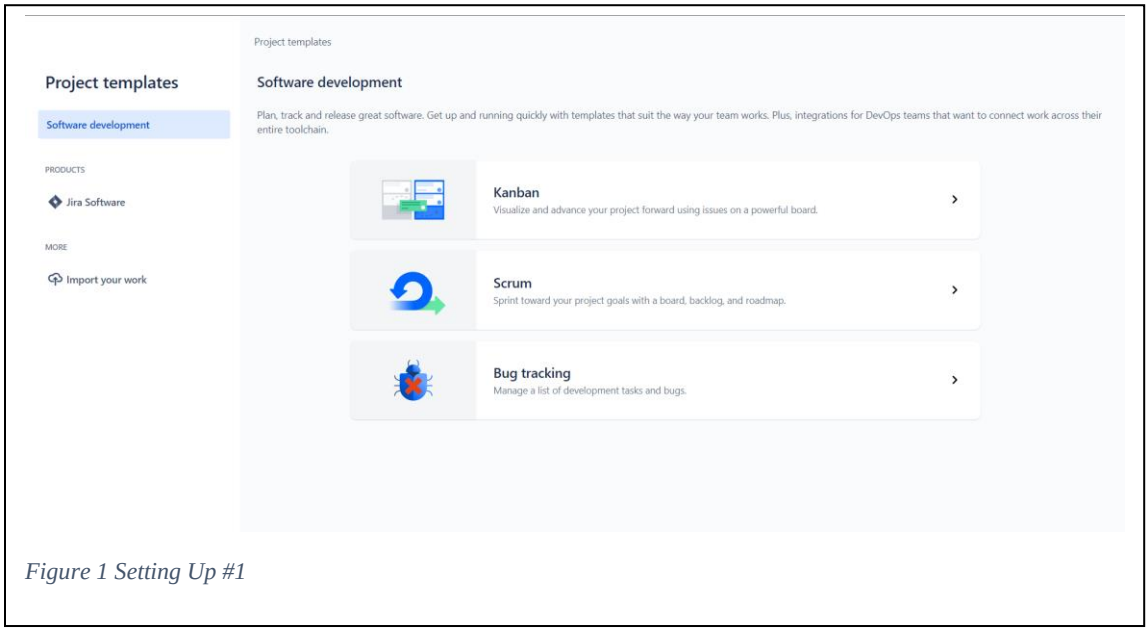

Figure 1 Setting Up #1

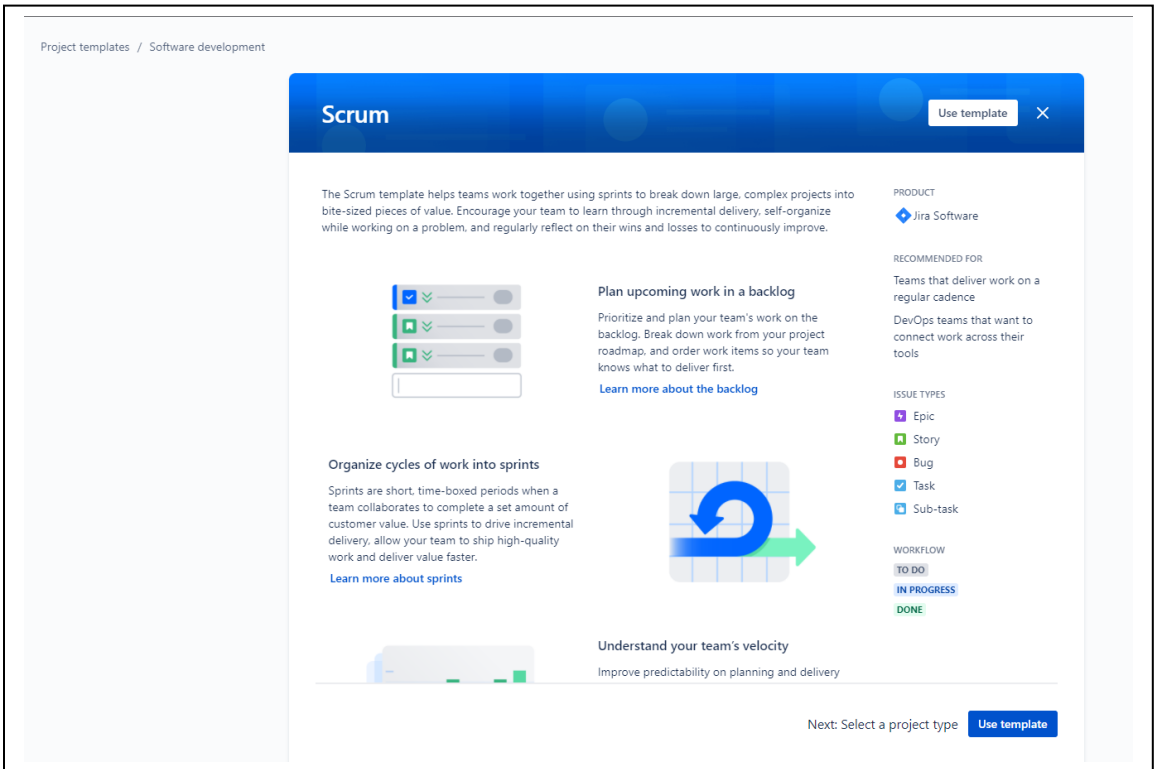

Figure 2 Setting Up #2

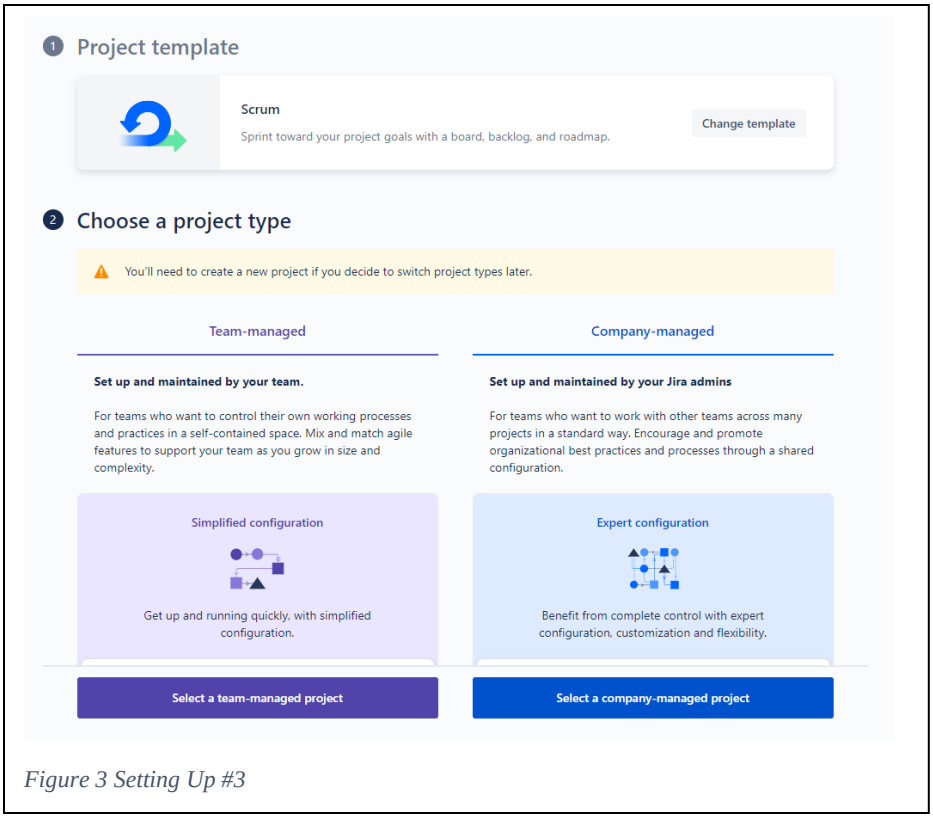

Figure 3 Setting Up #3

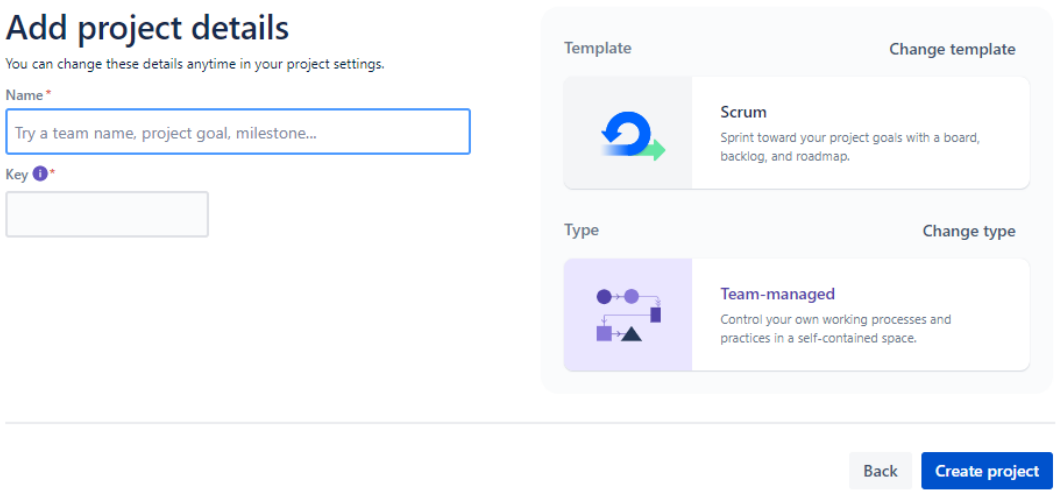

Figure 4 Setting Up #4

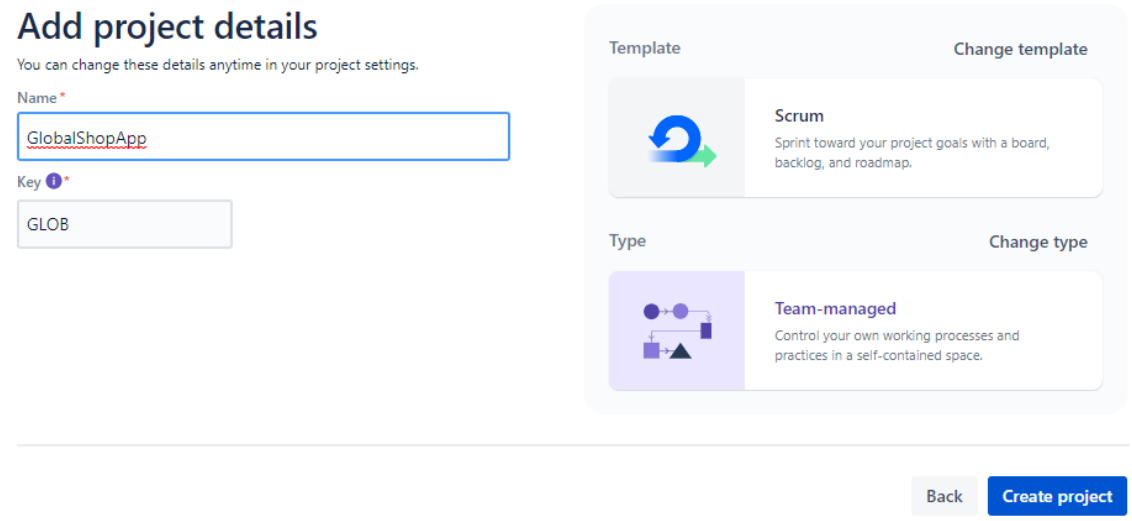

Figure 6 Setting Up #5

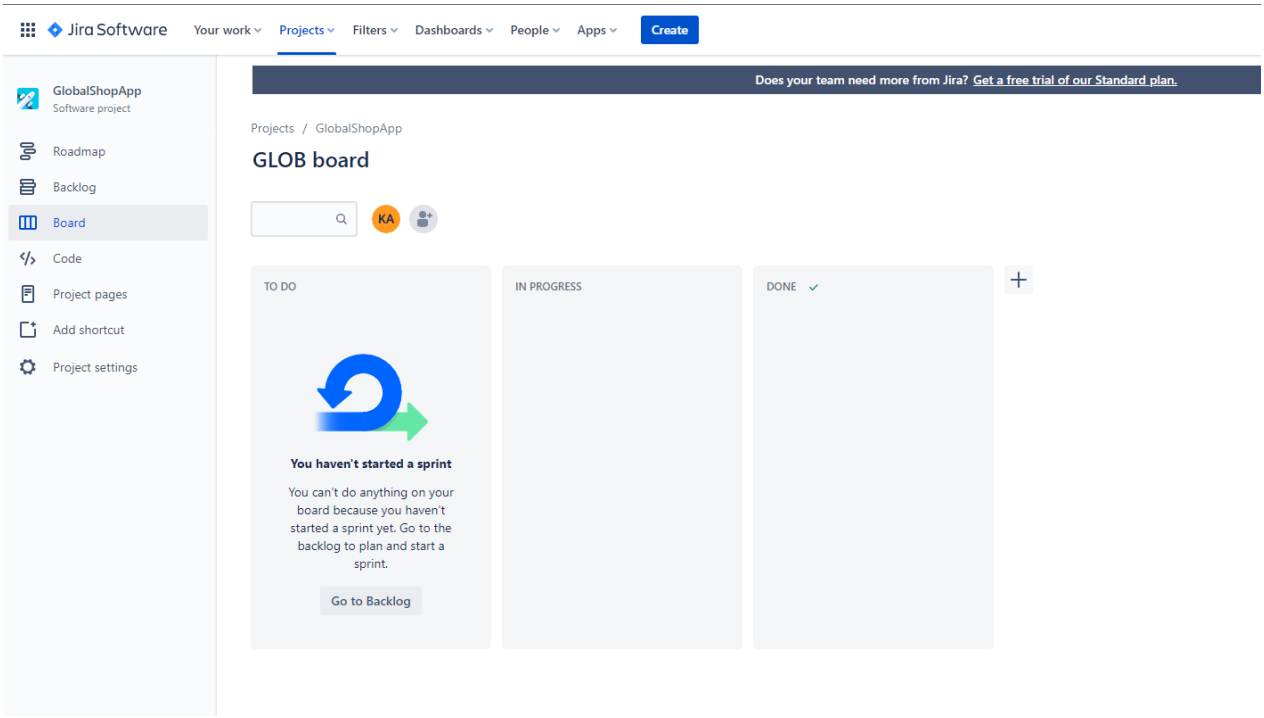

Figure 5 Setting Up #6

Epics and Story Creation

Note: I summarized the Epic description In Epics with Child Stories Screenshot **Section (final version after creation please check this section)**

Epics Creation

Note the following screenshots include how I created the epics and their descriptions, and the last screenshot shows how the epic finally look like after creation.

Further assignment details, story points will be presented in the story section.

