



# SOFTWARE PROJECTS WITH AGILE TECHNIQUES

Semester One Assessment 2 Hack Camp

## The Team

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Hamad Chaudrey: Front end Developer

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## Executive Summary

Our aim is to work with KRM who are the clients for our project. This project consists of working as a team to build a web application for the consumer. KRM are IT professionals for over 20 years, specialising in infrastructure, security, software, development, and project management. This report will highlight the different approach the team took to complete the allocated project and look at evaluating the agile approach.

### Overview

KRM has extended further so that they can accept, execute, staff, monitor and deliver software projects according to pre-agreed quality and planning standards.

### The problem

KRM wants to be the most successful IT company in Amsterdam, and they will solve this problem by creating more software solutions for clients. The competition of KRM has failed because KRM has been established with over 20 years of experience within the IT industry, therefore the competition must be more challenging to KRM to become better.

### The solution

KRM has the best solution for their employees because they contribute to sustainability and corporate social responsibility. KRM does this by training their people with a distance to the labour market, for example long-term unemployment, within the KRM academy. This then would help a particular person finding a suitable job.

### Target Market

KRM's target market are businesses which need IT solutions implemented within their business, so that their business will be able to expand. KRM will be able to advertise their company to different stakeholders.

### Keys to Success

KRM is already succeeding because it started a long time ago. So, most businesses succeed when they have established their brand throughout long years, and dedication towards the company.

## Introduction

This is a report of the product produced by group 11 for KRM. This includes details on the agile scrum methodology and a description of the events in each sprint. The task that KRM has set is to produce a web application and all the necessary software infrastructure that goes along with it. This includes a database as the backend infrastructure as well as a responsive website for users to interact with.

In-between these two is a Model-View-Control Design pattern to connect both ends which can be accomplished using php programming language. The web application should allow customers to easily submit a project application. The application has certain requirements such as project name, customer name, budget range alongside various other requirements that our group has to implement. Our group will discuss various approaches to this problem and work a solution where the client requirements are met.

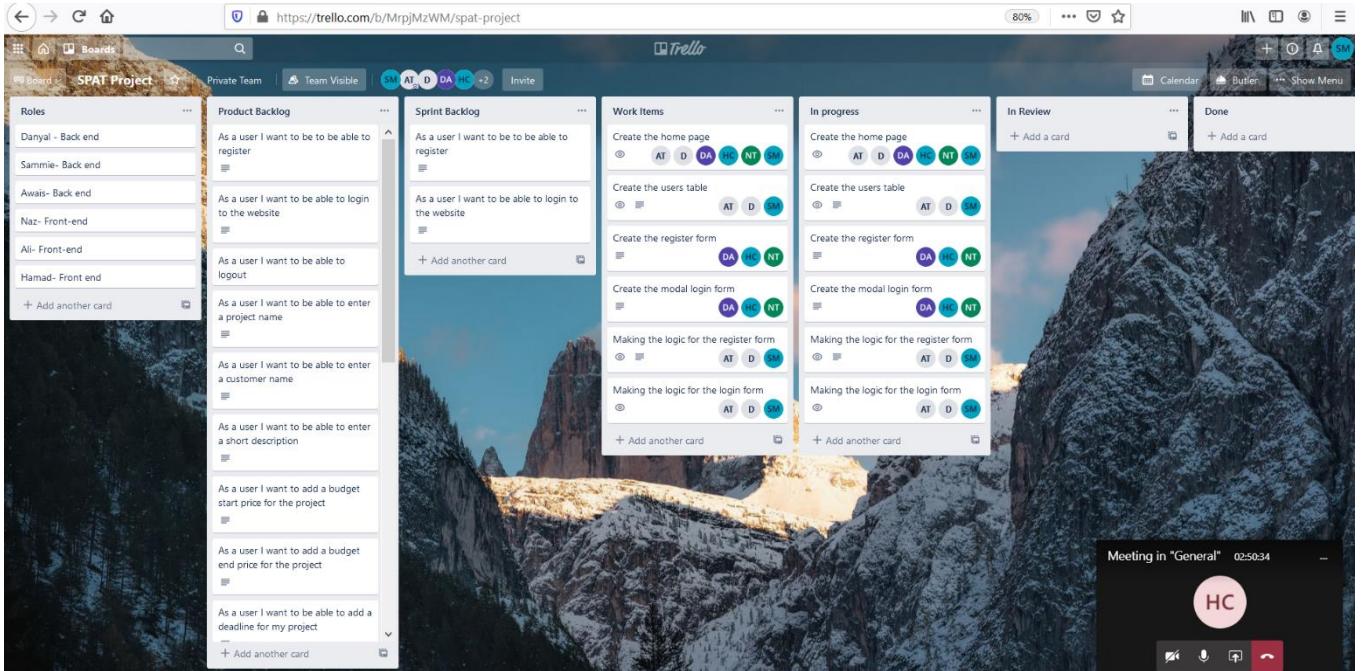
## Product backlog

### During the first sprint:

So, during the first sprint the highest priority task is to plan the project. This is because when planning it would help other team members, know what they are supposed to do so it avoids confusion and conflict between team members. A plan is also crucial because it can be adjusted as team members go along if there are any impediments. During the first product backlog there is more focus on registering users and allowing users to login correctly. As a group we will also discuss the agile techniques and approach we took to complete this and give a full detailed report on how the team found working in an agile way.

- As a user I want to be able to register- Check if information is typed and inserted into the database. This is done so that users can put a project on the website.
- As a user I want to be able to login- Check if information is typed and inserted into the database. This is done so that a user can see the project on the website.
- As a user I want to be able to logout- Check if information is typed and inserted into the database. This is done because a user will need to logout after they have used the website.

## First sprint demo



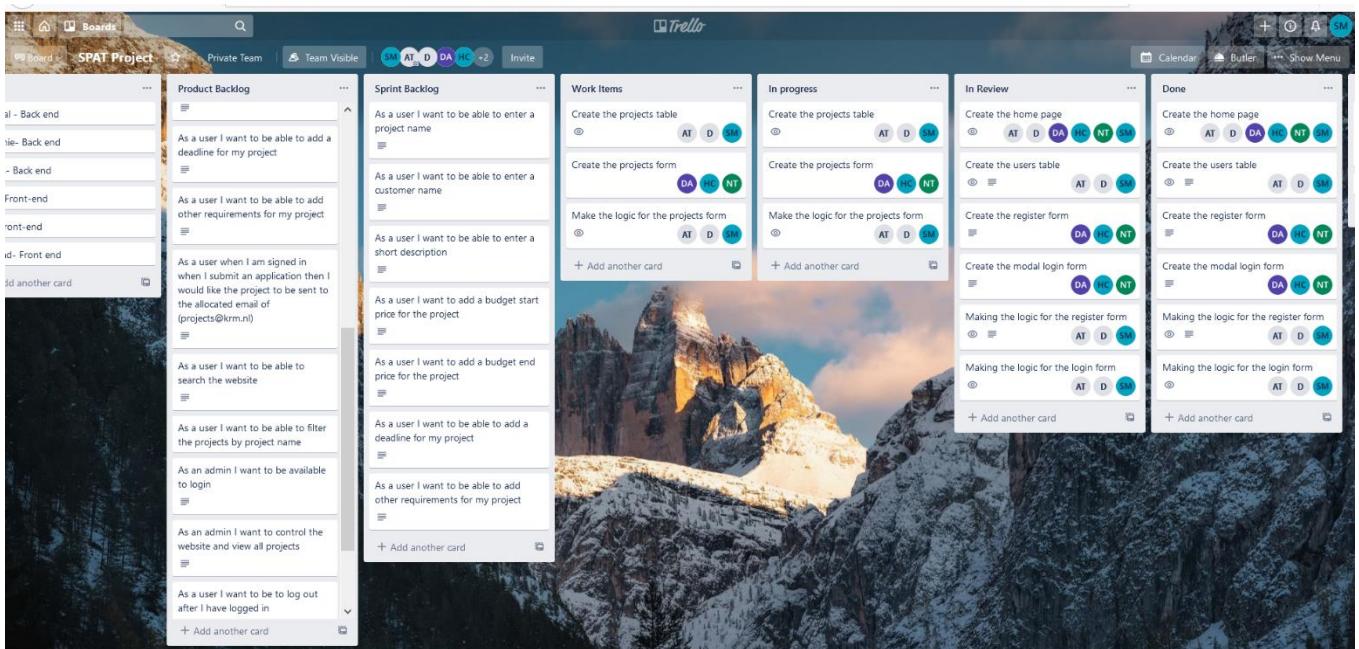
## During second sprint:

So, during the second sprint the highest priority work item is to create the create project and view projects form which requires the front-end team members. Creating the form has the highest priority in the second sprint as this is the main task set to us by the client. As a team it is crucial this is implemented correctly and appropriately done to ensure client is satisfied with the work produced.