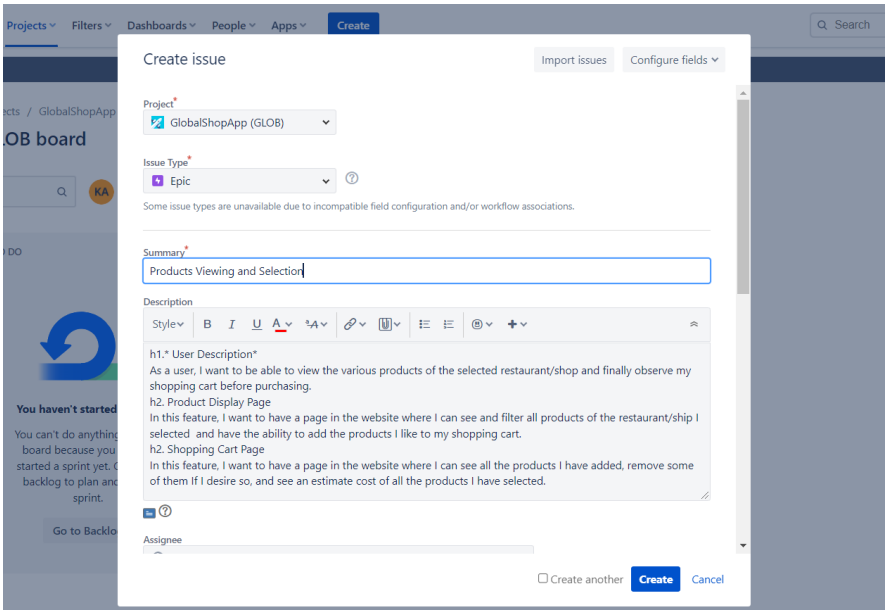

Figure 7 Creating First Epic

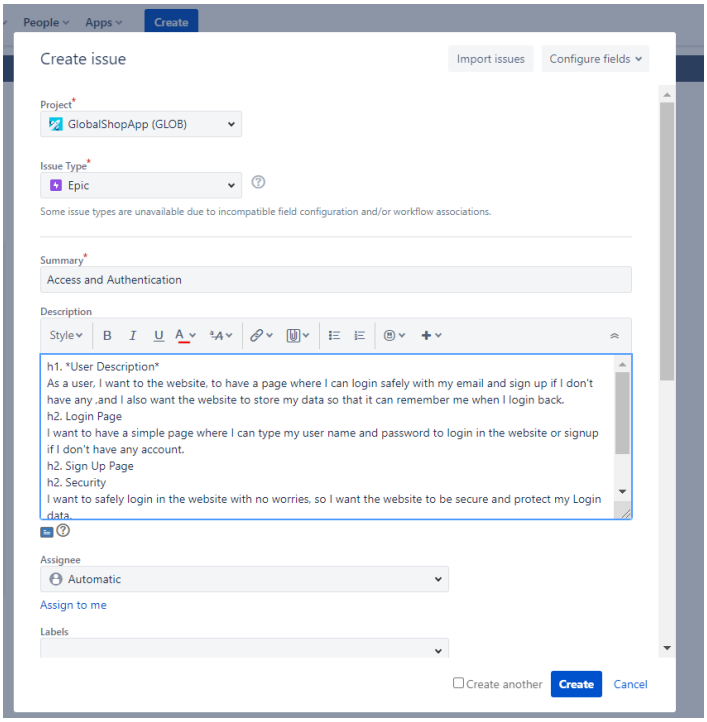

Figure 8 Creating Second Epic

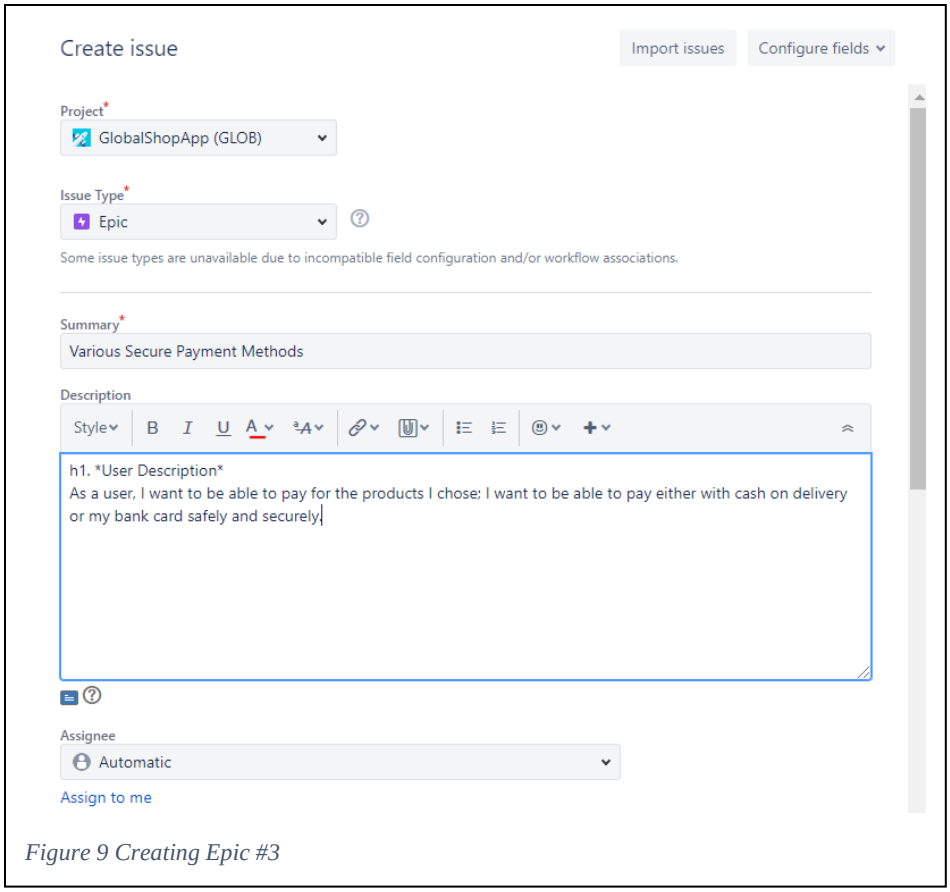

Figure 9 Creating Epic #3

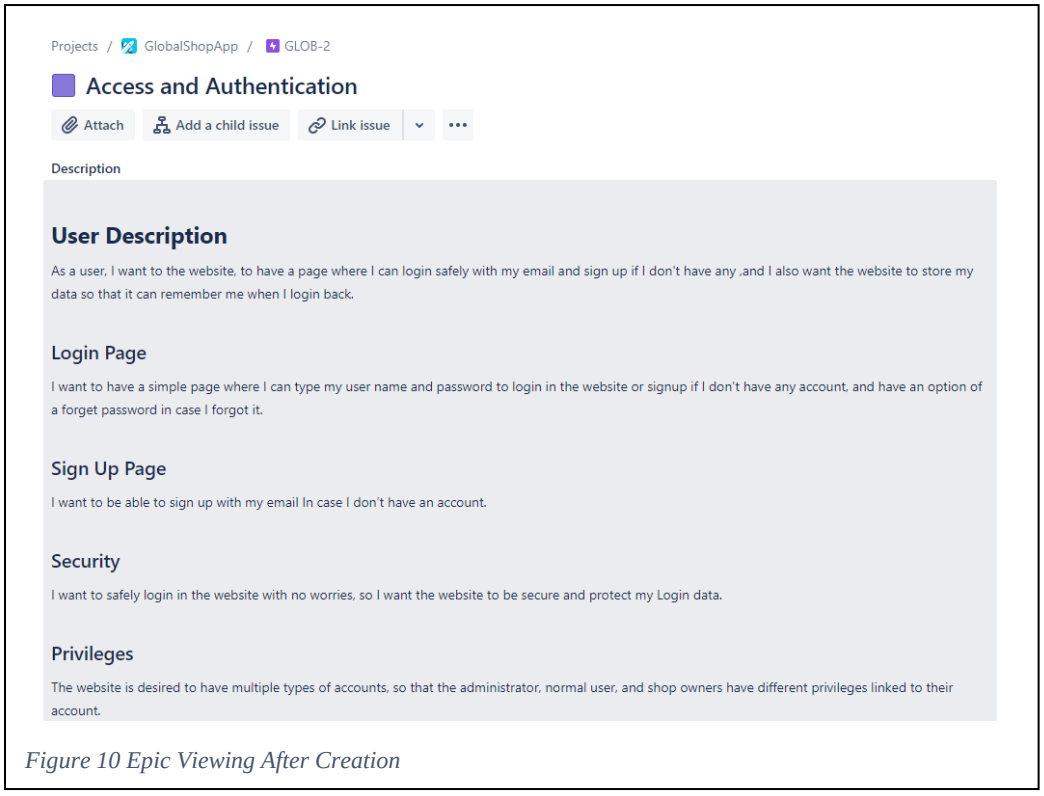

Figure 10 Epic Viewing After Creation

Story Creation Method

Note I will skip the screenshots of the creation of each story on its own, since I already presented the creation method in the following screenshots, however I will present to you the final version of the stories I have created in another section.

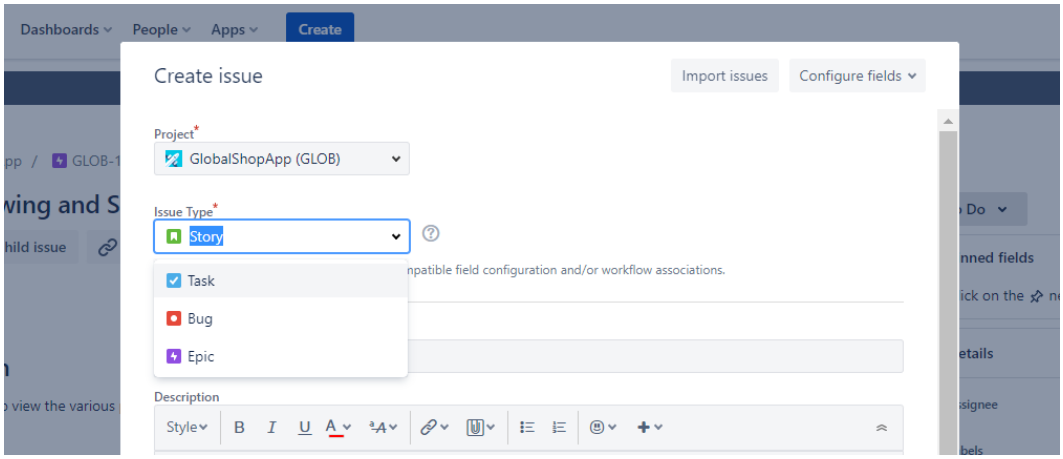

Figure 11 Creating a user story method

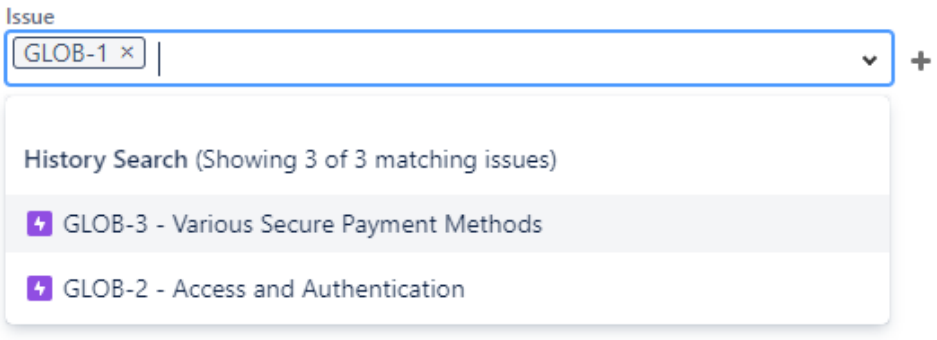

Figure 12 Linking a story as an issue to an epic method

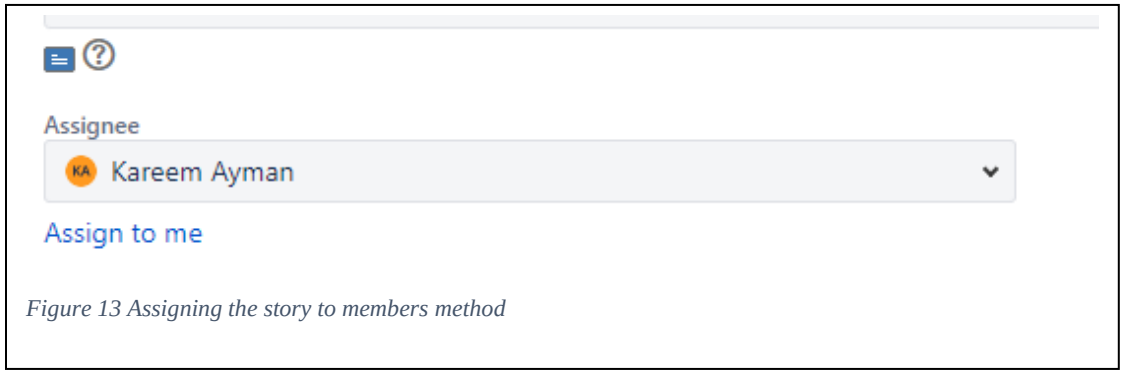

Figure 13 Assigning the story to members method

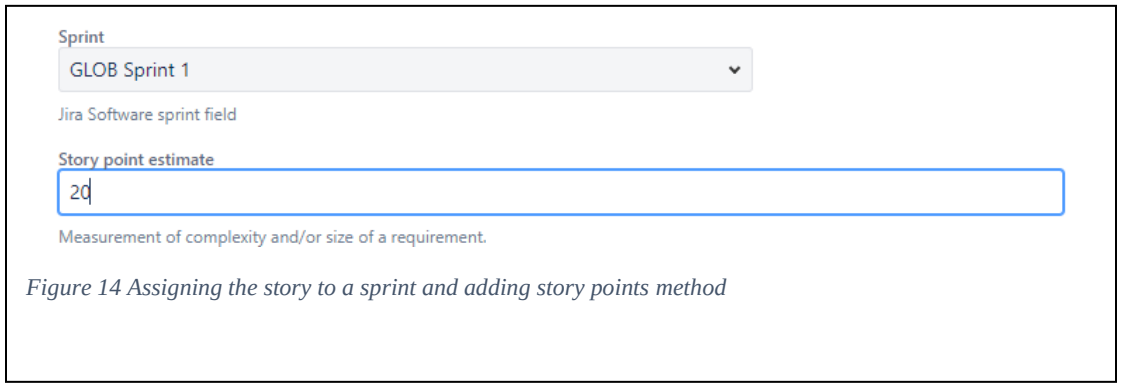

Figure 14 Assigning the story to a sprint and adding story points method

Story Points

Story points are important, they act as a measure of how much time/effort should the story take to finish, however there are multiple conventions for what's equivalent to a story point in this report we will the following convention:

First, we will use Fibonacci sequence for the story size scaling which goes as following **1, 2, 3, 5, 8, 13, 21, 34.** And we estimate an Epic to be around 100 of story points where each story point represents third of a day worth of working.

Small stories should be about 5 to 8 points, medium stories should be 13 points and large stories can take up to 40 points, but notice rounding up for large stories aka if a story is 21 points, we write it as 20 (modified Fibonacci).

Notice that these measures are based on pervious experiences.

More details on story point and team velocity in: Story Points in More Details + Team Velocity.

Epics with Child Stories Screenshot

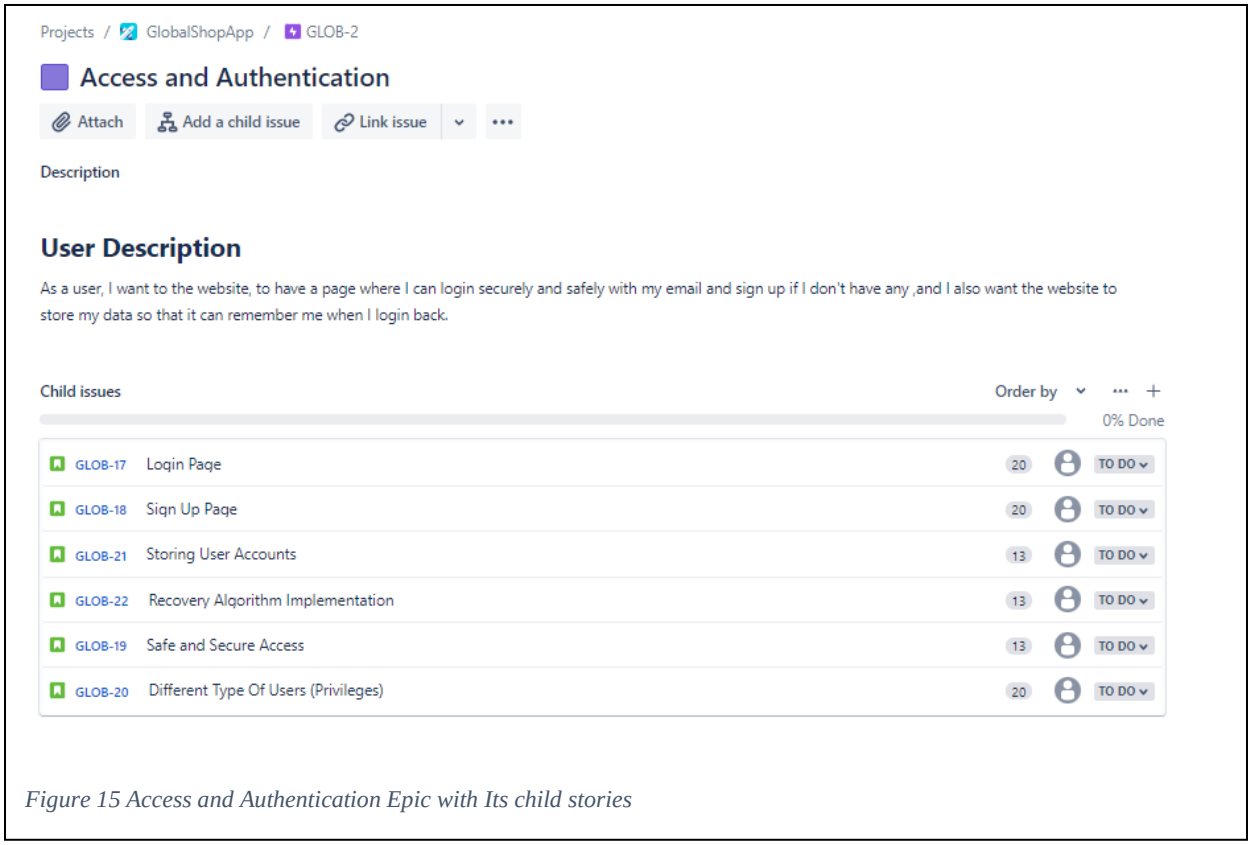

Figure 15 Access and Authentication Epic with Its child stories

Figure 16 Various Secure Payment Methods Epic

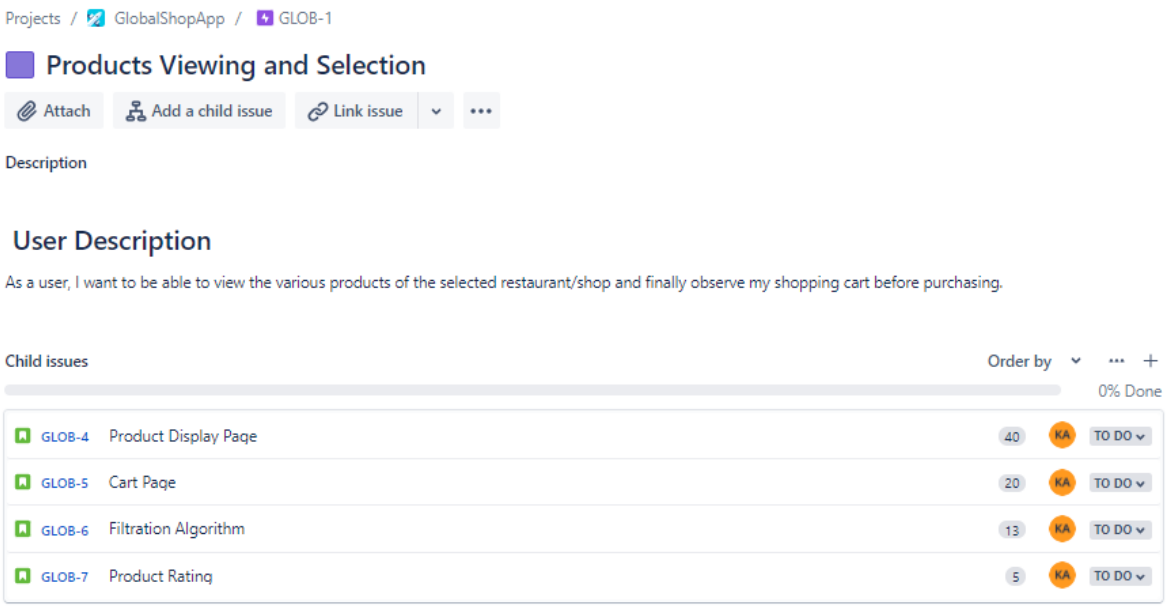

Figure 17 Products Viewing and Selection Epic with Its child stories

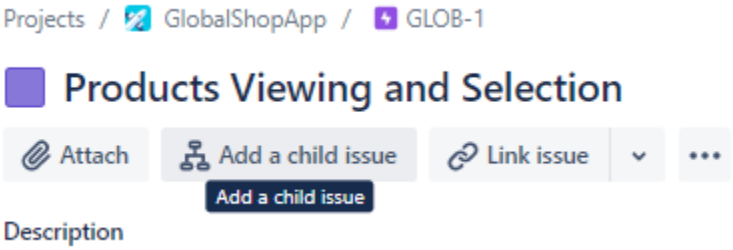

Figure 18 How to add a child story to an Epic

Created Stories with Associated Tasks (substories)