- As a user I want to be able to enter a project name - Check if the project name is inserted into the database with an appropriate name length. This is done to tell other users who use this website, what the project is about.
- As a user I want to be able to enter a customer name - Check if the customer's name is inserted into the database with an appropriate customer name length. This is done to tell the user who is the customer of the project submitted.
- As a user I want to be able to enter a short description - Check if the short description is inserted into the database with an appropriate description length. This is done so that a user can get a glimpse of what the project will achieve.
- As a user I want to be able to add a recommended budget range - Check if the budget range is inserted into the database with an appropriate budget range. This tells a user how much they are going to get if they do that project.
- As a user I want to be able to add a deadline for my project - Check if a deadline is inserted into the database with appropriate dates. This tells the user when the project will end.

- As a user I want to be able to add other requirements for my project - Check if other requirements are inserted into the database with appropriate requirement recommendations. Another requirement would be to show the project image so users can visualise the submitted project.
- As a user when I am signed in when I submit a project then I would like the project to be sent to the allocated email of ([projects@krm.nl](mailto:projects@krm.nl)) - Check when the button is pressed that it sends the message to the allocated email address. This is done to tell the KRM client that a project has been submitted.

## Second sprint demo



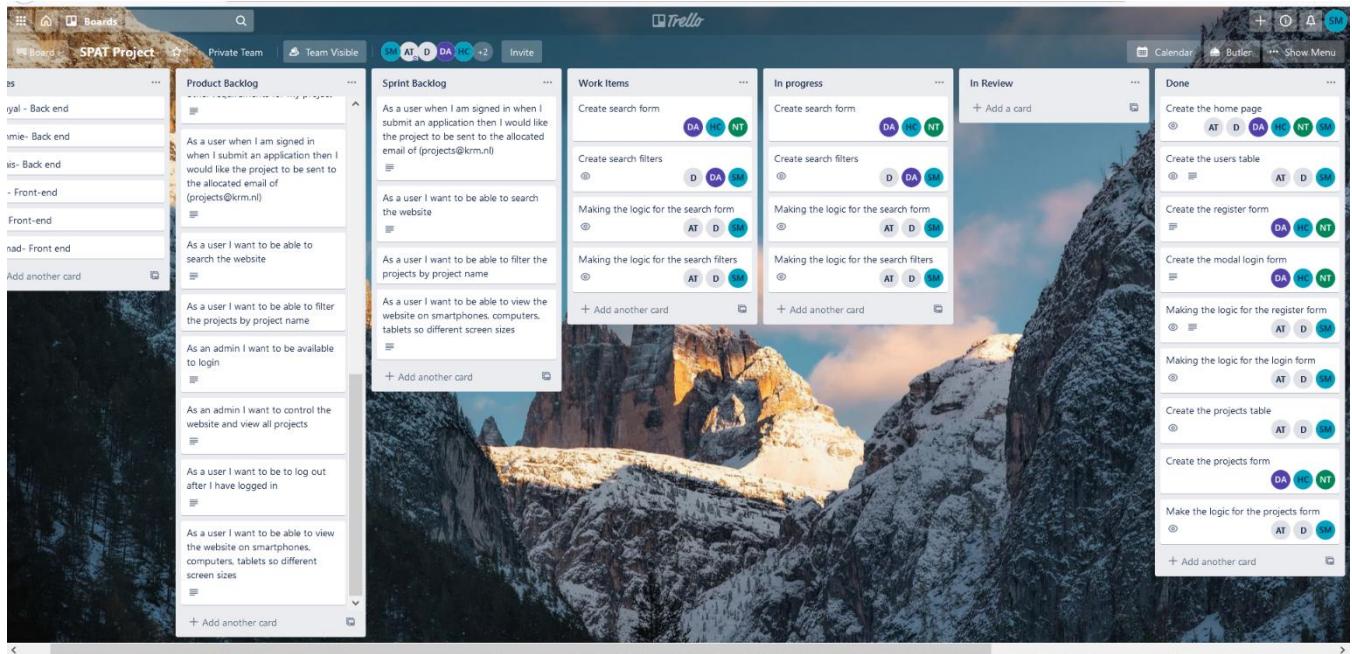
## During the third sprint

The highest priority was to make sure users can search through projects using the project name, to make the website suitable for all users. To do this, the front-end team needed to create a search form within the navbar. Then the backend team needed to check the search text of what the user has put inside the search form then if the search text contains a project name, the user will get the project displayed on the website. Filters were also an important element as this was used to allow filtering so users can filter by project name and project price.

- As a user I want to be able to search the website - Check if the search filter can search for the project name. This is done because a user will have the ability to find more projects.
- As an admin I want to be available to login - Check if the registered admin is on the database when logged in. This is done for admin privileges.

- As an admin I want to control the website and view all projects - Check if the admin can edit projects and have a view on projects. This is done for admin privileges.
- As a user I want to filter the budget range from lowest to highest - Check once the user clicks the low to high button it displays the budget in the correct order. This is done to show the user that they can add filters to the project name that they have typed in and get a low to high budget search result.
- As a user I want to filter the budget range from highest to lowest - Check once the user clicks the high to low button it displays the budget in the correct order. This is done to show the user that they can add filters to the project name that they have typed in and get a high to low budget search result.
- As a user I want to be able to view the website on smartphones, computers, tablets so different screen sizes - Check if the user can adjust the size with the window. This is done to make the website accessible for all users.

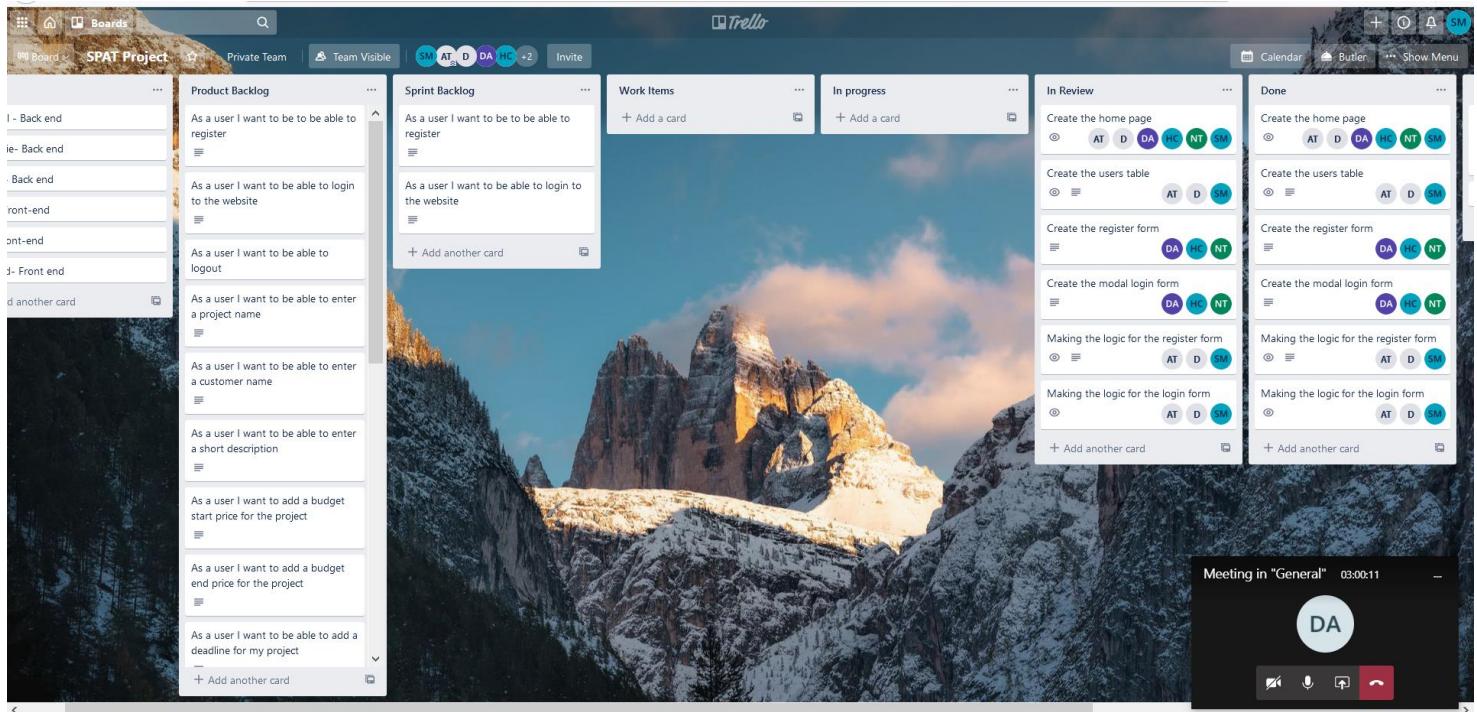
### Third sprint demo



## Sprint backlog

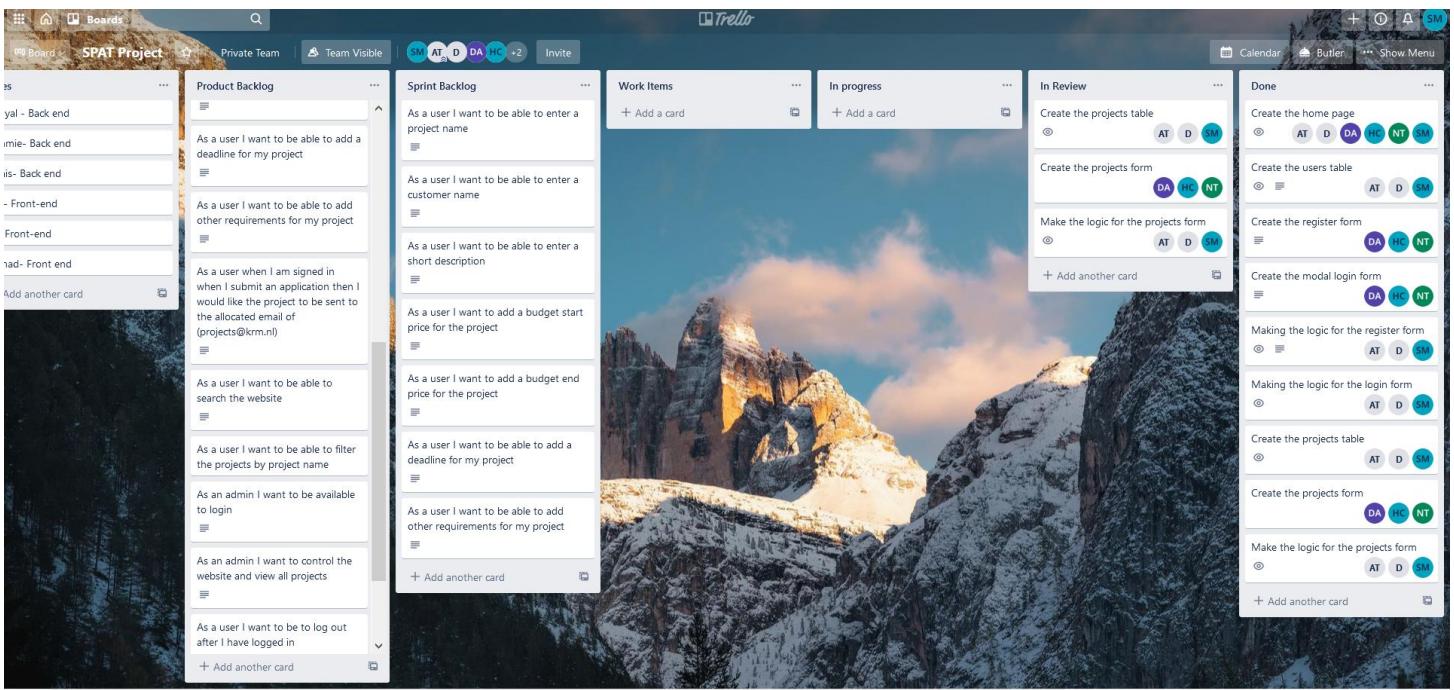
### During first sprint:

- As a user they need to have their own username and password so that they can register – Check if they are added to the database.
- As a user I want to be to log out after I have logged in - Check once the user clicks the logout button that they are logged out



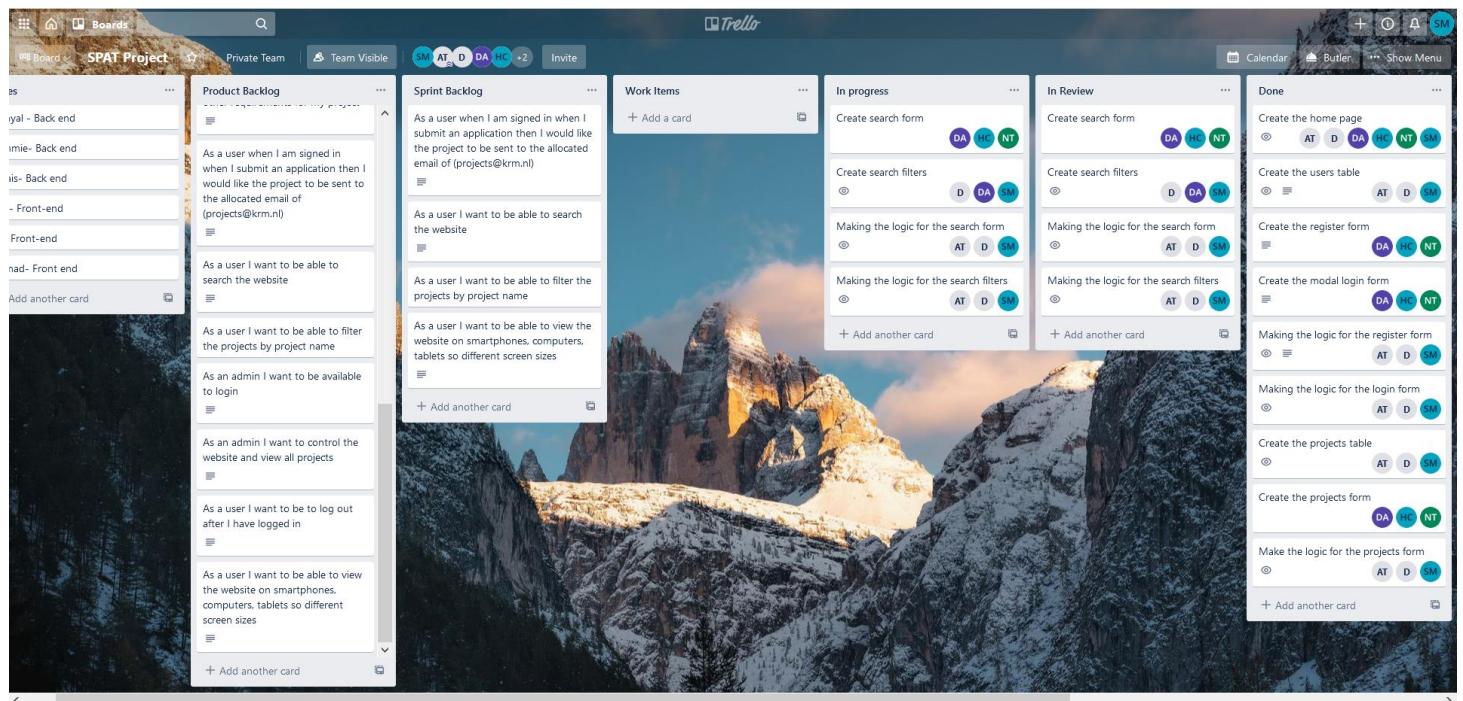
### During second sprint:

- As a user I want to be able to enter a project name - Check if the project name is inserted into the database with an appropriate name length
- As a user I want to be able to enter a customer name - Check if the customer's name is inserted into the database with an appropriate customer name length
- As a user I want to be able to enter a short description - Check if the short description is inserted into the database with an appropriate description length
- As a user I want to be able to add a recommended budget range - Check if the budget range is inserted into the database with an appropriate budget range
- As a user I want to be able to add a deadline for my project - Check if a deadline is inserted into the database with appropriate dates
- As a user I want to be able to add other requirements for my project - Check if other requirements are inserted into the database with appropriate requirement recommendations



### During third sprint:

- As a user I want to be able to search the website - Check if the search filter can search for the project name
- As a user I want to filter the budget range from lowest to highest - Check once the user clicks the low to high button it displays the budget in the correct order
- As a user I want to filter the budget range from highest to lowest - Check once the user clicks the high to low button it displays the budget in the correct order
- As a user I want to be able to view the website on smartphones, computers, tablets so different screen sizes - Check if the user can adjust the size with the window.
- As a user when I am signed in when I submit a project then I would like the project to be sent to the allocated email of ([projects@krm.nl](mailto:projects@krm.nl)) - Check when the button is pressed that it sends the message to the allocated email address



## Work item Estimations

### During first sprint:

During the first sprint, all team members went to a meeting where the estimates were discussed for each sprint and how long it would take to complete a task. As a team, it was best discussed that we make a excel document which had all the estimated dates and times alongside members tasks were assigned to. As a group it was decided that as we had 6 members it was best to split into 2 separate teams where there was 3 members in each group, this meant that the workload could be completed quicker and faster. As a team we were still focusing on working with a scrum way but had two teams where some members where focused more on back end and others focused more on front end.

There were two categories of front-end developers and back end developers and after the skills assessment taken on blackboard and discussing with each everyone's individual strengths and weaknesses, the team was split accordingly into even teams. We realised that the work required for front end would take 2 days and backend would take majority of the time due to the extensive amount of task to be completed. The backend work involved using a MVC design pattern to make a login, register and other relevant pages using model, view, and controller.

As a team we split the task to separate date and also allocated a time it would take to complete the individual tasks. Estimates were given on how long it would have taken the team members to do the front end and backend of the register and login part of the system. The front end estimated it would take 2 days to complete. This is because the team members needed to plan what the form will look like and plan how the backend will work with the frontend, and team members must have planned the user database. The work items that were involved is creating the database, creating a form for the user to register and login. This was done because we needed to store the username and passwords into the database so that when they eventually click on the login button their usernames and passwords will be checked against the database to see if they have registered. If they have registered, then they are most likely to login.

	Tasks to be completed	Task assigned to	Estimate Date	Estimate Time
Task 1	Complete skills assessment	Everyone	Tuesday 12th December	1 hour
Task 2	Talk with client	Everyone	Tuesday 12th December	1:30 hour
Task 3	Make user Stories	Danyal, Samiul	Wednesday 13th December	2 hour
Task 4	Look into website templates	Ali, Naz	Wednesday 13th December	3 hours
Task 5	Look into bootstrap	Hamaad	Wednesday 13th December	1 hour
Task 7	Create Form Template For Homepage	Naz	Wednesday 13th December	2 hour
Task 8	Create Form Template For Register page	Ali	Wednesday 13th December	2 hour
Task 9	Create Form Template For Login page	Hamaad	Wednesday 13th December	3 hour
Task 10	Create front end for Hompage	Naz	Thursday 14th December	1:30 hour
Task 11	Create front end for Register page	Ali	Thursday 14th December	2 hour
Task 12	Create front end for Login Page	Hamaad	Thursday 14th December	2 hour
Task 13	Create users table	Danyal	Thursday 14th December	2 hour
Task 14	Create login models and controllers	Awais	Thursday 14th December	3 hour
Task 15	Create user models and controllers	Sammie	Thursday 14th December	4 hour
Task 16	Create register models and controllers	Awais	Thursday 14th December	3 hour
Task 17	Create database connection and make the model	Awais	Thursday 14th December	30 mins
Task 18	Make encrypted passwords for the user tables	Danyal	Thursday 14th December	1 hour
Task 19	Add javascript functionality to Front end	Naz	Thursday 14th December	20 mins
Task 20	Fix website bugs	Ali, Hamaad	Thursday 14th December	2 hour
Task 21	Test Front end buttons work	Hamaad	Friday 15th December	30 mins
Task 22	Test Front end Links work	Naz	Friday 15th December	5 mins
Task 23	Test Front end external links work	Naz	Friday 15th December	10 mins
Task 24	Test Front end website is responsive	Hamaad	Friday 15th December	3 mins
Task 25	Test Front end database works and user has been added to the user table	Danyal	Friday 15th December	5 mins
Task 26	Test database connection works when using website	Sammie	Friday 15th December	2 mins
Task 27	Test Front end database works and user has been registered	Awais	Friday 15th December	5 mins
Task 28	Test Front end database works and user has been logged in	Awais	Friday 15th December	7 mins
Task 29	Test Front end login, register and logout buttons work	Ali	Friday 15th December	10 mins
Task 30	Demonstrate the website to the client	Everyone	Friday 15th December	30 mins
Task 31	Review website with the client and take feedback	Everyone	Friday 15th December	30 mins

### During second sprint:

In the second sprint it was estimated that it would have taken 3 days for the back-end team and front-end team to work collaboratively to implement the form so that a user can create a project and submit that project. The work items that were needed was to create the projects table which consisted of all the other values of product description, product starting price, ending price and other requirements. This was done because after a user has submitted a project it must be stored inside the table. After the project has been submitted it will be shown inside the website with the help of the projects table to display the data dynamically and inside a view projects page where the user can see their projects added to the web application.

The front-end work consisted of making the create project page which consisted of the different requirements asked by the client. The front-end work also was to build the view projects page and use a grid system to perfectly align the images and description into a suitable and professional manner. After this front end was completed, it was estimated it would take some time to the backend work as there was quite significant amount of work to do such as make the backend models and controllers to connect the SQL with the projects table and display the projects information. Validation also needed to be implemented to ensure that that users did not leave the boxes empty. Pagination was also an extra feature that the backend team wanted to implement so there was quite a lot of work to do so it would take some time to do.

Task 32	Create project name in create projects page	Naz	Monday 18th December	30 mins
Task 33	Create customer name in create projects page	Hamaad	Monday 18th December	20 mins
Task 34	Create project description in create projects page	Naz	Monday 18th December	15 mins
Task 35	Create project start price in create projects page	Hamaad	Monday 18th December	1 hour
Task 36	Create project end price in create projects page	Naz	Monday 18th December	1 hour
Task 37	Create project deadline in create projects page	Hamaad	Monday 18th December	40 mins
Task 38	Create project image in create projects page	Naz	Monday 18th December	1:30 hour
Task 39	Create projects SQL table	Danyal, Samiwl	Monday 18th December	1 hour
Task 40	Insert data into the projects table	Danyal, Samiwl	Monday 18th December	10 mins
Task 41	Link project page with project table in SQL database	Ali	Monday 18th December	25mins
Task 42	Make model and controller for create projects	Awais	Monday 18th December	2 hour
Task 43	Test create projects buttons	Ali, Awais	Tuesday 19th December	3 mins
Task 44	Test create projects can be created and links to database	Ali	Tuesday 19th December	5 mins
Task 45	Test create projects SQL statement	Awais	Tuesday 19th December	7 mins
Task 46	Fix bugs	Everyone	Wednesday 20th December	1 hour
Task 47	Demonstrate the website to the client	Everyone	Wednesday 20th December	30 mins
Task 48	Final review and feedback	Everyone	Wednesday 20th December	1 hour

### During third sprint:

During the final sprint, the front-end team and backend team had 2 days to implement the email feature and filters. The email was a feature used to ensure that when a user clicks submit; it sent the information to the client's email. Filters are also added to make sure that user can filter through the projects. After the final sprint, the team is fixing bugs and putting the web application on the university servers to ensure everything works accordingly. The work item that was needed was the projects table and the different create and view projects pages. This is done because the projects table checks the project name against the search text of what the user has typed in and the projects table was also needed to ensure the filters were implemented correctly.