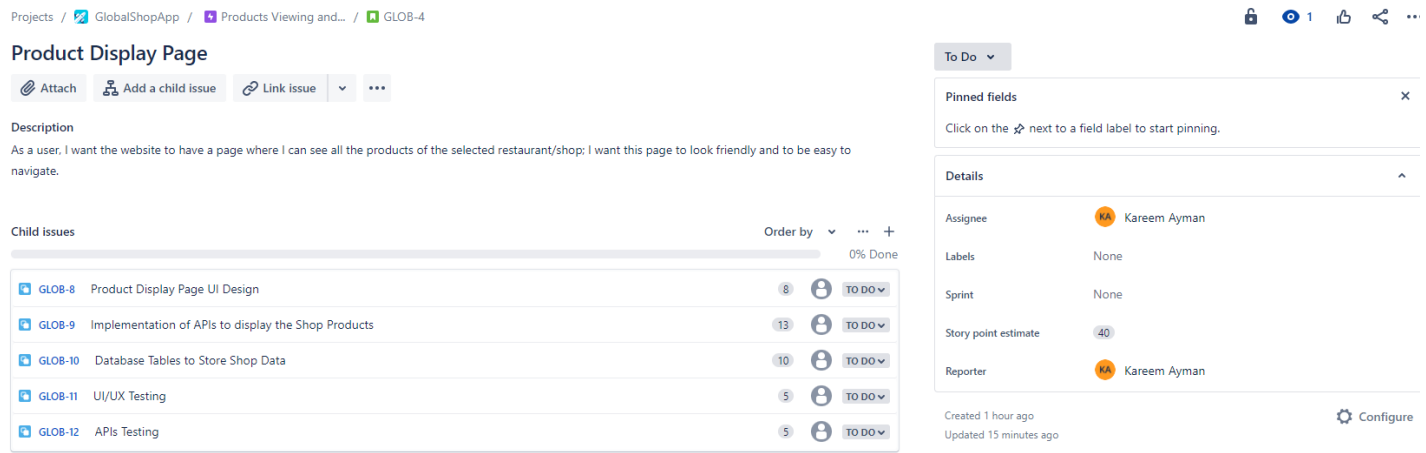

Figure 20 Product Display Page Story with Tasks

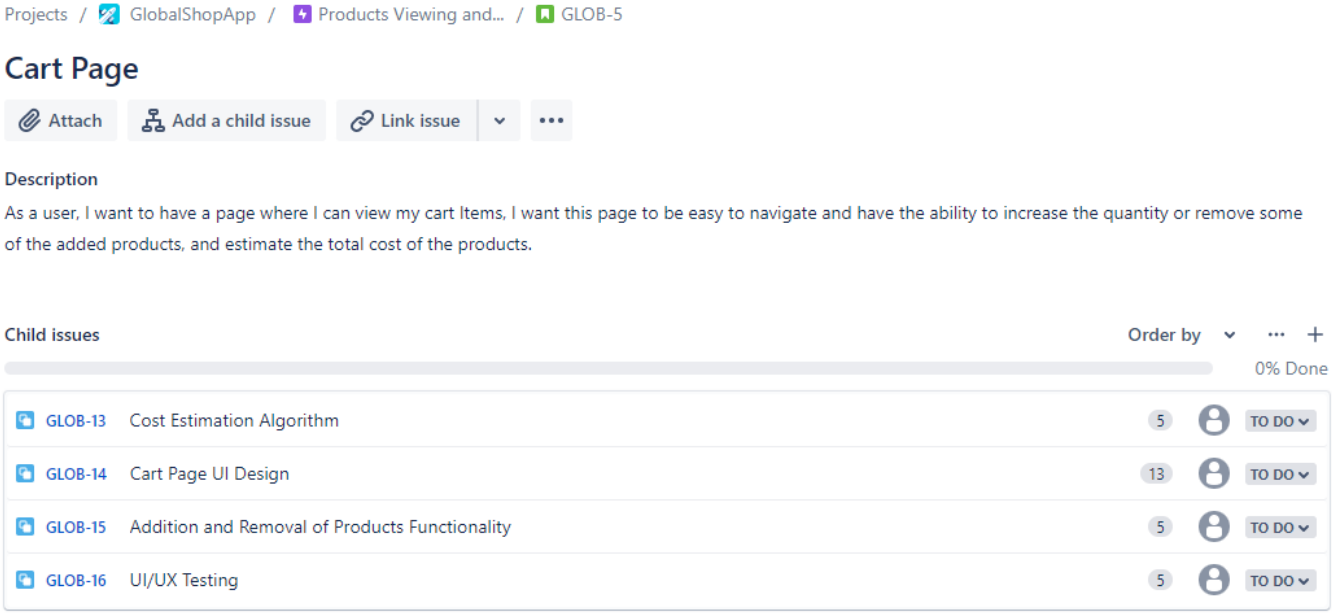

Figure 19 Cart Page Story with Tasks

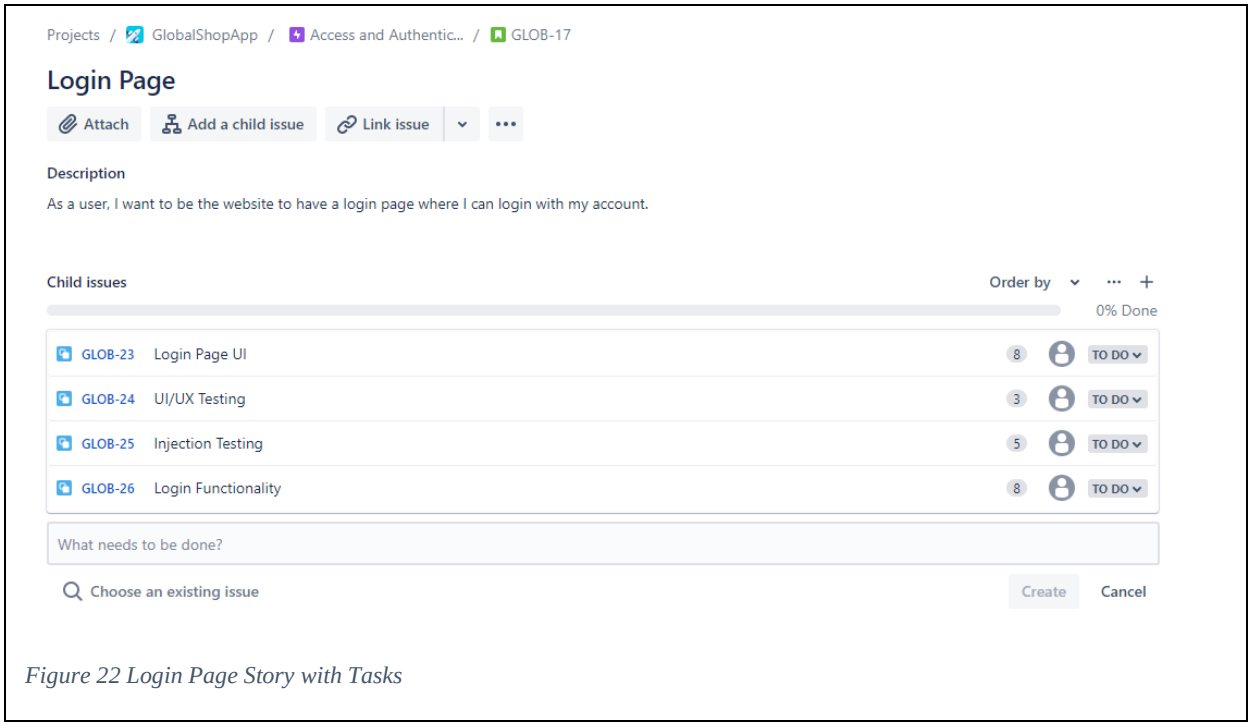

Figure 22 Login Page Story with Tasks

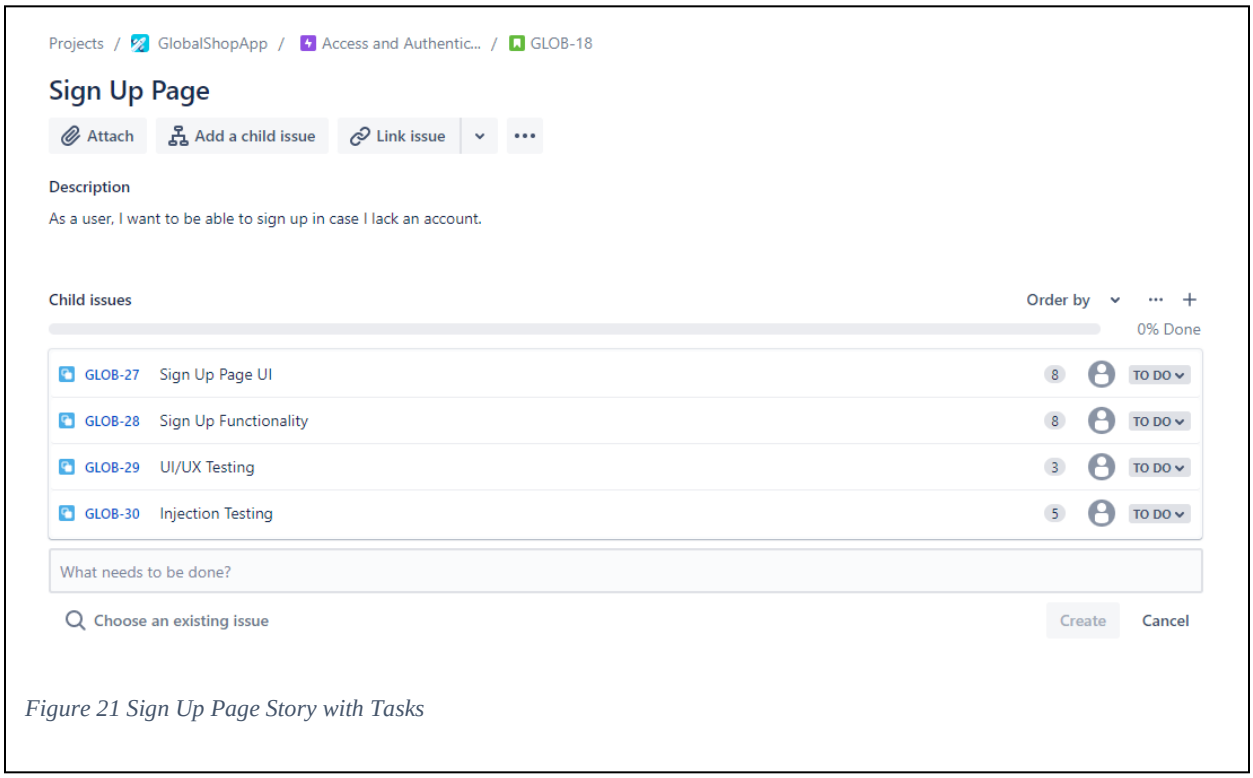

Figure 21 Sign Up Page Story with Tasks

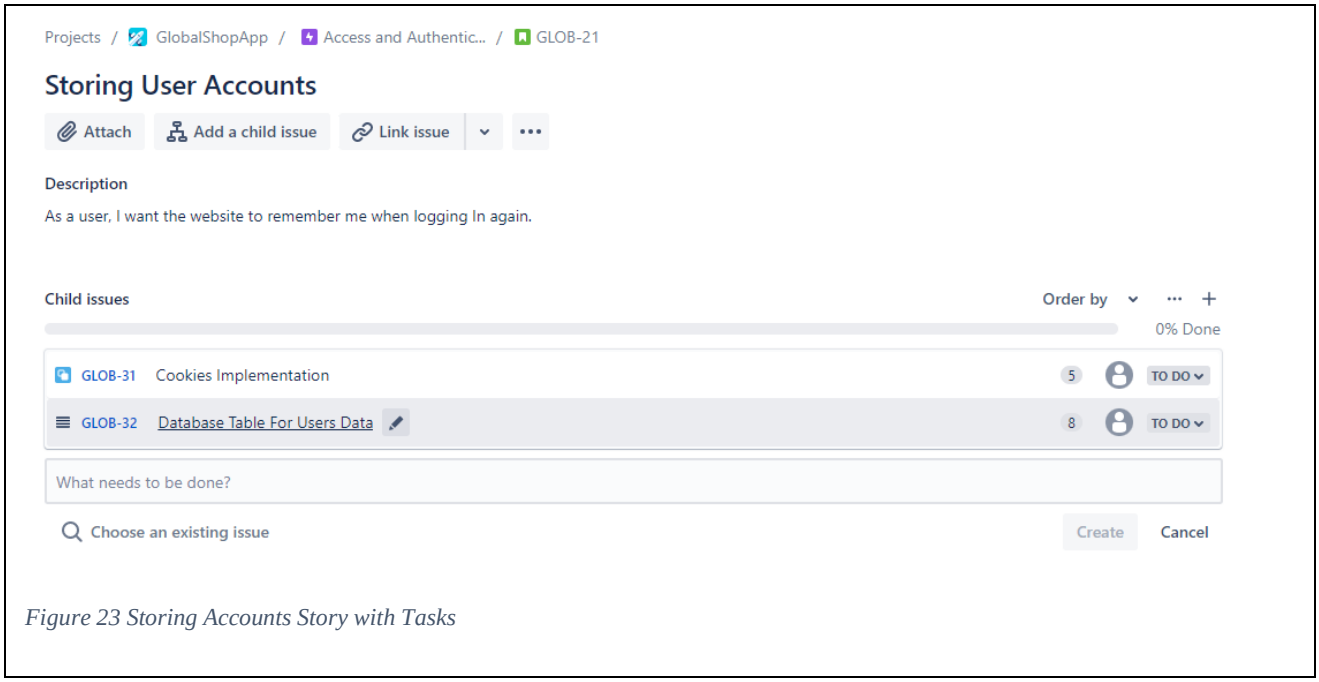

Figure 23 Storing Accounts Story with Tasks

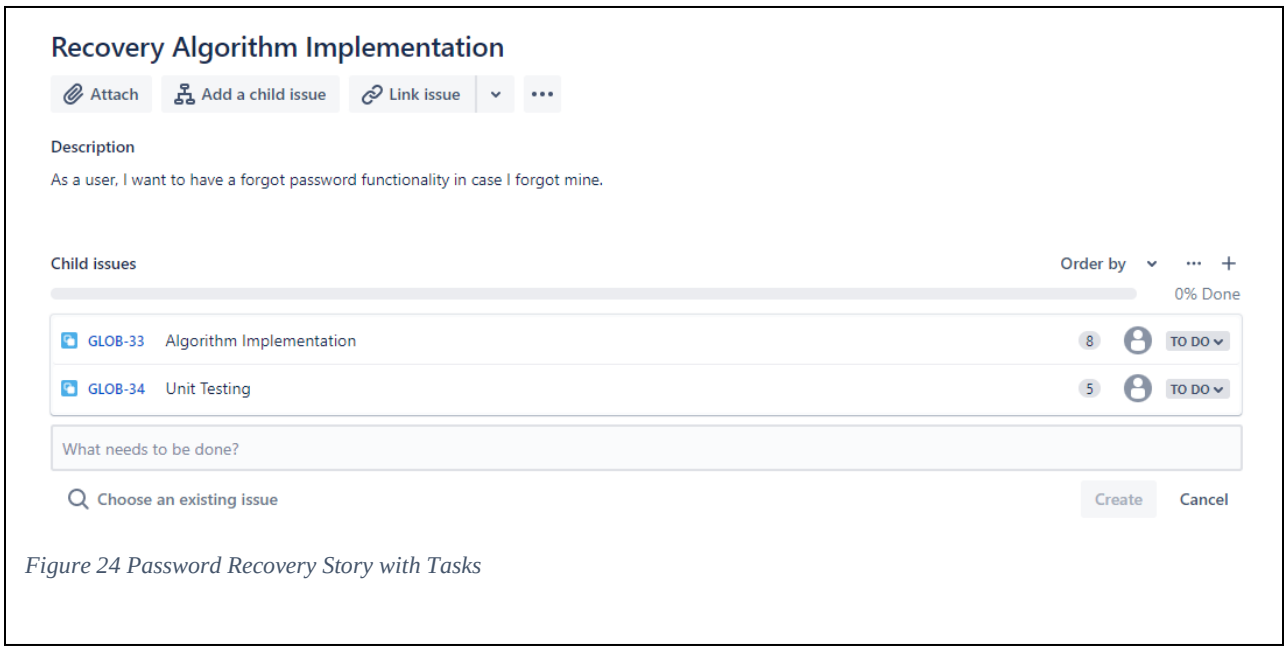

Figure 24 Password Recovery Story with Tasks

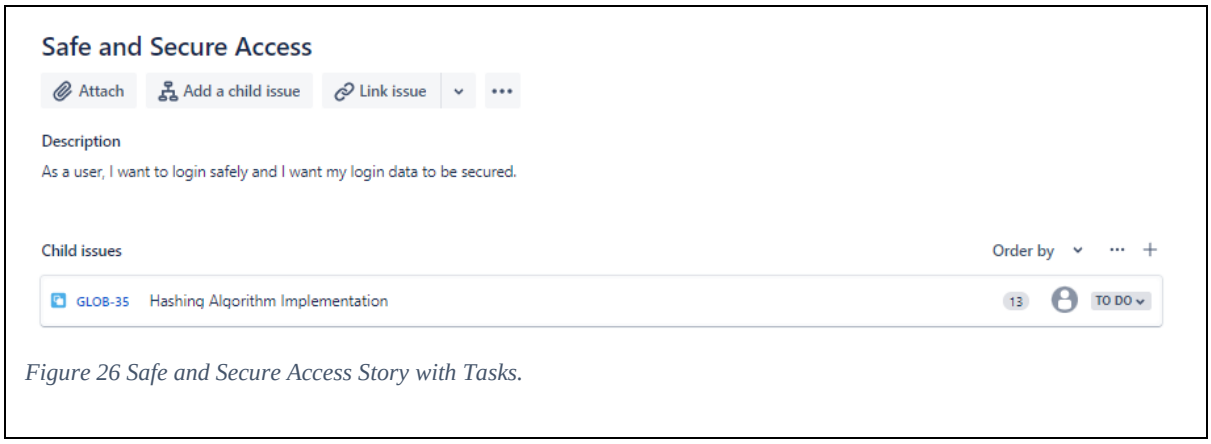

Figure 26 Safe and Secure Access Story with Tasks.

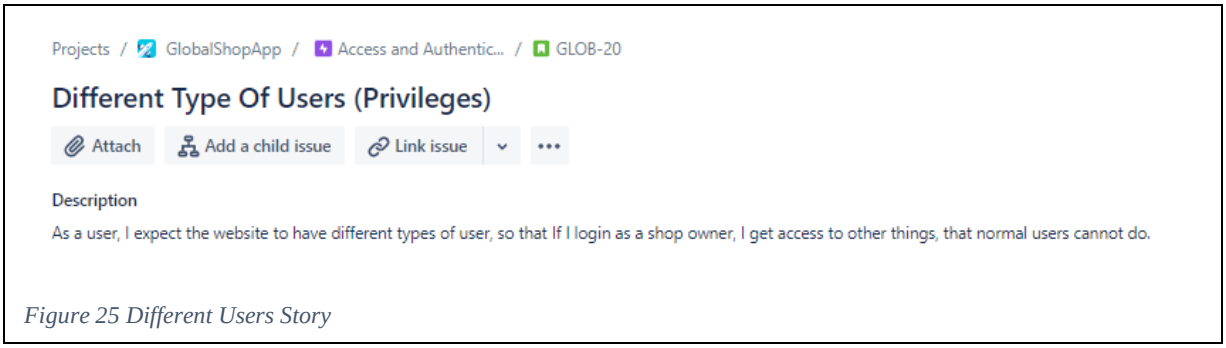

Figure 25 Different Users Story

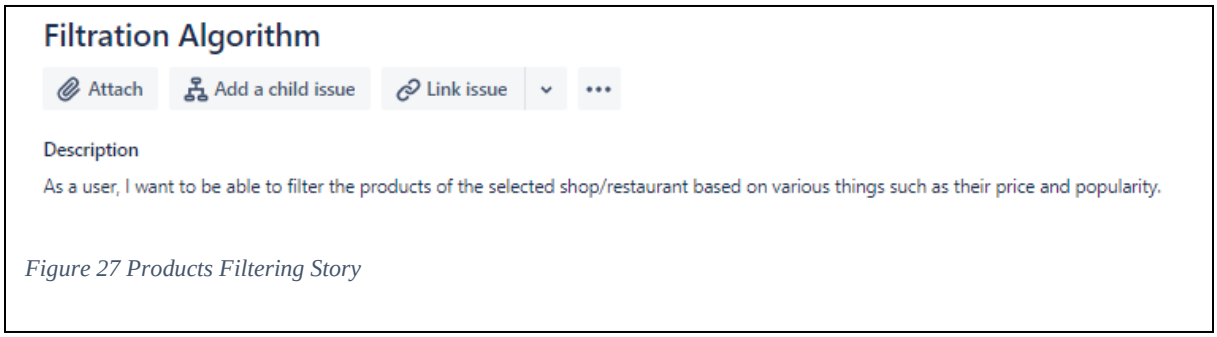

Figure 27 Products Filtering Story

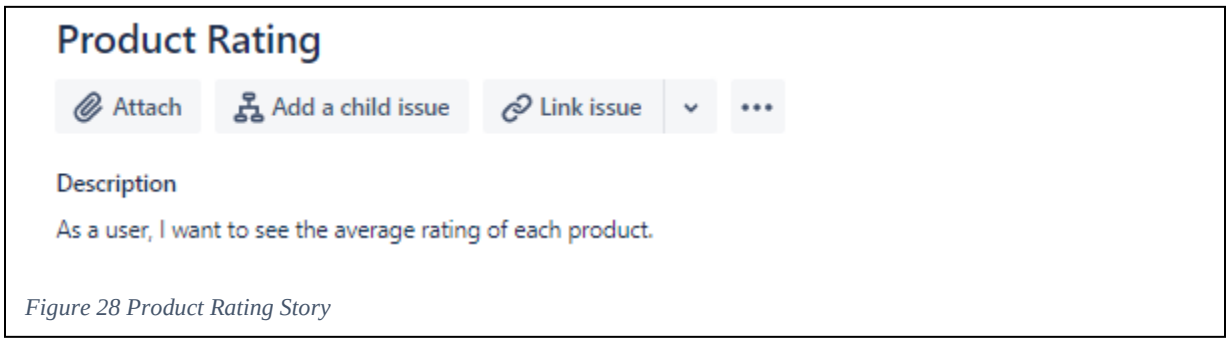

Figure 28 Product Rating Story

Screenshots with Additional Information

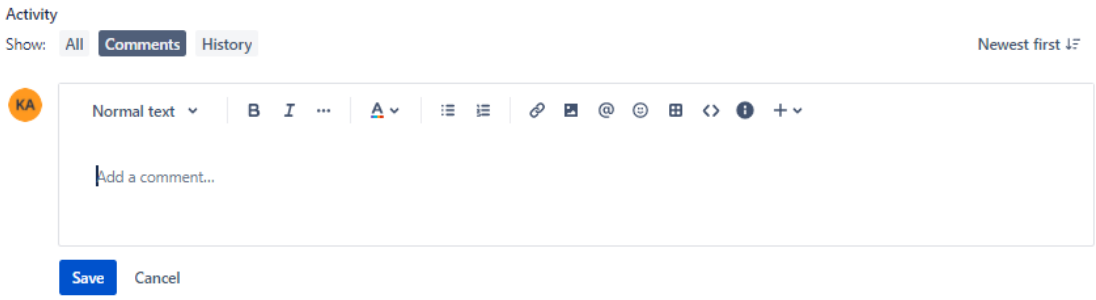

Figure 29 Writing Comments in Jira

Note: A story can have multiple members working on it in Agile Methodology, but Jira has limitations regarding this functionality.

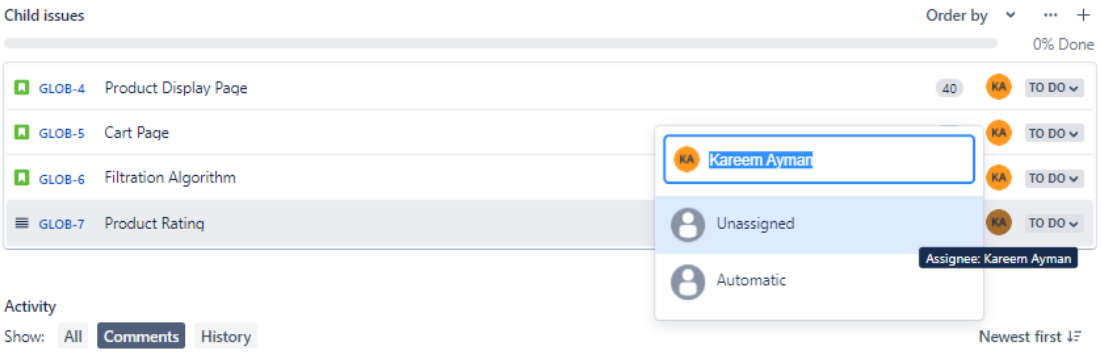

Figure 30 Assigning story to a user

Figure 31 We can also add a label/start/Due Data for stories/epics

Product Backlog

Product Backlog Screenshot

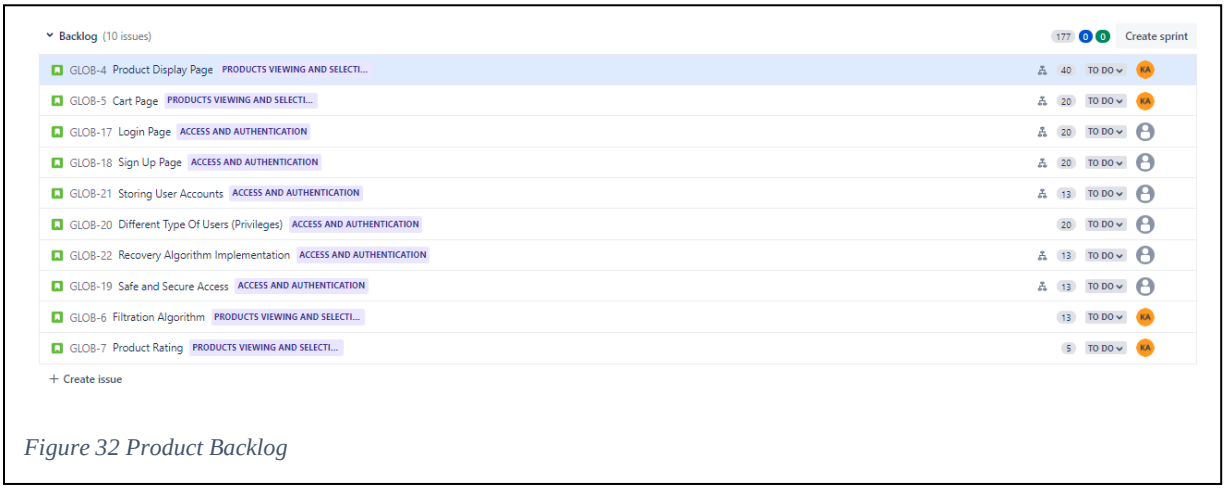

Figure 32 Product Backlog

Product Backlog Ordering Rationale

The items in the product backlog were ordered according to their priority; The priority of an item was offered based on its business value or ROI, You can clearly see that we picked up the core features that make up an E-Commerce website at first, Every E-Commerce website is built upon three main features, which are the ability to select and navigate products of a certain shop, The ability to securely purchase the products via various payment methods and of course to achieve all of this we need different types of users and accounts.

If you were to ask what would come next in our product log, this will be the implementation of various payment methods since as described this is one of the three core features that build up an E-commerce website.

One more reason we have chosen this order is to show the stakeholders a satisfying output at the beginning of the work, and to give them a bigger picture and idea about the project, this can only be done by showing them an example of a displayed products and adding them to their cart, so to do that we had to start with implementing the product display and cart pages.

Other reasons we choose to put Access and Authentication stories in the top, Is a technical reason, because this feature will be crucial in implementing the upcoming features and performing various types of testing especially penetration testing which falls under the umbrella of security testing and of course any E-Commerce website must be secure or we would rather have a catastrophic consequences.

Moving from Product Backlog to Sprint Backlog Method

Notice: I'm only showing one example of how to move, since this is sufficient to prove that I'm able to perform this functionality. (And I also noticed the need of the screenshot after finishing sprint 1 :/).

Notice that my sprint duration is 4 weeks for both sprints.

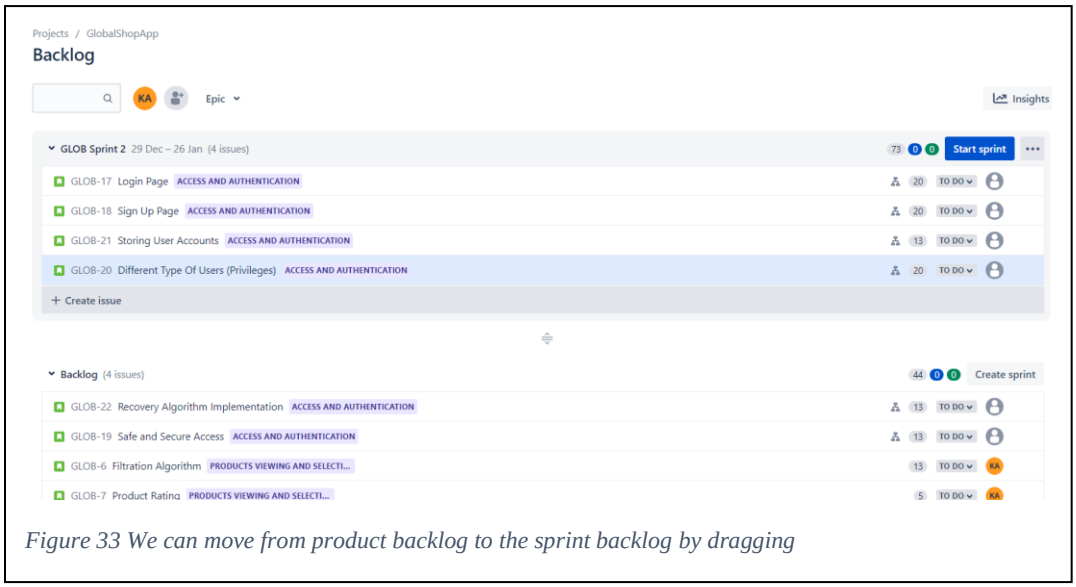

Figure 33 We can move from product backlog to the sprint backlog by dragging

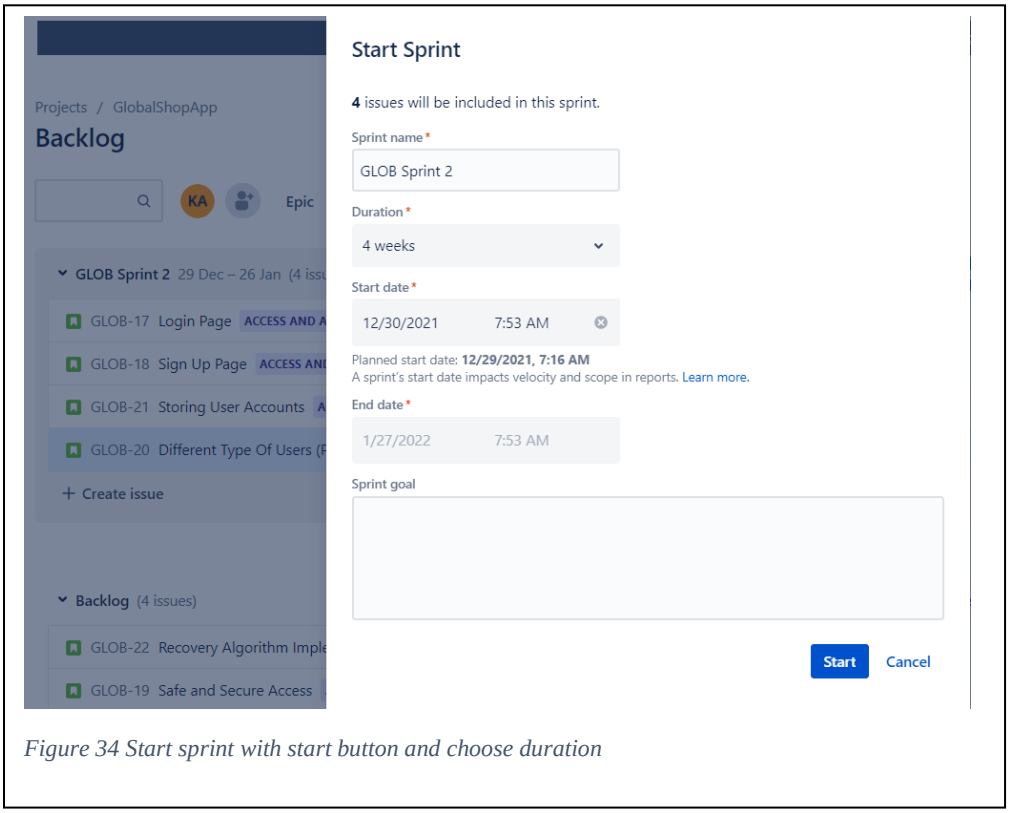

Figure 34 Start sprint with start button and choose duration

Story Decomposition into Sub Stories

Please check the section: Created Stories with Associated Tasks (substories) **To view the substories (tasks) that I have divided into each story.**

You can also find the sub stories of the sprints in the Sprint Kanban Sections.