Task ID	Description of work to be done	Assignee	Due Date	Estimated Time
Task 48	Fix any errors with php code	Naz	Wednesday 20th December	1 hour
Task 49	Take feedback from client	Everyone	Wednesday 20th December	30 mins
Task 50	Create frontend view projects layout for view projects	Ali	Thursday 21st December	1 Hour
Task 51	Create frontend view projects filtering for view projects	Naz, Awais	Thursday 21st December	1 hour
Task 52	Create frontend view projects grids with images and description	Ali, Hamad, Naz	Thursday 21st December	2 hour
Task 53	Make a admin user	Awais	Thursday 21st December	1:30 hour
Task 54	Implement a admin to the SQL database	Danyal, Samiwul, Awais	Thursday 21st December	30 mins
Task 55	Created a about us page	Naz	Friday 22st December	1 hour
Task 56	Created a contact us page	Hamaad	Friday 22st December	1 hour
Task 57	Implement search facility so it searches by product name	Ali	Friday 22st December	50 mins
Task 58	Implement filters so it searches by price	Awais	Friday 22st December	50 mins
Task 59	Implement email functionality so that the message gets sent to the client email	Danyal, Samiwul	Friday 22st December	2 hour
Task 60	Demonstrate the website to the client	Everyone	Saturday 23rd December	30 mins
Task 61	Get feedback from the client	Everyone	Saturday 23rd December	30 mins
Task 62	Fix errors with any php work	Everyone	Saturday 23rd December	1 hours

## Full table of estimates

	Tasks to be completed	Task assigned to	Estimate Date	Estimate Time	Completed
Task 1	Complete skills assessment	Everyone	Tuesday 12th December	1 hour	
Task 2	Talk with client	Everyone	Tuesday 12th December	1:30 hour	
Task 3	Make user Stories	Danyal, Samiwul	Wednesday 13th December	2 hour	
Task 4	Look into website templates	Ali, Naz	Wednesday 13th December	3 hours	
Task 5	Look into bootstrap	Hamaad	Wednesday 13th December	1 hour	
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Task 9	Create Form Template For Login page	Hamaad	Wednesday 13th December	3 hour	
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Task 15	Create user models and controllers	Sammie	Thursday 14th December	4 hour	
Task 16	Create register models and controllers	Awais	Thursday 14th December	3 hour	
Task 17	Create database connection and make the model	Awais	Thursday 14th December	30 mins	
Task 18	Make encrypted passwords for the user tables	Danyal	Thursday 14th December	1 hour	
Task 19	Add javascript functionality to Front end	Naz	Thursday 14th December	20 mins	
Task 20	Fix website bugs	Ali, Hamad	Thursday 14th December	2 hour	
Task 21	Test Front end buttons work	Hamaad	Friday 15th December	30 mins	
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Task 27	Test Front end database works and user has been registered	Awais	Friday 15th December	5 mins	
Task 28	Test Front end database works and user has been logged in	Awais	Friday 15th December	7 mins	
Task 29	Test Front end login, register and logout buttons work	Ali	Friday 15th December	10 mins	
Task 30	Demonstrate the website to the client	Everyone	Friday 15th December	30 mins	
Task 31	Review website with the client and take feedback	Everyone	Friday 15th December	30 mins	
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Task 33	Create customer name in create projects page	Hamaad	Monday 18th December	20 mins	
Task 34	Create project description in create projects page	Naz	Monday 18th December	15 mins	
Task 35	Create project start price in create projects page	Hamaad	Monday 18th December	1 hour	
Task 36	Create project end price in create projects page	Naz	Monday 18th December	1 hour	
Task 37	Create project deadline in create projects page	Hamaad	Monday 18th December	40 mins	
Task 38	Create project image in create projects page	Naz	Monday 18th December	1:30 hour	
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Task 25	Test Front end database works and user has been added to the user table	Danyal	Friday 15th December	5 mins	
Task 26	Test database connection works when using website	Sammie	Friday 15th December	2 mins	
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Task 34	Create project description in create projects page	Naz	Monday 18th December	15 mins	
Task 35	Create project start price in create projects page	Hamaad	Monday 18th December	1 hour	
Task 36	Create project end price in create projects page	Naz	Monday 18th December	1 hour	
Task 37	Create project deadline in create projects page	Hamaad	Monday 18th December	40 mins	
Task 38	Create project image in create projects page	Naz	Monday 18th December	1:30 hour	
Task 39	Create projects SQL table	Danyal, Samiwul	Monday 18th December	1 hour	
Task 40	Insert data into the projects table	Danyal, Samiwul	Monday 18th December	10 mins	
Task 41	Link project page with project table in SQL database	Ali	Monday 18th December	25mins	
Task 42	Make model and controller for create projects	Awais	Monday 18th December	2 hour	
Task 43	Test create projects buttons	Ali, Awais	Tuesday 19th December	3 mins	
Task 44	Test create projects can be created and links to database	Ali	Tuesday 19th December	5 mins	
Task 45	Test create projects SQL statement	Awais	Tuesday 19th December	7 mins	
Task 46	Fix bugs	Everyone	Wednesday 20th December	1 hour	
Task 47	Demonstrate the website to the client	Everyone	Wednesday 20th December	30 mins	
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Task 53	Make a admin user	Awais	Thursday 21st December	1:30 hour	
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Task 55	Created a about us page	Naz	Friday 22st December	1 hour	
Task 56	Created a contact us page	Hamaad	Friday 22st December	1 hour	
Task 57	Implement search facility so it searches by product name	Ali	Friday 22st December	50 mins	
Task 58	Implement filters so it searches by price	Awais	Friday 22st December	50 mins	
Task 59	Implement email fuctionality so that the message gets sent to the client email	Danyal, Samiwul	Friday 22st December	2 hour	
Task 60	Demonstrate the website to the client	Everyone	Saturday 23rd December	30 mins	
Task 61	Get feedback from the client	Everyone	Saturday 23rd December	30 mins	
Task 62	Fix errors with any php work	Everyone	Saturday 23rd December	1 hours	

## Work item selection by group members

Day 1: All team members must put their skills within the skill inventory document. All team members brain stormed questions to ask the client, to get a better understanding of the project requirements. We asked the client about some requirements and queries about the project. The team members asked questions because it would have helped our understanding of what the client wants within the project requirements.

Day 2: Danyal and Samiwul made up the user stories with the help of Julian Bass workshop 4 slides. During the second day Hamad, Ali, and Nazmol created the login and register form template. Also, they created the homepage template with the help of Samiwul, Danyal, and Awais. The front-end team created the navbar with the help of the backend team.

Hamad, Nazmol, Mohammed researched different templates of websites with HTML5, CSS3, and Bootstrap 4. The front-end team members looked at various templates that suited the user requirement and chose a design that would be easy to use, and designed a template based on that. The design would be user friendly and easy to navigate making the website user friendly one design aspect was to put the navigation bar where visitors expect to find navigation across the top putting your navigation in standard places makes the site easier to use. The front-end team decided to use described label such as home, login, register, projects so the user can easily navigate through website. Using HTML5 could provide a much better user experience. And using HTML5 are to offer increased multimedia support and make the coding much easier to read and understand. To make the website accessible on different devices we used bootstrap4 this allows framework for creating layouts. Bootstrap's responsive CSS adjusts to phones, tablets, and desktops.

Day 3: Nazmol worked on the user stories and then went on to aid in designing the website. The front-end team used figma to create a template for the website we decided to create template of the website using the research and user requirements. They also coded in JavaScript to add functionality to the website.

Awais, Danyal and Samiwul all worked on the database design to create the user table. This includes creating relational diagrams and tables as well as implementing the database using the provided Poseidon server, within MySQL.

The front-end team worked on design of the website by editing the CSS and implementing the bootstrap grid and other functionality to the website.

The backend team worked on the PHP functionality of the website. the backend team worked on linking the website to the database so that users could log in or register to the site. This was done by checking users against the database.

## Day 4(First Demo)

Nazmol, Hamad, and Mohammed checked if the HTML and CSS was working correctly. Samiwul, Danyal, and Awais checked if the login and register logic was working with the correct models, views, and controllers.

Day 5: Hamad, Nazmol, and Mohammed worked on the front end of the project form. Hamad, Nazmol and Mohammed worked on the front end of the project form

making sure there is an input field for all the requirements set by the client. Samiwul, Danyal, and Awais worked on creating the table for the projects that was going to be submitted by a user.