Workflow

How to create and use workflows in Jira

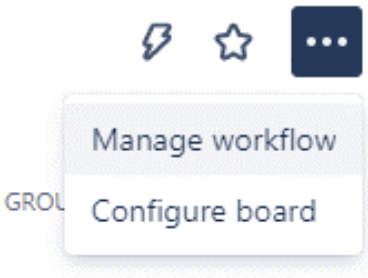

Figure 35 Choose to manage workflow to start designing your workflow

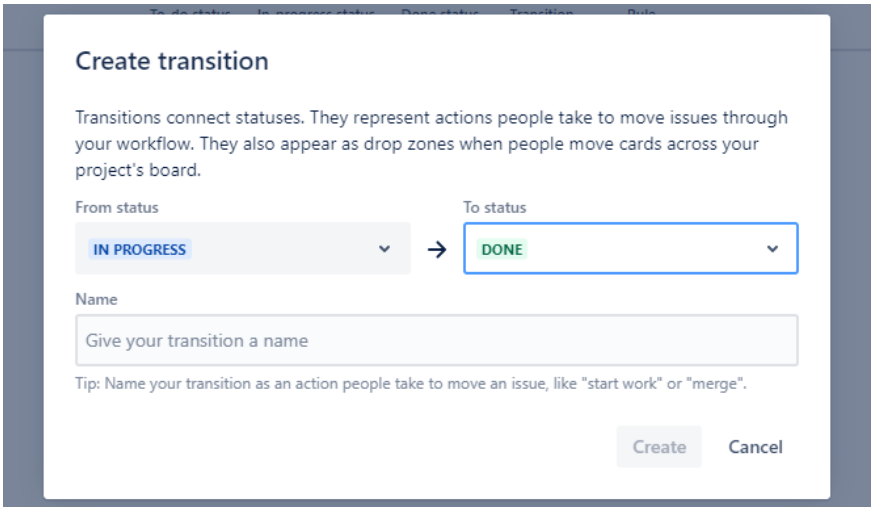

Figure 37 Transition creating and naming

Figure 36 Adding status and updating the workflow buttons

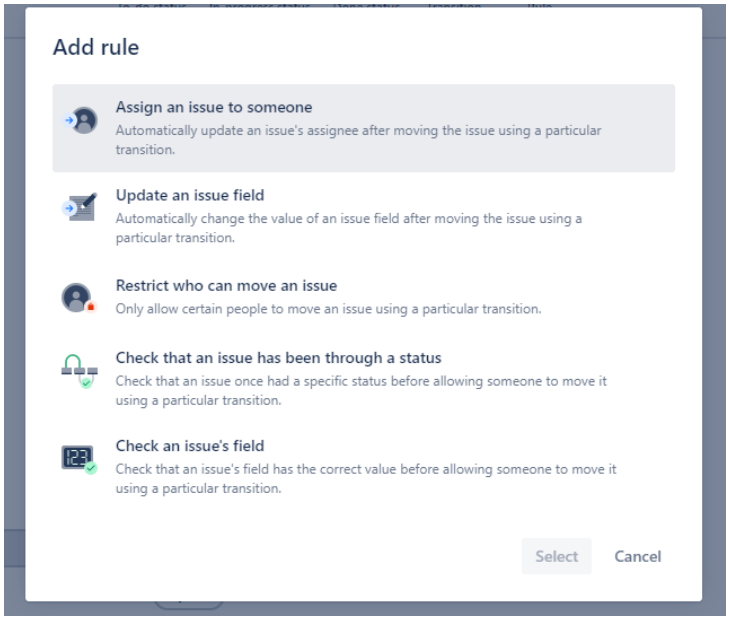

Figure 38 Adding Rules

Rationale for the used Workflow

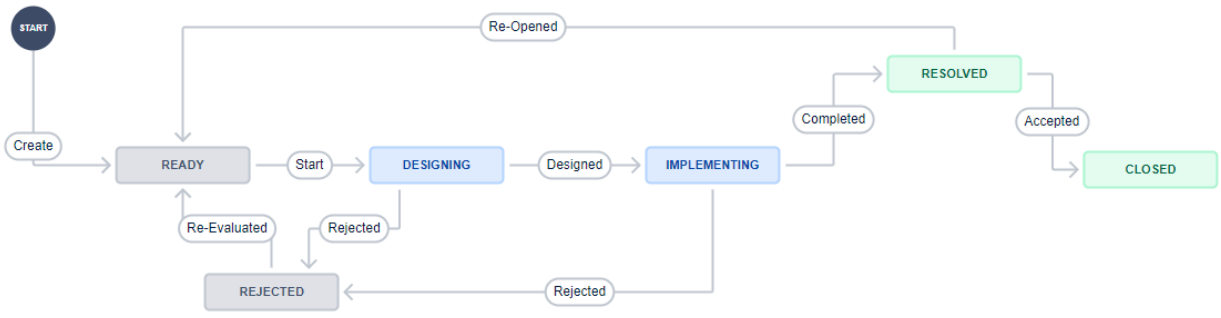

Figure 39 Detailed Workflow

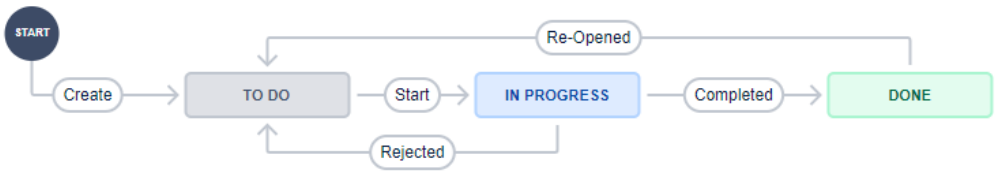

Figure 40 Basic Simplified Workflow

Why simple workflow?

- Team is experienced and familiar with agile methodologies and able to work a simple workflow.
- The other phases of the detailed workflow still exist but under the umbrellas of the presented phases.
- Testing phase is performed as an individual task therefore there is no need to include a testing column.
- Review phase is performed as an individual task either explicitly in form of testing and debugging or tasks therefore no need to include it.
- **Testing/Debugging stories include improving any minor issues in the functionalities of the implemented stories that has been marked as done.**

Note for major and debatable test results:

Testing/debugging of tasks/stories are performed to test some of the functionalities or stories. ***If a story is found to be need improvements,*** *then the testing report is discussed later on in the sprint review phase only afterwards a new task or story is added to the product backlog in order to fix the previous story later on in another sprints but the completed story itself is not pushed back during the sprint unless it got a catastrophic test results it's case can be re-opened.* I'm aware and I apologize if this convention is against the popular conventions.

Implicit meaning behind workflow columns

TO DO

Ready

- Represents the tasks and stories that has been at the top of the product backlog and moved to the sprint backlog by the product owner and they follow the definition of ready all they await is to start working on.

Rejected

- Rejected work is moved back to the to do representing that the same story needs to re-done in a different way to get accepted.

- Rejected work due to a change of business value is also pushed back to the to-do column however this work will await there till the end of the sprint and be pushed back again to the product backlog where it will be re-evaluated or discarded by the product owner.

In Progress

- Represents the stories/tasks that we are already working and awaits to be completed.
- It's the work that the team is currently working on once it's finished it pushed to the done status.
- A work in progress can get rejected for many reasons and the dealing with it is mentioned in the to do section.
- The product can observe work in progress so that he can fulfill his duties.

Designing

- This phase includes designing any necessary designs for the task, as for example designing a database schema.
- This phase also includes effort done in researching various implementation methods.

Implementing

- This phase represents the actual Implementing/Exporting/Running of the tasks.

Done

This phase includes two implicit phases:

Resolved

- This includes stories/tasks that has been completely implemented by the developers.
- Stories in this phase can be reopened in case of major issues in the testing results or a significant change in the stakeholder's desire.

Closed

- This represents tasks/stories that has been implemented/performed by the developing team and got approved by the product owner and marked as finished.
- Of course, the product owner's approval reflects the stakeholder's approval.

Story Points in More Details + Team Velocity

For our story points scaling we will be using Fibonacci sequence scaling which goes as 1,2,3,5,8,13,21,34.

However, we will be using a modified Fibonacci sequence for our estimations where it goes like 1,2,3,5,8,13,20,30,40.

Since story points are just an estimate, saying 21 makes it feel like we are precise, but we are not precise we are not if it will take 21 so we round up 21 to 20, so that we are clear that this story points are just an estimate, same goes for any story points numbers above 20 we will always be rounding them up down.

We estimate that 3 story points can be done in a single day or are equivalent to a day worth of effort.

Of course, we build those conventions and estimation based on our previous experiences working with this team, and the conventions may vary from a company to another or even from a project to another depending on the team size and their experiences.

Our projects tend to be huge; therefore, our story points might have a greater value than the usual, also you can find that our Sprint uses the maximum size often, which is 4 weeks.

Based on previous experiences and you can also notice this in Sprint 1 Kanban and Sprint 2 Kanban, Our team is able to finish an estimate of 55 to 65 story points per sprint aka per 4 weeks.

So, you can find out that our team estimated velocity is about 55 to 65 story points per sprint.

For more clarification on our conventions, we estimate that:

- 5 to 8 story points represents a small sized story.
- 13 story points represents a medium sized story.
- 20 story points represents a large sized story.
- 30 – 40 story points represents a huge story that must be divided into substories.
- 100 points is the size of an Epic that can be done on two sprints.
- 140 to 180 points is the size of a Large Epic that needs 3 sprints (months) to finish.

Beyond this point we will be using T-shirt sizes as L-XL-XXL referring to large initiatives which are a collection of Epics.

Sprint 1 Kanban

Note that my sprint durations are 4 weeks therefore they will take about 30 days.

Note: Testing/Debugging stories include improving any minor issues in the functionalities of the implemented stories that has been marked as done, for major and debatable results the action taken is discussed in the previous workflow section.

Note: Assumption of smooth flow of sprints with no major changes.