**Day 6:** Danyal, Awais and Samiwul implemented the adding projects backend to the website and checked if there were any bugs. Danyal added pagination, so the website does not get filled with a lot of data only scrolling on one page. Awais, Ali, Danyal and Samiwul used Mockeroo to create dummy data for the projects table, to make the website look realistic.

**Day 7:** (Where the second sprint happened) All team members checked if the front-end and back-end worked when a user wanted to create a project. Danyal and Awais presented the second demo to the client. Mohammed took notes down about what the client says. All team members fixed errors within the code.

**Day 8:** Hamad, Mohammed, and Nazmol was working on the front-end for viewing projects in a card. Danyal, Awais and Samiwul was working on getting the search filters done, via project name, and high to low and low to high budget range radio buttons.

**Day 9:** (Code freeze): Danyal and Awais was implementing the email in the morning. All team members worked on the report.

**Day 10:** (Third sprint demo) Danyal and Awais presented the third demo, showing to the client the search filters, and viewing projects. However, the work item that was not fully completed was the email to the client part, after a project has submitted their work.

	Tasks to be completed	Work Selected By
Task 1	Make user Stories	Danyal, Samiwul
Task 2	Look into website templates	Ali, Naz
Task 3	Look into bootstrap	Hamaad
Task 4	Create Form Template For Homepage	Naz
Task 5	Create Form Template For Register page	Ali
Task 6	Create Form Template For Login page	Hamaad
Task 7	Create front end for Hompage	Naz
Task 8	Create front end for Register page	Ali
Task 9	Create front end for Login Page	Hamaad
Task 10	Create users table	Danyal
Task 11	Create login models and controllers	Awais
Task 12	Create user models and controllers	Sammie
Task 13	Create register models and controllers	Awais
Task 14	Create database connection and make the model	Awais
Task 15	Make encrypted passwords for the user tables	Danyal
Task 16	Add javascript functionality to Front end	Naz
Task 17	Fix website bugs	Ali, Hamad
Task 18	Test Front end buttons work	Hamaad
Task 19	Test Front end Links work	Naz
Task 20	Test Front end external links work	Naz
Task 21	Test Front end website is responsive	Hamaad
Task 22	Test Front end database works and user has been added to the user table	Danyal
Task 23	Test database connection works when using website	Sammie
Task 24	Test Front end database works and user has been registered	Awais
Task 25	Test Front end database works and user has been logged in	Awais
Task 26	Test Front end login, register and logout buttons work	Ali
Task 27	Demonstrate the website to the client	Everyone
Task 28	Review website with the client and take feedback	Everyone
Task 29	Create project name in create projects page	Naz

G	H	I	J	K	L
		Task 30	Create customer name in create projects page	Hamaad	
		Task 31	Create project description in create projects page	Naz	
		Task 32	Create project start price in create projects page	Hamaad	
		Task 33	Create project end price in create projects page	Naz	
		Task 34	Create project deadline in create projects page	Hamaad	
		Task 35	Create project image in create projects page	Naz	
		Task 36	Create projects SQL table	Danyal, Samiwul	
		Task 37	Insert data into the projects table	Danyal, Samiwul	
		Task 38	Link project page with project table in SQL database	Ali	
		Task 39	Make model and controller for create projects	Awais	
		Task 40	Test create projects buttons	Ali, Awais	
		Task 41	Test create projects can be created and links to database	Ali	
		Task 42	Test create projects SQL statement	Awais	
		Task 43	Fix bugs	Everyone	
		Task 44	Demonstrate the website to the client	Everyone	
		Task 45	Fix any errors with php code	Naz	
		Task 46	Take feedback from client	Everyone	
		Task 47	Create frontend view projects layout for view projects	Ali	
		Task 48	Create frontend view projects filtering for view projects	Naz, Awais	
		Task 49	Create frontend view projects grids with images and description	Ali, Hamad, Naz	
		Task 50	Make a admin user	Awais	
		Task 51	Implement a admin to the SQL database	Danyal, Samiwul, Awais	
		Task 52	Created a about us page	Naz	
		Task 53	Created a contact us page	Hamaad	
		Task 54	Implement search facility so it searches by product name	Ali	
		Task 55	Implement filters so it searches by price	Awais	
		Task 56	Implement email functionality so that the message gets sent to the client email	Danyal, Samiwul	
		Task 57	Demonstrate the website to the client	Everyone	
		Task 58	Get feedback from the client	Everyone	
		Task 59	Fix errors with any php work	Everyone	

## Daily stand-up meeting

**Day 1 Tuesday:** All team members were discussing how will the solution be implemented, for example making an app, or making a website. There were no impediments on the 1<sup>st</sup> day.

**Day 2 Wednesday:** All team members discussed why it will be better to create the website using the PHP programming language. So, today we made a conclusion to use PHP to create the website over using another programming language to create the solution. All team members approved the scrum master's decision. Danyal and Samiwul created the user stories which was then checked by the other members and Kim to ensure we were on the right track. The front-end team was creating the form template for the login and register page. There were no impediments for the 2<sup>nd</sup> day.

**Day 3: Thursday:** Yesterday the front-end team completed making the register and login form. The backend team worked on creating the table for the users' table. The backend team also implemented the PHP code for the register and login form.

**Day 4 Friday (first sprint demo):** Yesterday the backend team completed the register and login form and checked if it worked before the demo. Today all team members should be ready to meet the client for the first demo of the register and login system. There were no impediments during the 4<sup>th</sup> day.

**Day 5 Monday:** On the previous day, the client was happy with the effort all team members put into the database. The front-end team worked on the project form for the users to submit. The backend team worked on creating the projects table. All team members should fix their bugs if they find any. There were no impediments during the 5<sup>th</sup> day.

**Day 6: Tuesday:** Yesterday the front-end team completed the project form, and the backend team completed creating the projects table. Today the backend team will be implementing the creating a project application for a user to submit a project. All team members should fix their bugs if they find any. There were no impediments during the 6<sup>th</sup> day.

**Day 7 Wednesday (second sprint demo):** Yesterday the backend team completed creating the project form logic, for a user to add a project to the database. Today the backend team will test if the user project has been submitted after they have put the information within the form. The backend team will demo when the user has added a project to the database with the user details inputted. All team members should fix their bugs if they find any. There were no impediments during the 7<sup>th</sup> day.

**Day 8 Thursday:** Yesterday, the client was again happy with the outcome of the projects form part of the website. Today, the front-end team worked on the view project's part, so the user can see their submitted projects. The backend team worked on filtering the search for the budget range. All team members should fix their bugs if they find any. There were no impediments on the 8<sup>th</sup> day.

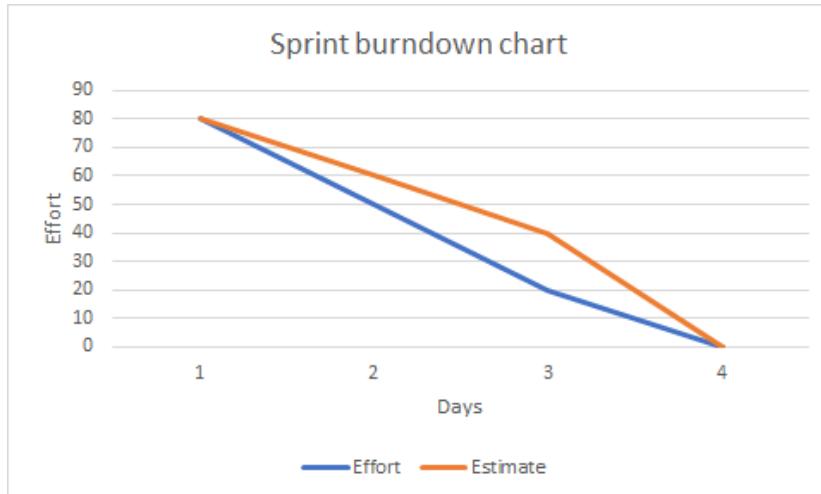
**Day 9 Friday:** Yesterday, the front-end team completed the projects template, and the backend team completed the search filters. Today the backend team was implementing the email to the client feature. All team members should fix their bugs if they find any. There were no impediments on the 9<sup>th</sup> day.

**Day 10: (Third demo) Saturday:** On the previous day, the backend team members were still trying to implement the email to client after project submission feature. Today the backend team will show the demo of the search features working on the website. The impediment only was trying to get the email to the client after project submission.