Day 0

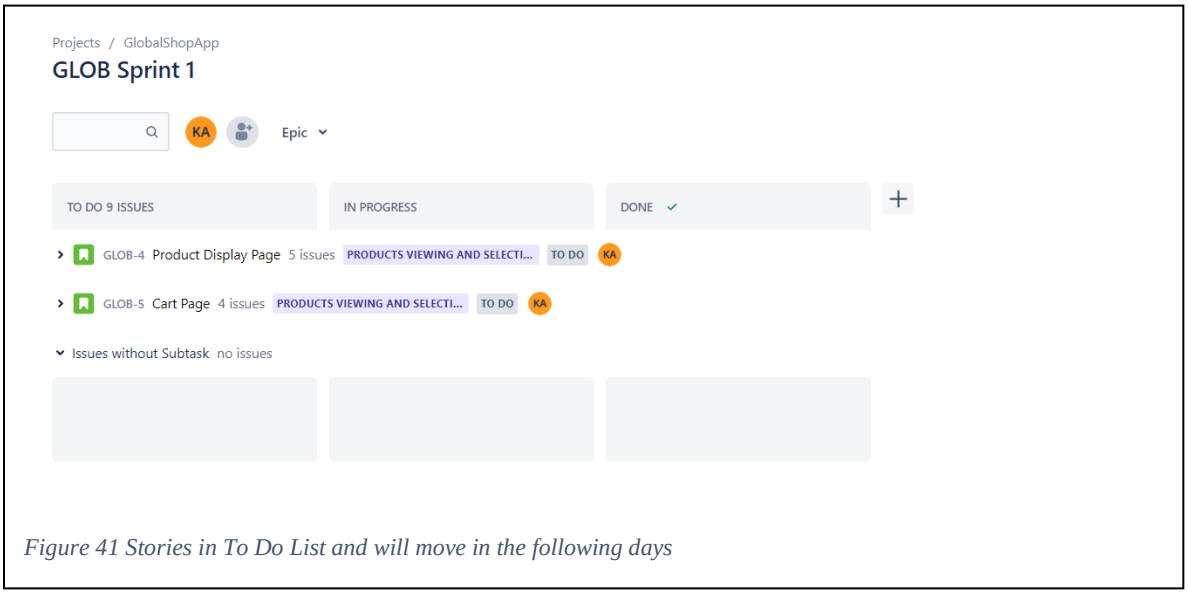

Figure 41 Stories in To Do List and will move in the following days

Day 5

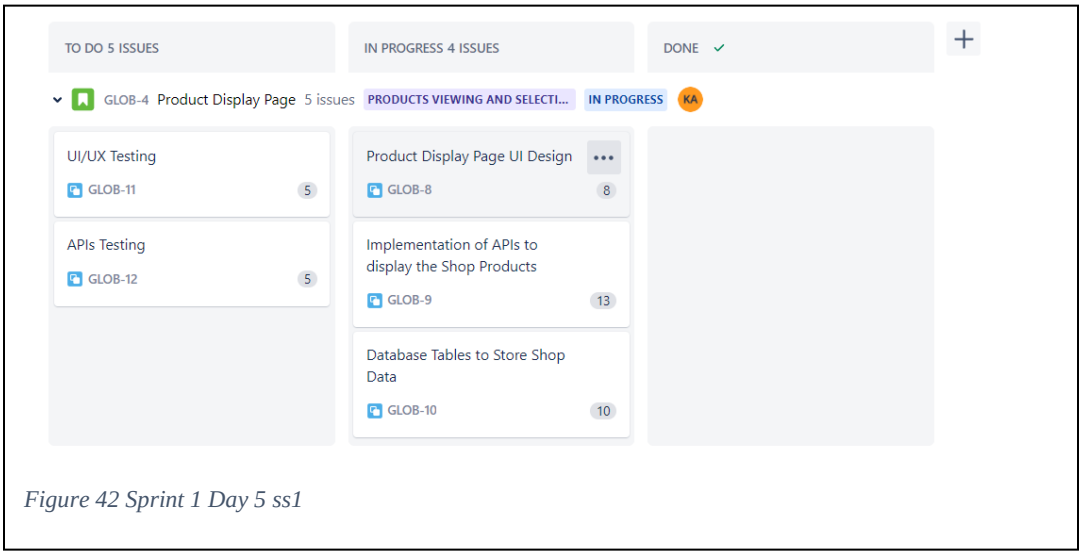

Figure 42 Sprint 1 Day 5 ss1

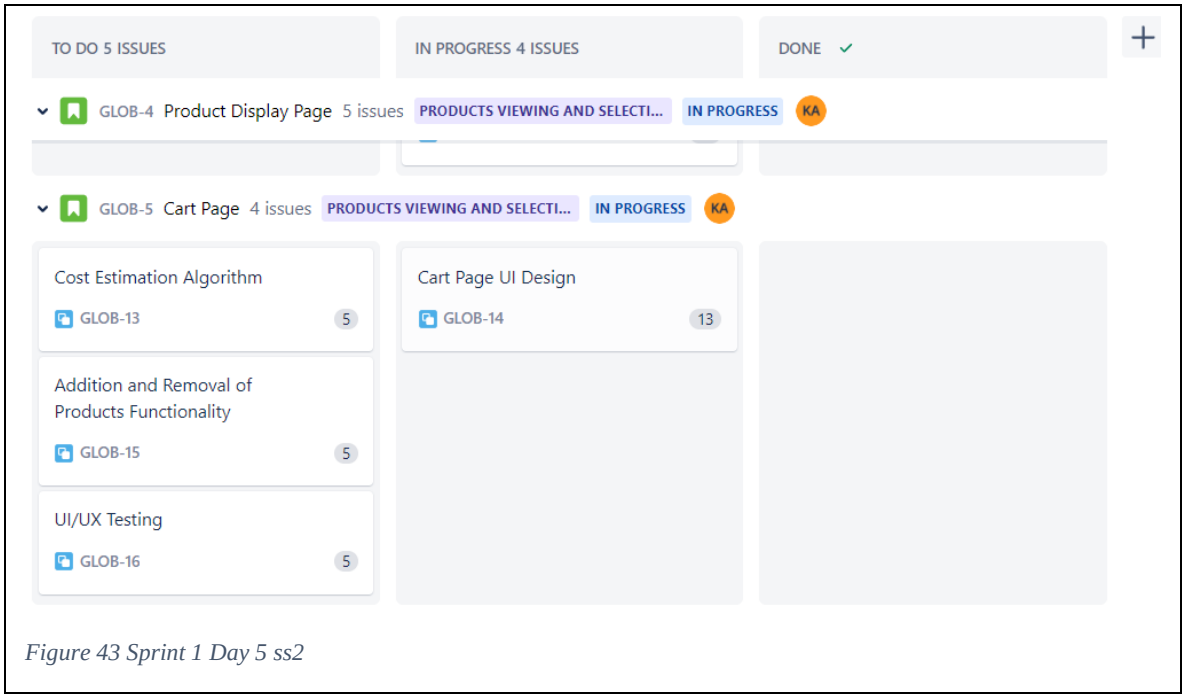

Figure 43 Sprint 1 Day 5 ss2

Day 10

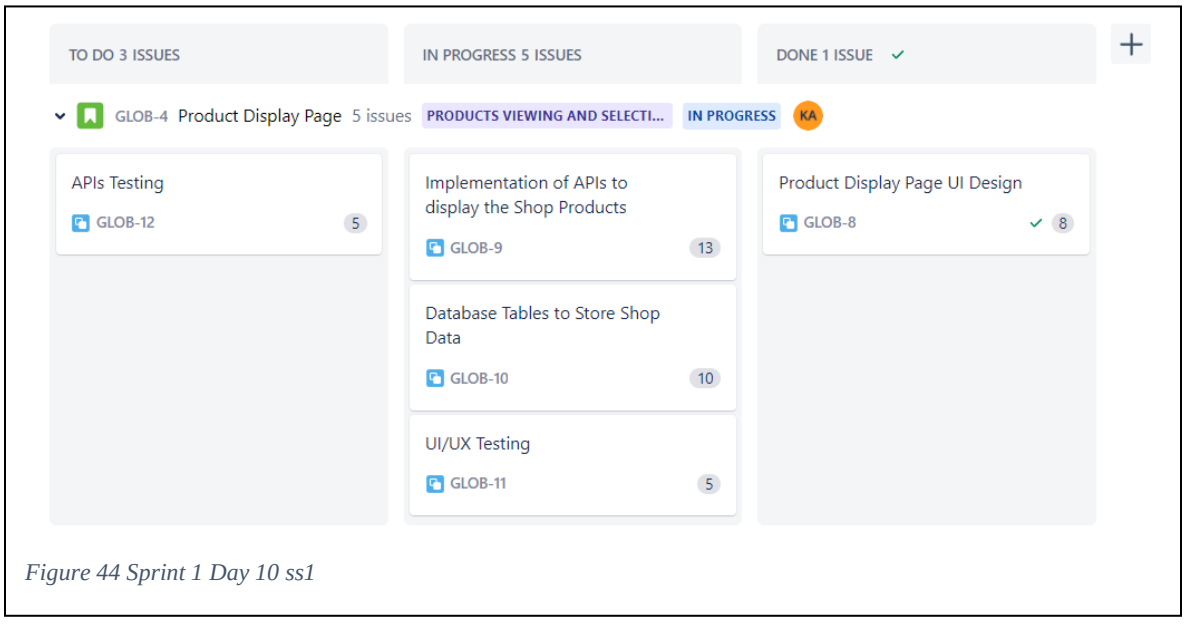

Figure 44 Sprint 1 Day 10 ss1

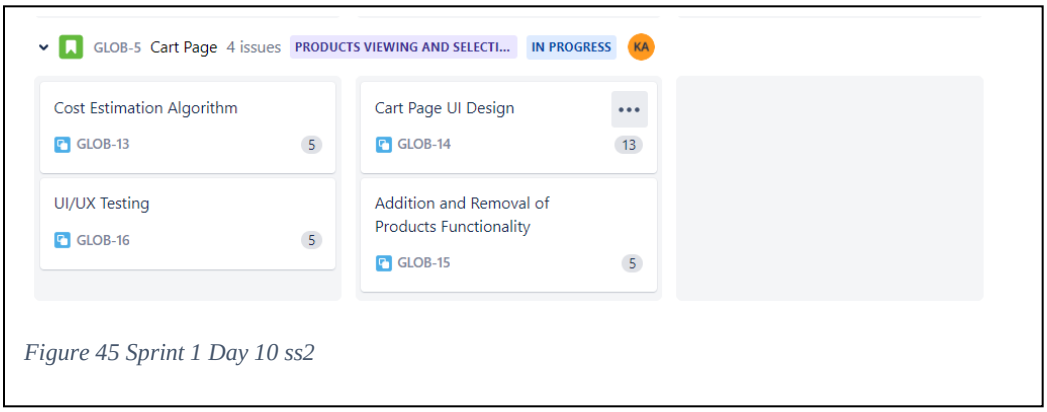

Figure 45 Sprint 1 Day 10 ss2

Day 20

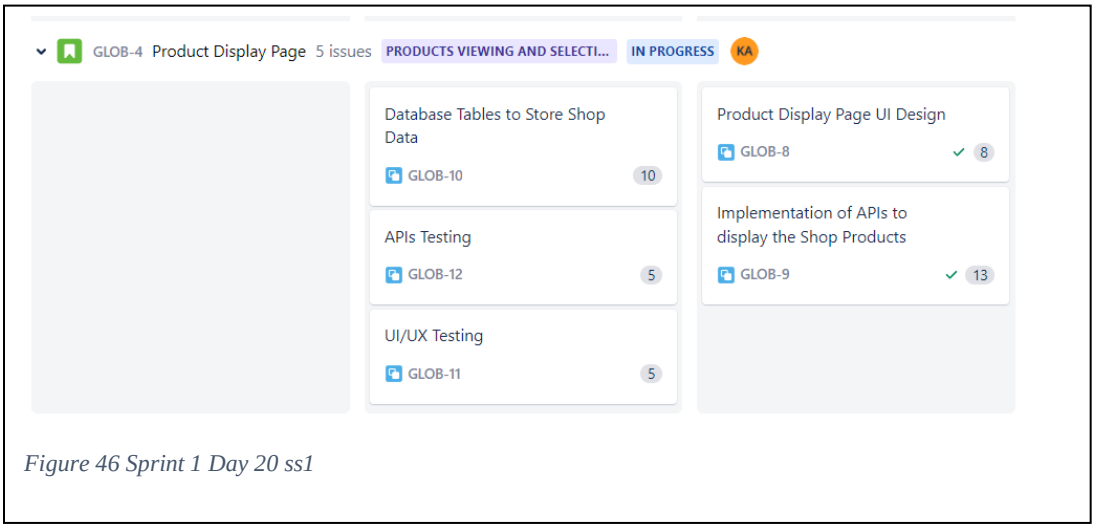

Figure 46 Sprint 1 Day 20 ss1

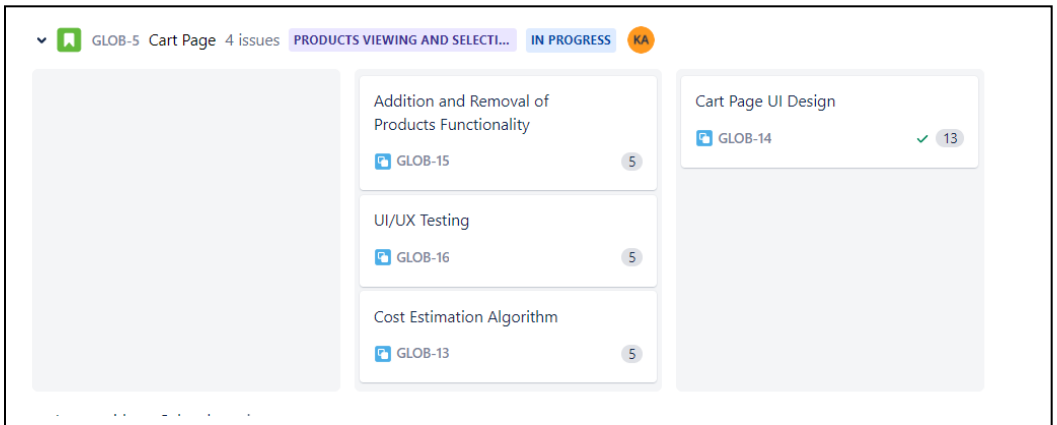

Figure 47 Sprint 1 Day 20 ss2

Day 25

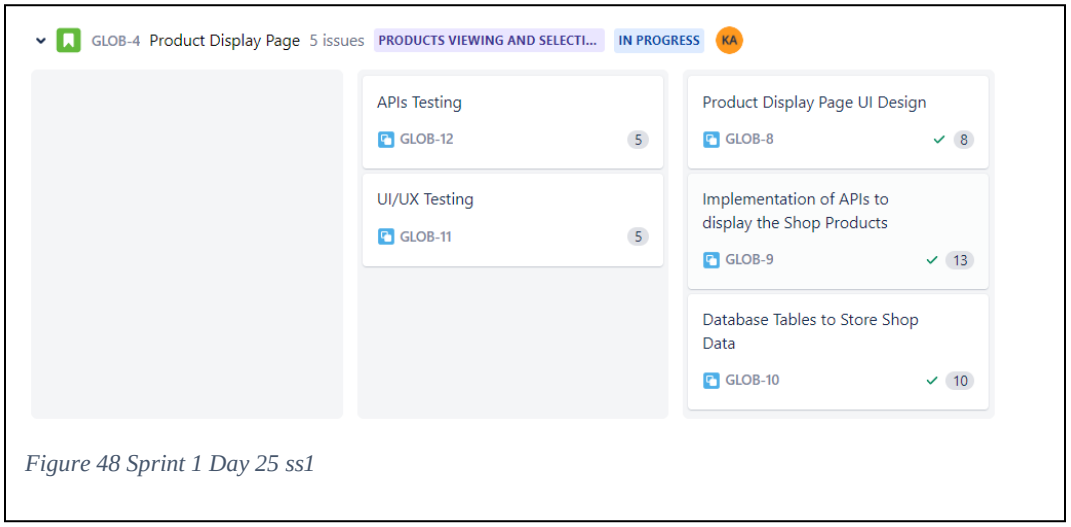

Figure 48 Sprint 1 Day 25 ss1

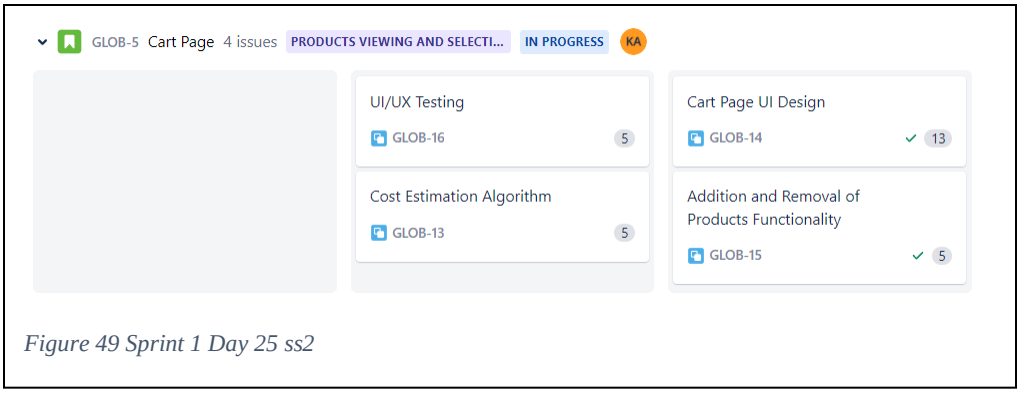

Figure 49 Sprint 1 Day 25 ss2

Day 28

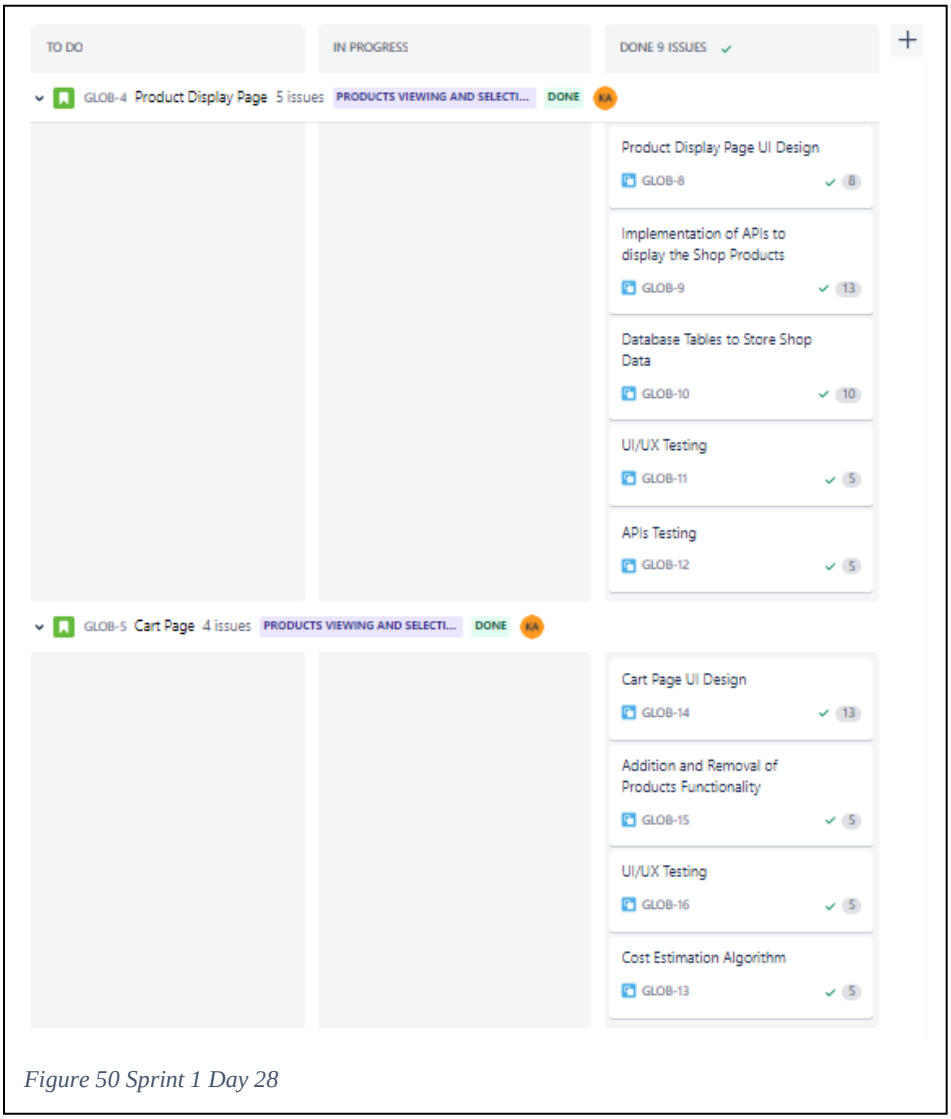

Figure 50 Sprint 1 Day 28

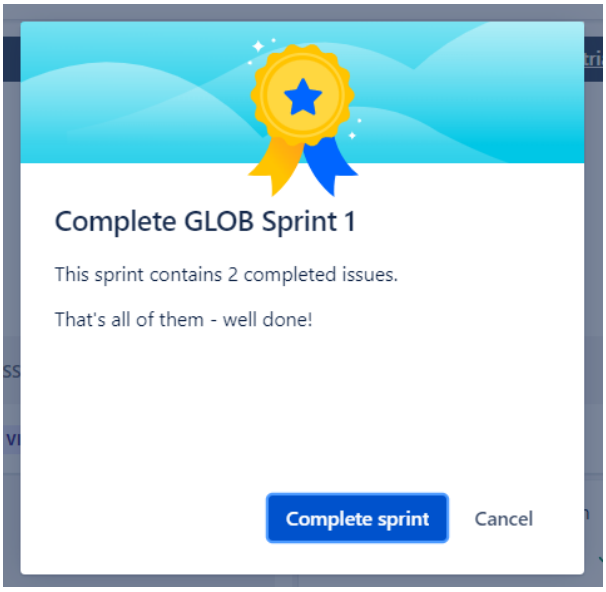

Figure 51 Sprint Completion on Jira

Sprint 2 Kanban

Note that my sprint durations are 4 weeks therefore they will take about 30 days.

Note: Testing/Debugging stories include improving any minor issues in the functionalities of the implemented stories that has been marked as done, for major and debatable results the action taken is discussed in the previous workflow section.

Note: Assumption of smooth flow of sprints with no major changes in business value or rules.

Day 0

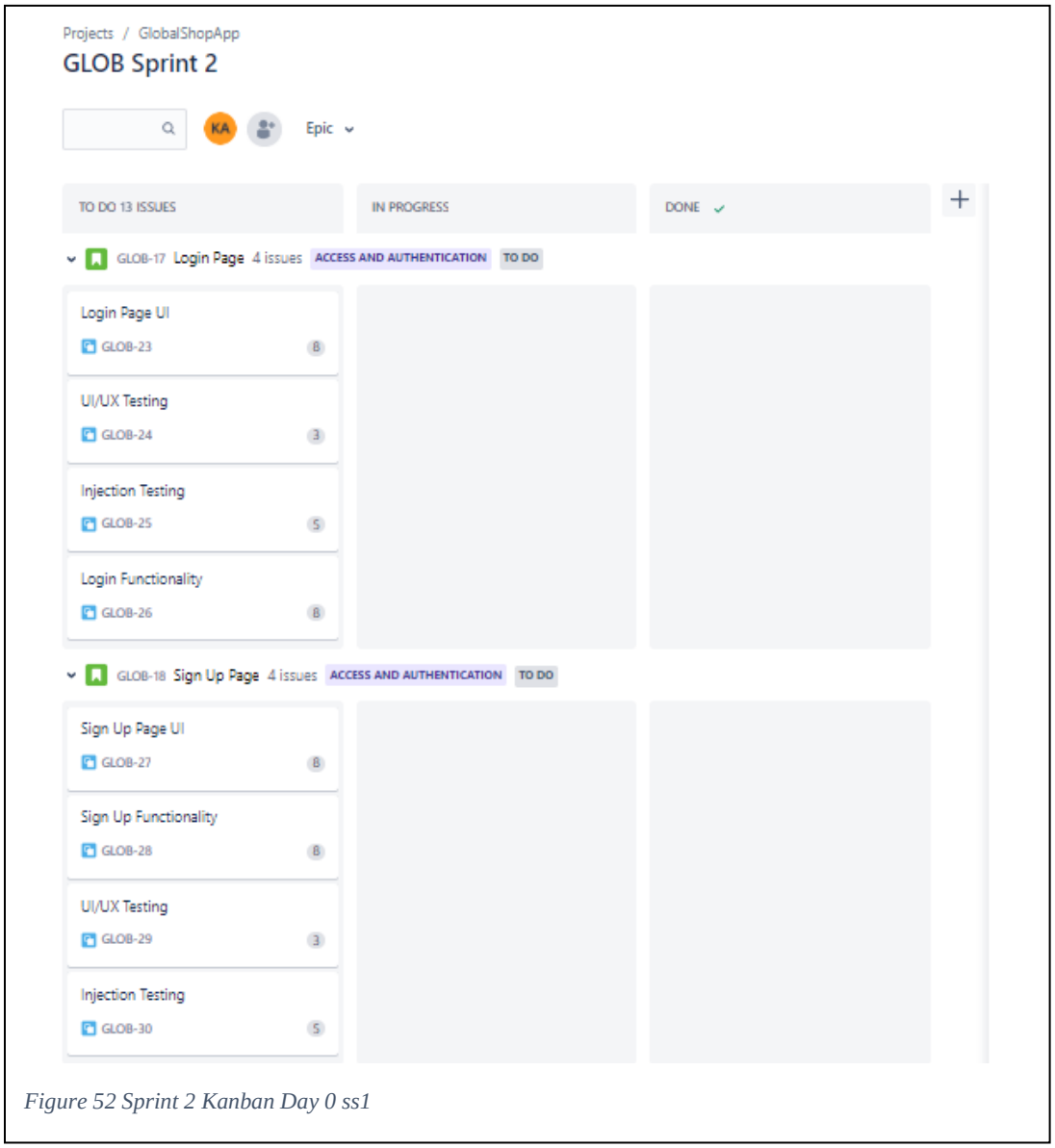

Figure 52 Sprint 2 Kanban Day 0 ss1

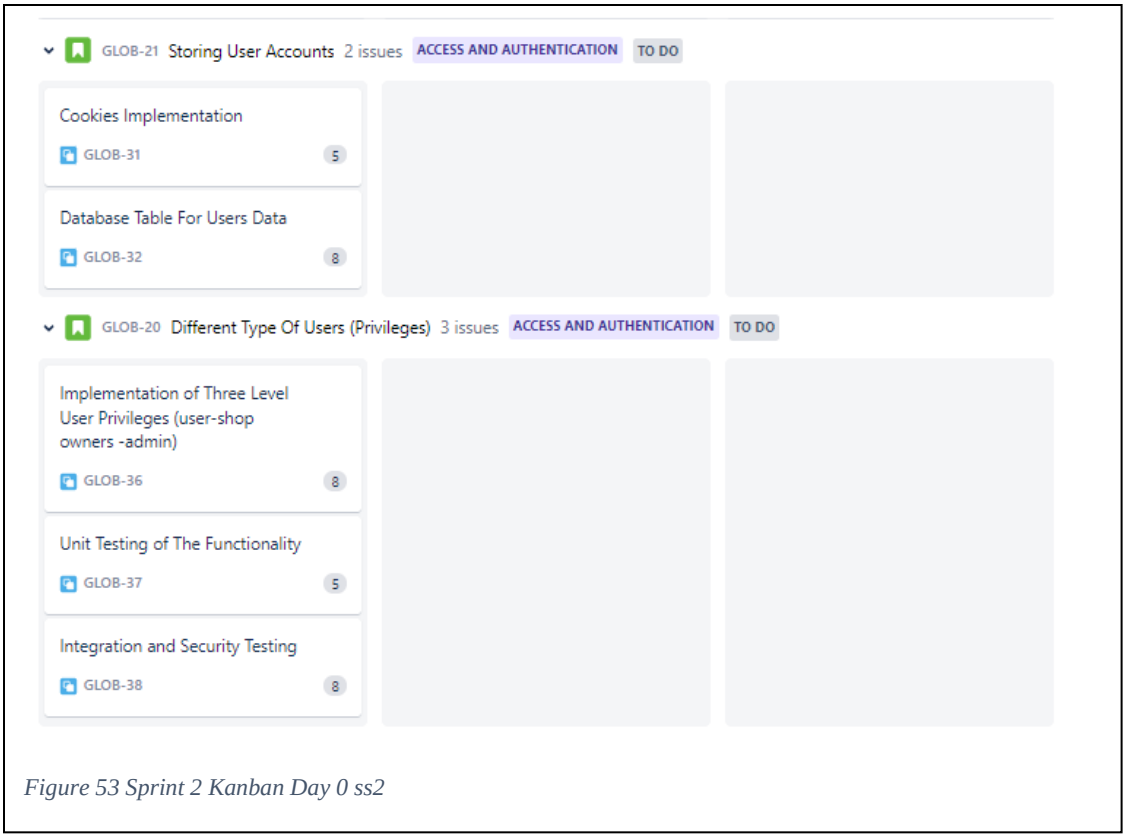

Figure 53 Sprint 2 Kanban Day 0 ss2

Day 5

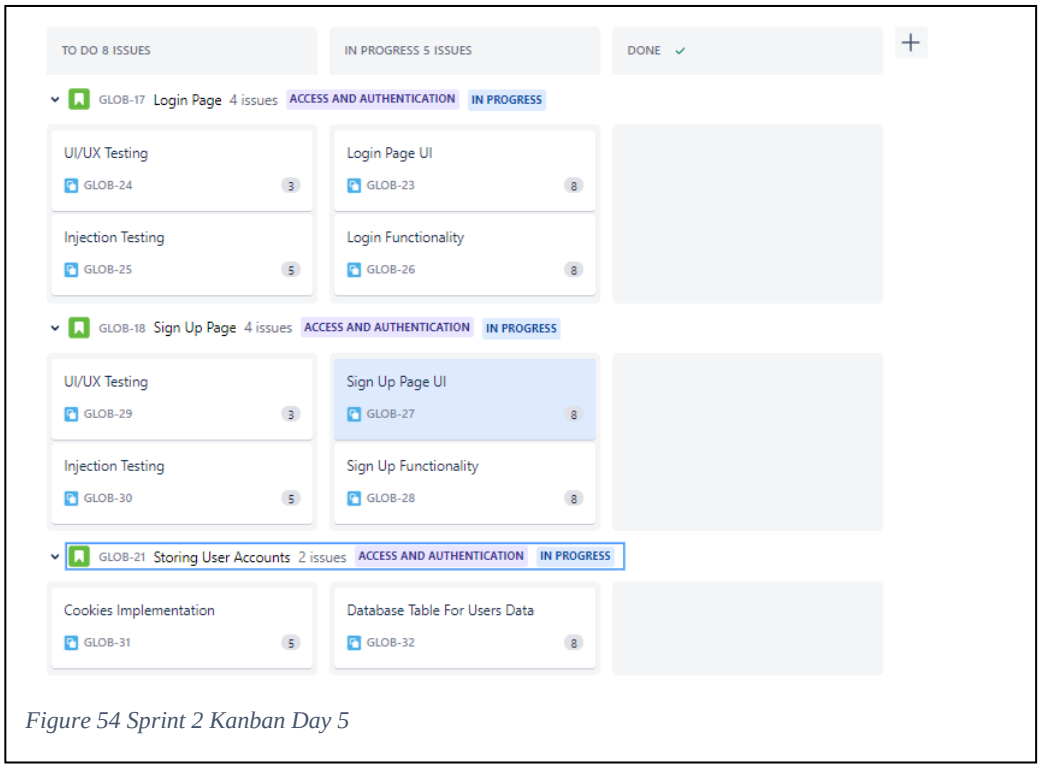

Figure 54 Sprint 2 Kanban Day 5

Day 13

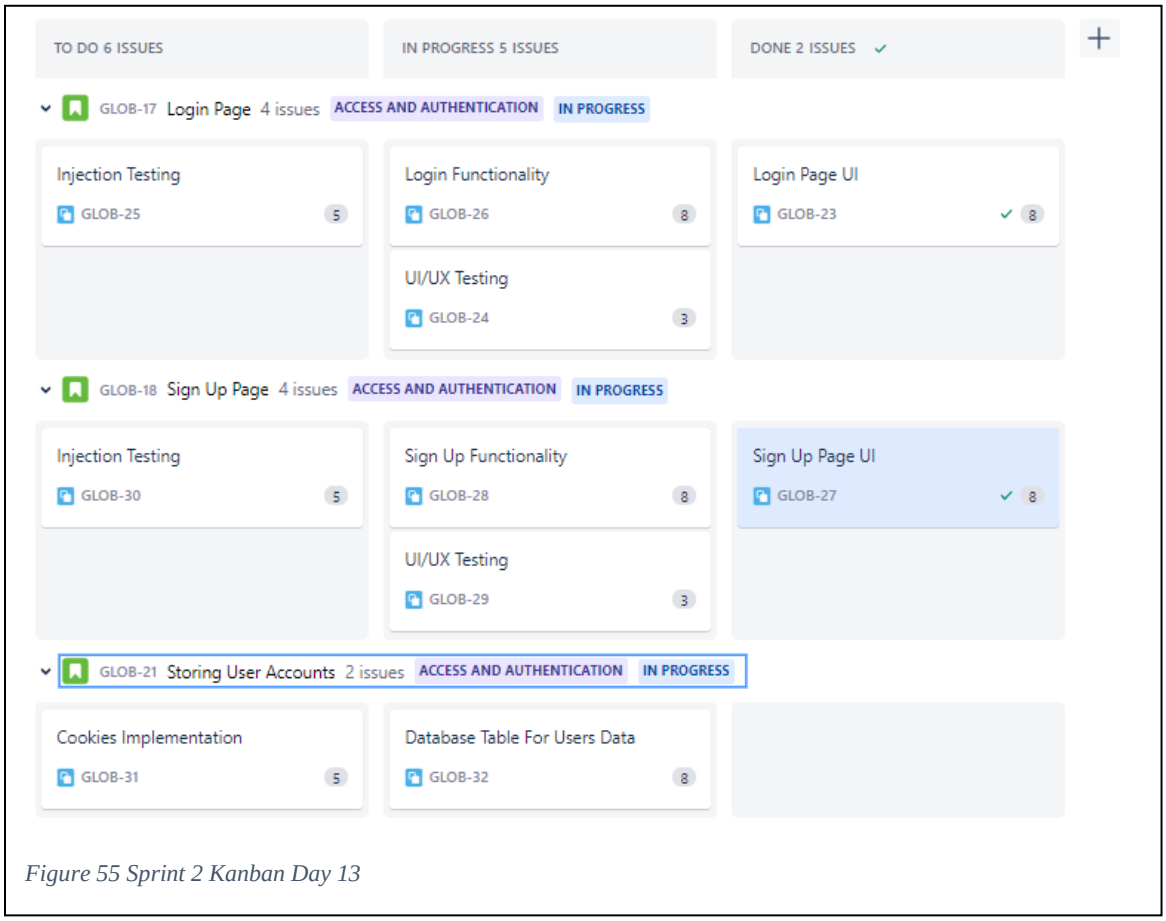

Figure 55 Sprint 2 Kanban Day 13

Day 19

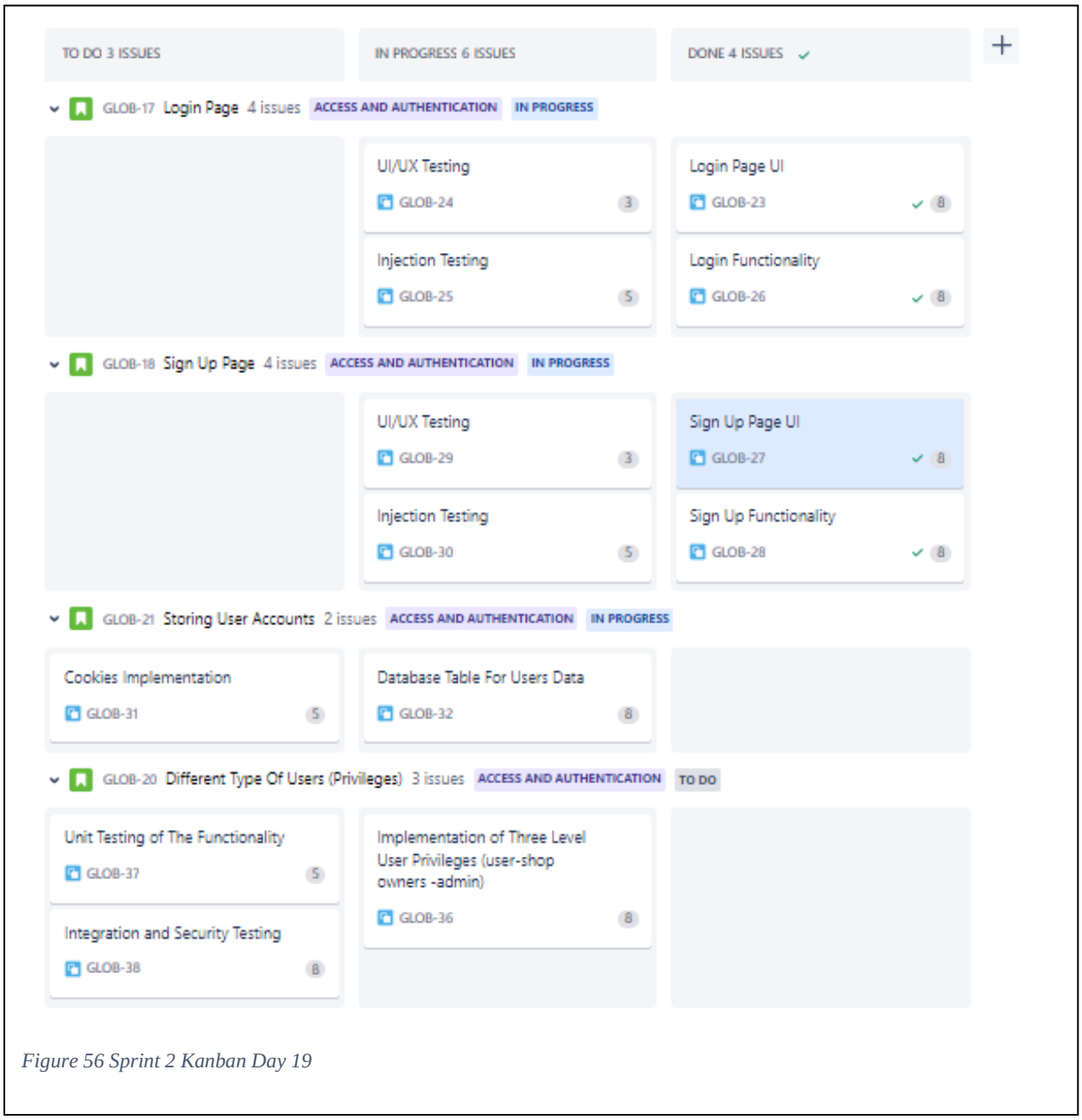

Figure 56 Sprint 2 Kanban Day 19

Day 24

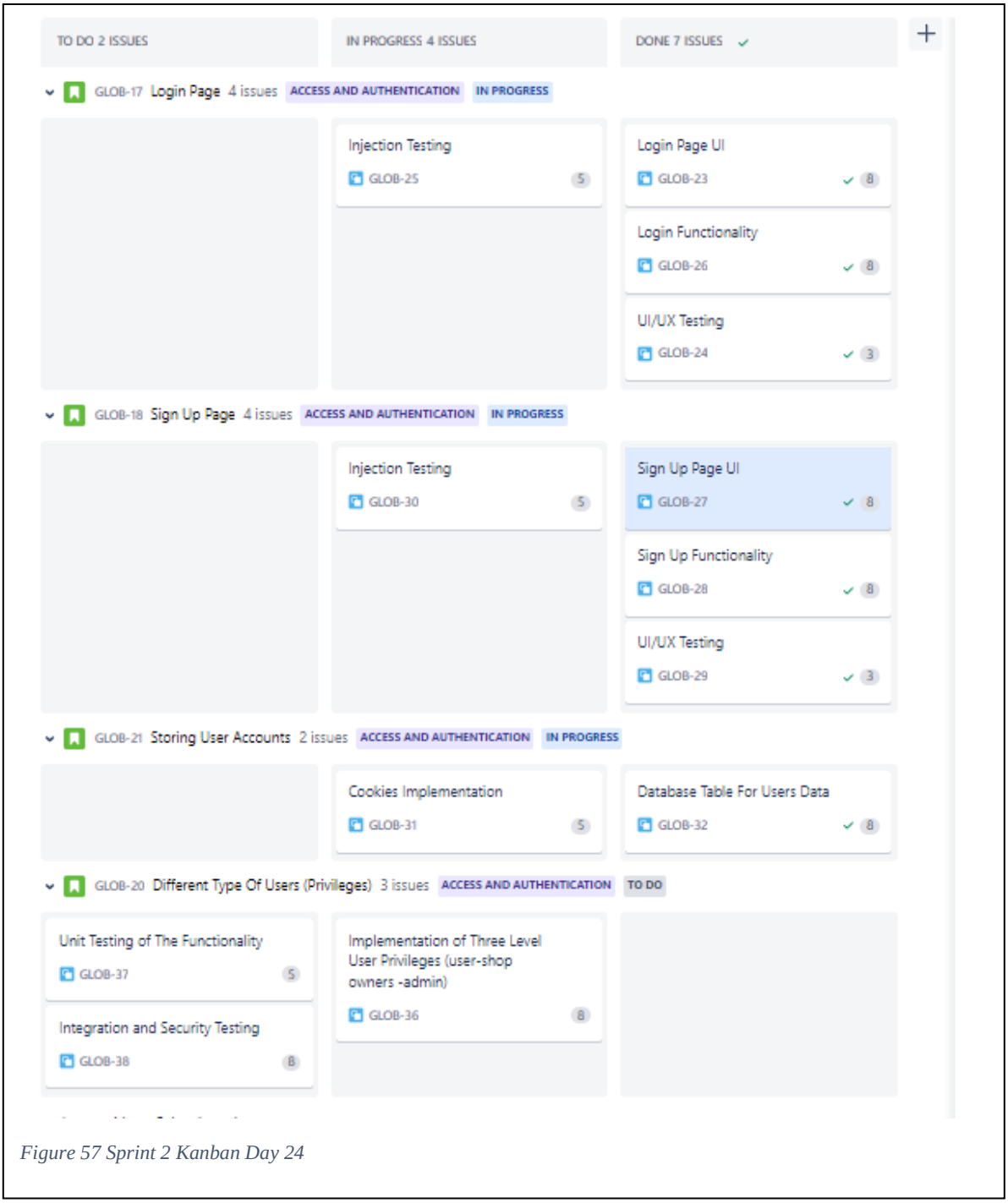

Figure 57 Sprint 2 Kanban Day 24

Day 28

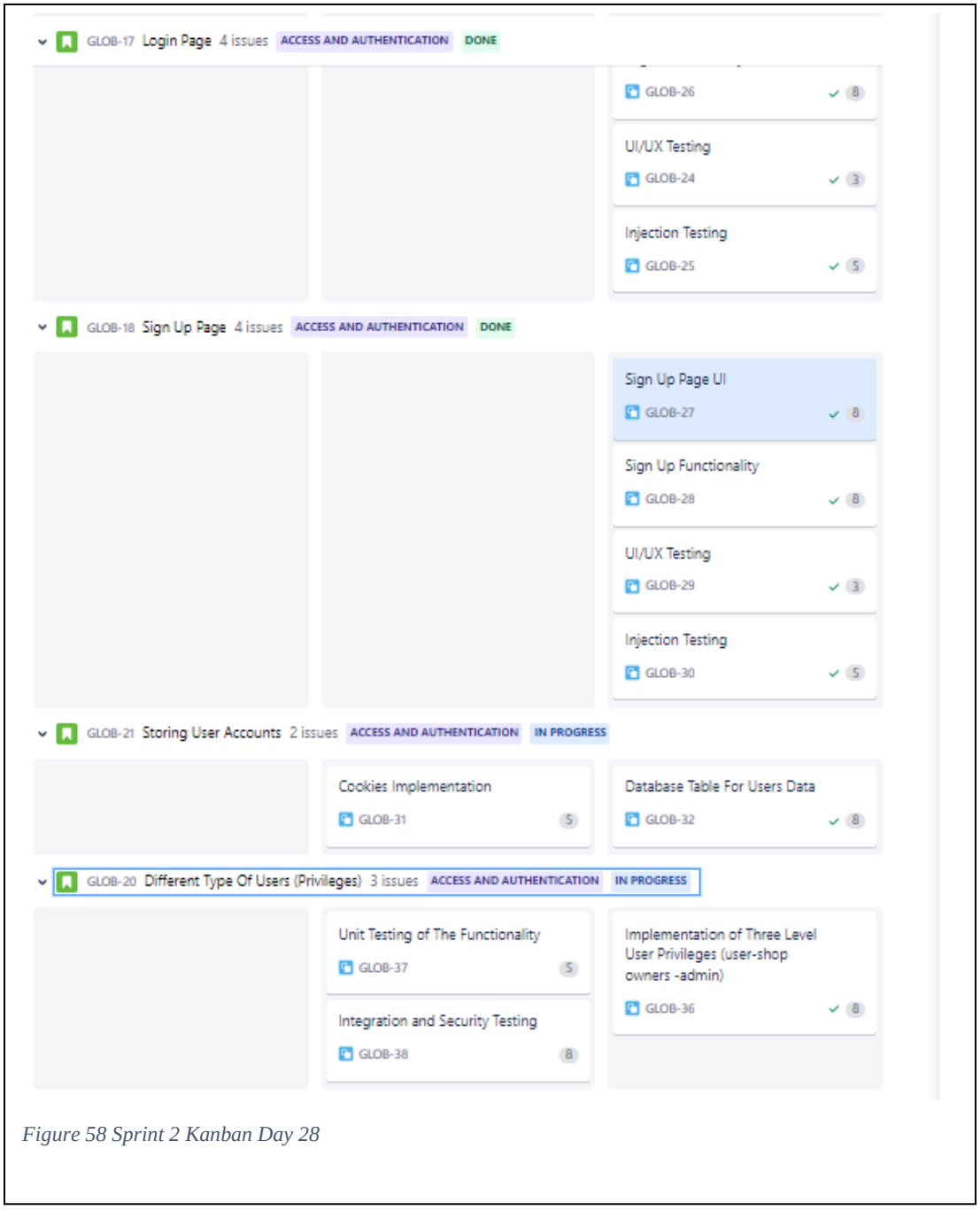

Figure 58 Sprint 2 Kanban Day 28

Notice: The failure to complete some of the stories, thus this story will move back to the product Backlog and remaining tasks will be completed later.

Moving Incomplete Stories to the product Backlog

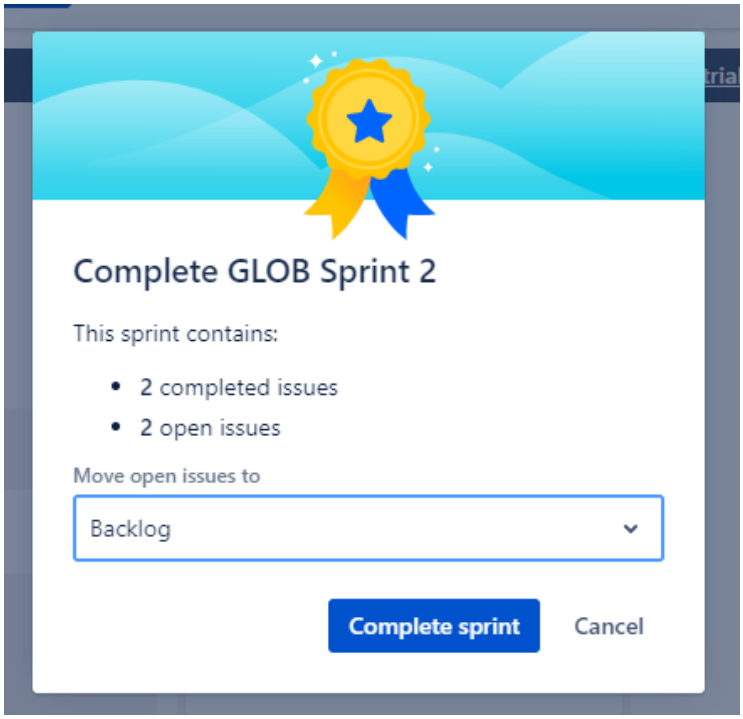

Figure 59 Moving Incomplete stories back to the backlog

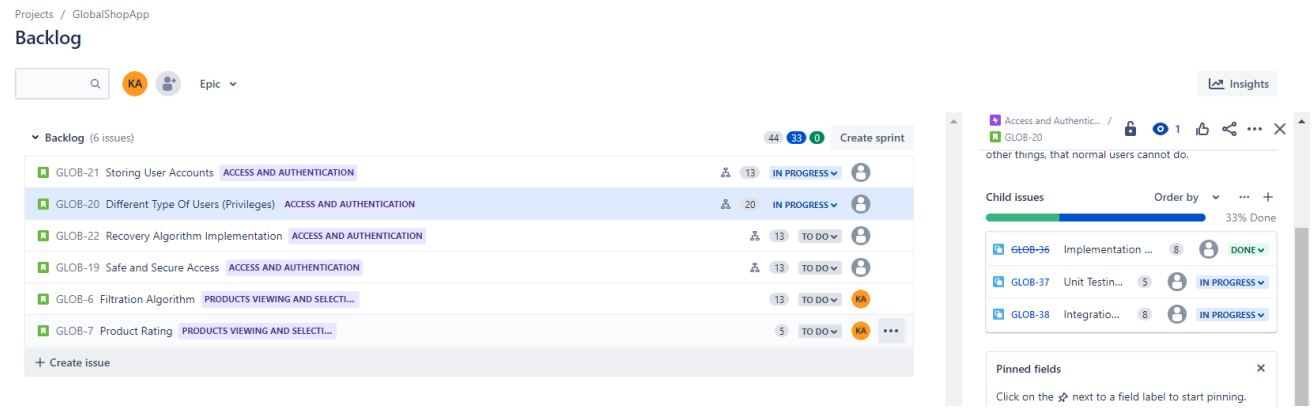

Figure 60 Stories moved back to the backlog

Sprint Documentation

Sprint One Documentation

General Idea and Sprint Size

This sprint duration is four weeks, in this sprint we planned to finish the basic main functionality of the product display and cart pages, and the estimate size is 60 story points.

Previous Sprint Data and Input

This is the first sprint, no previous data recorded.

Stories Moved from the Product Backlog to the Sprint

We can see that two stories were moved from the product backlog to the sprint backlog which are the product display page and cart page stories.

Epics Covered During this Sprint

This sprint represents a milestone in the product and viewing and selection Epic however the Epic is not complete yet and requires a further sprint.

Completed Stories

- Product Display Page Story
- Cart Page Story

Completed Tasks

All tasks associated with the completed stories were completed during this sprint.

Stories Moved Back to the Product Backlog

This sprint was successful and thankfully nothing was moved back to the product backlog.

Obstacles Faced during the Sprint

In this sprint we faced some issues connecting to certain and websites and dealing with some APIs, after the contact with the IT/Networking team the problem was smoothly solved, and nothing impacted our performance.

Did the sprint match the initial vision?

We can clearly see that the sprint has been completed successfully matching our near vision of the sprint.

Sprint Two Documentation

General Idea and Sprint Size

This sprint focuses to cover one of the core features for great presentation, business value and opening the way for further sprints and features implementation, this sprint covers 4 main stories from the Access and Authentication Epic, and it's estimate size is about 70 story points.

Previous Sprint Data and Input

The previous sprint has been successful and multiple core stories has been completed from the Product Viewing and Selection Epic, however this Sprint will focus on the Access and

Authentication app, so it doesn't directly get any input or benefit from the previous sprint, this decision of change of focus was taken due to the presented business value.

Stories Moved from the Product Backlog to the Sprint

- Login Page Story
- Sign Up Page Story
- Storing User Accounts Story
- Different Type of Users Story

Epics Covered During this Sprint

This sprint focuses mainly on the Access and Authentication Epic; however, this requires awaits about more sprints for completion.

Completed Stories

The Login Page and Sign-Up Page stories were completed in this sprint.

Completed Tasks

- All tasks under login page story were covered.
- All tasks under signup page were covered.