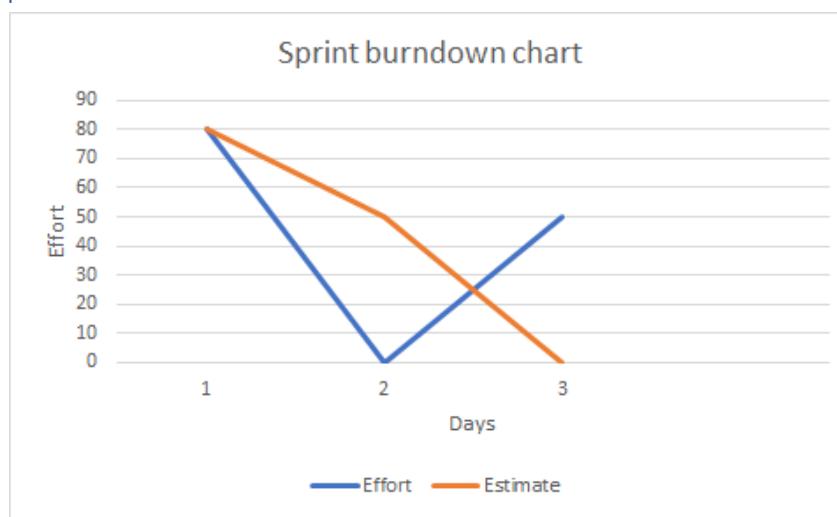
#### **Evidence at the end of the document**

## Sprint burndown chart (Evidence)

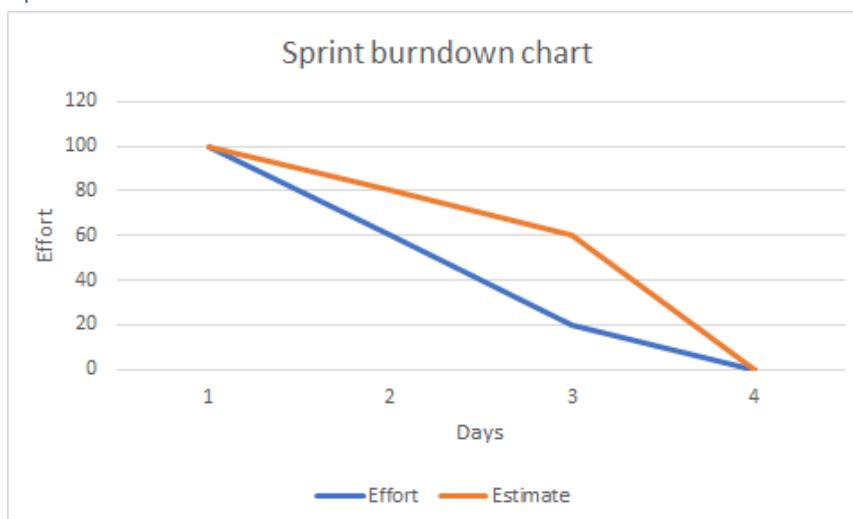
### Sprint 1



### Sprint 2



### Sprint 3



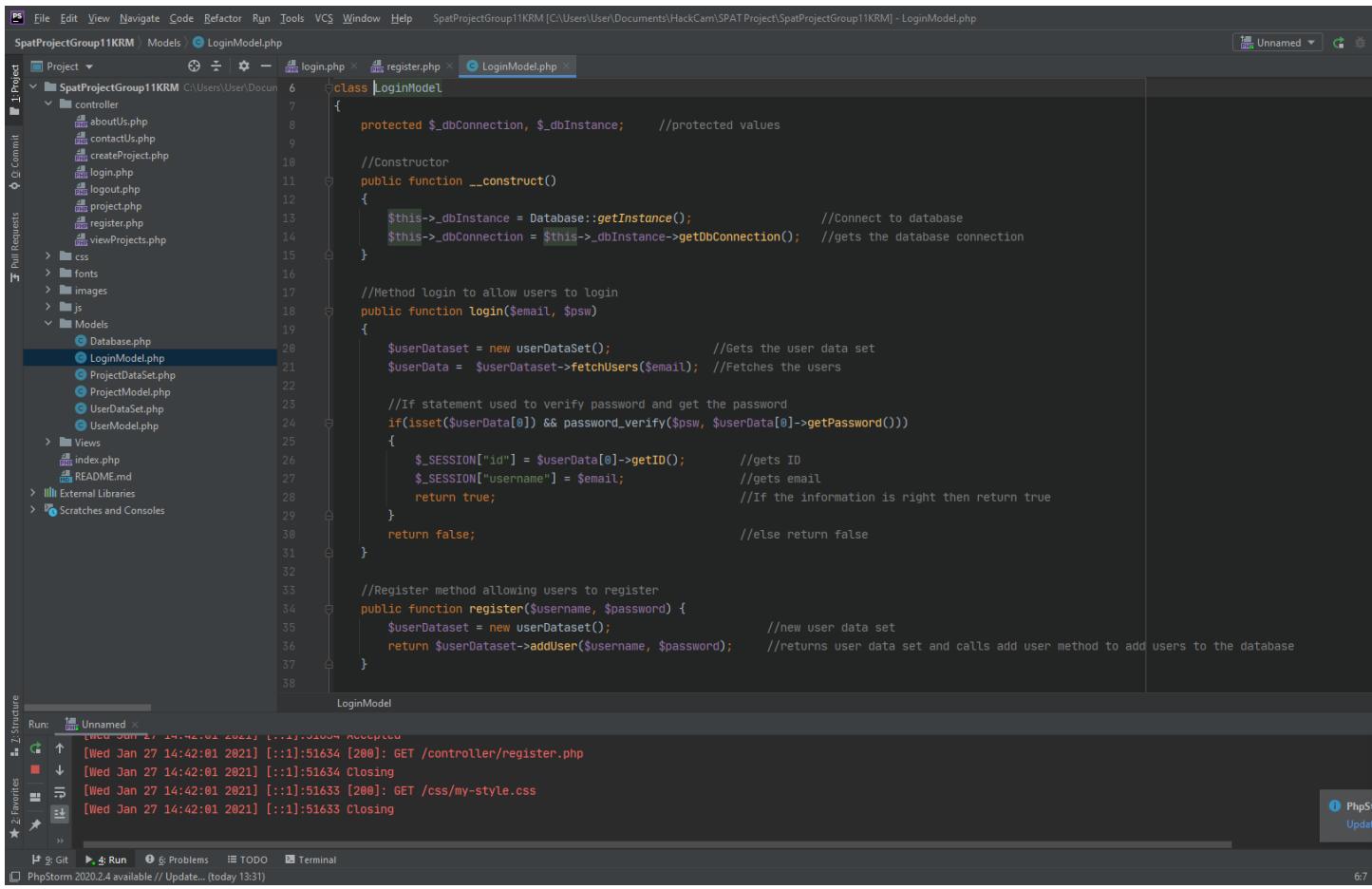
## Customer Demo meeting

During first sprint:

When the team members presented the first customer demo with the client Kim, she was very happy of how much work we have done during the first sprint compared to the other groups the client had and complimented the fact that we had done the full login, register front end and back end with the website aswell. For the first demo we demonstrated that we had completed the front end of the web application, alongside making the front end for the login and register which was completed by the front-end team. After showing the front-end work, Danyal and Sammie then demonstrated the backend work which was showcasing the models and controllers and showing the SQL statements to allow users to add themselves to the database and register. In the first demo the team also showed the setup for the application, how we organised the sprint and scrum board aswell and showed the start-up that was being done.

The backend team also implemented encrypted passwords, and this was also shown to the client. The different methods were shown, and we told the client that we were following a MVC model which Kim was very satisfied to see as it is used a lot in industry. The individual controllers and anti-spam features were also shown to the client to show that a user must be present, and a robot can't just sign in. The backend team also showed the validation used to ensure that users did type information into the text boxes, and nothing was left empty. Overall, she was very delighted with the work produced within 2 days and was the best at the moment compared to other groups.