- Database table for storing user data task was covered from the Storing User Accounts story.
- Implementation of the three-user privilege system was covered from the story Different Type of Users.

Stories Moved Back to the Product Backlog

- Storing User Accounts
- Different Type of Users

Those two stories were returned to the backlog since not all their substories aka tasks were completed, therefore they will be completed on further sprints.

Obstacles Faced during the Sprint

In this sprint we faced various issues related to the legality of using some of the penetration testing technologies and tools, however we finally got the acceptance of usage of certain tools for on the scale of the private institution of the company and for nothing else.

Feedback for Further Sprints

This sprint was estimated to be around 70 story points which is larger than the team estimated velocity, so by the failure of completion of this sprint we can confirm our estimated team velocity which is around 55 to 65 story points per sprint so it's better to stick to this range for the near upcoming sprints.

Did the sprint match the initial vision?

We can find that this sprint failed to match the initial near vision presented at first, and this is very normal because one cannot expect everything from the start otherwise there will be no use for agile.

Daily Scrum Document

Sprint 1 Example

This first screenshot discusses a day in the middle of week 1 of the Sprint where Margot Arthur and Hinata Haruki were working on the project and illustrating their daily activities.

Teammate	Question	Week 1 Tuesday	Wednesday
Margot Arthur	What did you do yesterday?	I have completed the UI overlook design of the product page that I have working on.	I have completed the design of some of the assets such as addition/removal icon and cart icon.
	What will you do today?	I will be designing some nessecarry assets for the product page such as the addition and cart icon.	I will be brainstorming and researching some ideas for the cart page.
	Did you have any obstacles?	I ran into some license problems while extracing the adobe XD UI.	No
Hinata Haruki	What did you do yesterday?	I was researching some free source open APIs that I can use as a simulation and various ways of Implementing.	I Have Implemented the basic Nesscary enviroment for Express JS.
	What will you do today?	I will be setting up the necessary Express JS Enviroment for setting up the APIs.	I will work on simulating an API response to speed up the backend work and functionality implementation for my team.
	Did you have any obstacles?	No	I had a network problem, that blocked some of APIs and their pages so I contacted the IT/Network team and the problem was solved.

Figure 61 Sprint 1 Daily Scrum Example

Sprint 2 Example

Teammate	Question	Week 4 Monday	Tuesday
Sakura Yamato	What did you do yesterday?	I was working on designing a visual presentation of a three user privilege system for facilitating the implementation.	Finalizied the skeleton model of the three priviledge system.
	What will you do today?	Finalizing and comparing the presented privelege system design to popular systems and setting up the popular coding enivorment.	Working on implementing the user authentication.
	Did you have any obstacles?	No	No
Kareem Ayman	What did you do yesterday?	Researched various SQL injection methods and automated tools.	setted up the automated SQL injection tools for testing.
	What will you do today?	Setting up the automated enviroment for the testing.	Running the automated tested and filling the reports of the system behaviour.
	Did you have any obstacles?	Legality and law issues of the usage of certain tools, but finally got an approval of using them for private institutions and testing purposes.	No

Figure 62 Sprint 2 Daily Scrum Example

Note: In the Sprint Kanban and documentation we have assumed that no change in value or major changes has occurred, thus the work has been performed smoothly during them. Thanks :)