This was very efficient from our group as it showed that the task allocation and communication of the team members was very good and positive. It showed the strategy implemented by the group to get the work done worked and was a promising sign to continue using the same strategy. As a group we were very happy with how the first demo went as it couldn't have gone any better and it kept the team member's morale high. All team members got stuck into the task that they were set and executed the tasks confidently which was very good.



```

class LoginModel
{
    protected $_dbConnection, $_dbInstance; //protected values

    //Constructor
    public function __construct()
    {
        $this->_dbInstance = Database::getInstance(); //Connect to database
        $this->_dbConnection = $this->_dbInstance->getDbConnection(); //gets the database connection
    }

    //Method login to allow users to login
    public function login($email, $psw)
    {
        $userDataSet = new userDataSet(); //Gets the user data set
        $userData = $userDataSet->fetchUsers($email); //Fetches the users

        //If statement used to verify password and get the password
        if(isset($userData[0]) && password_verify($psw, $userData[0]->getPassword()))
        {
            $_SESSION["id"] = $userData[0]->getID(); //gets ID
            $_SESSION["username"] = $email; //gets email
            return true; //If the information is right then return true
        }
        return false; //else return false
    }

    //Register method allowing users to register
    public function register($username, $password) {
        $userDataSet = new userDataSet(); //new user data set
        return $userDataSet->addUser($username, $password); //returns user data set and calls add user method to add users to the database
    }
}

```

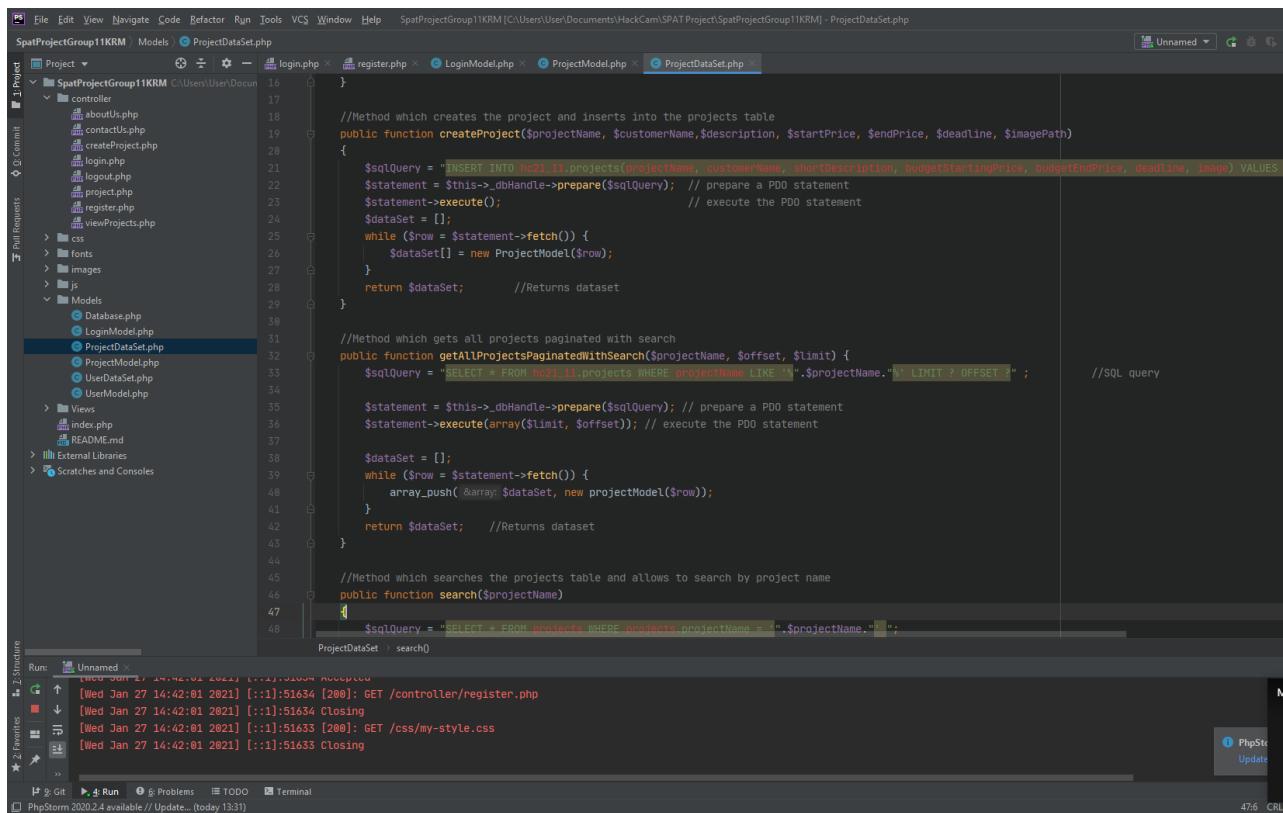
## During second sprint:

As the days progressed, the front-end team worked continuously on getting the projects section finished. In the second demo Danyal did the demo of the full work done. He showcased what the front end did and the backend aswell. This was due to the work commitments of other members who were busy with work. The front end did the create projects page where the different requirements were implemented such as customer name, project name, project starting price, ending price, alongside deadline and other requirements which was an image. The front-end team also did the view projects page which had a grid layout design and cards being used to perfectly align the images and description of the projects.

The backend work was quite significant for this part as the project part was the main element that the client wanted. The backend work produced for this demo was making the create project and view project models and controllers. The models had the setters and getters methods alongside functions to retrieve certain data from the projects table. A projects table was also shown and Danyal explained that as a group it was best we inserted the data from Mockaroo which allowed us to have realistic data into the database. The backend team also connected the SQL database using SQL queries which was used to get the view projects information. The backend work also consisted of showing the complex SQL statements being

used to ensure that when a user has clicked the submit button that the information does get sent to the right email and also it gets added to the view projects page. Danyal also showed that validation was also used to ensure information was typed inside the text boxes and pagination implemented to allow users to switch and see all the other projects.

Overall, when presenting the second customer demo with the client Kim and showcasing what our group had completed. She was once again very pleased with the work produced by our group because we showed an exceptional amount of work that was done during the second sprint and a massive improvement from the first sprint. All team members were dedicated in making sure all the tasks were done in the second sprint. The client was very satisfied as there were a lot of extra features implemented such as a view projects page, cards, complex SQL statements and pagination which she was very happy to see.



```

File Edit View Navigate Code Refactor Run Tools VCS Window Help SpatProjectGroup11KRM [C:\Users\User\Documents\HackCam\SPAT Project\SpaProjectGroup11KRM] - ProjectDataSet.php
Project > Models > ProjectDataSet.php
ProjectGroup11KRM C:\Users\User\Documents\HackCam\SPAT Project\SpaProjectGroup11KRM
controller
  aboutUs.php
  contactUs.php
  createProject.php
  login.php
  logout.php
  project.php
  register.php
  viewProjects.php
css
fonts
images
js
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  Database.php
  LoginModel.php
  ProjectDataSet.php
  ProjectModel.php
  UserDataSet.php
  UserModel.php
Views
  index.php
  README.md
External Libraries
Scratches and Consoles
ProjectDataSet > search()
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}

//Method which creates the project and inserts into the projects table
public function createProject($projectName, $customerName, $description, $startPrice, $endPrice, $deadline, $imagePath)
{
    $sqlQuery = "INSERT INTO hc21_11.projects(projectName, customerName, shortDescription, budgetStartingPrice, budgetEndPrice, deadline, image) VALUES
    $statement = $this->_dbHandle->prepare($sqlQuery); // prepare a PDO statement
    $statement->execute(); // execute the PDO statement
    $dataSet = [];
    while ($row = $statement->fetch()) {
        $dataSet[] = new ProjectModel($row);
    }
    return $dataSet; //Returns dataset
}

//Method which gets all projects paginated with search
public function getAllProjectsPaginatedWithSearch($projectName, $offset, $limit) {
    $sqlQuery = "SELECT * FROM hc21_11.projects WHERE projectName LIKE '%".$projectName."%' LIMIT ? OFFSET ?"; //SQL query

    $statement = $this->_dbHandle->prepare($sqlQuery); // prepare a PDO statement
    $statement->execute(array($limit, $offset)); // execute the PDO statement

    $dataSet = [];
    while ($row = $statement->fetch()) {
        array_push($array, $dataSet, new projectModel($row));
    }
    return $dataSet; //Returns dataset
}

//Method which searches the projects table and allows to search by project name
public function search($projectName)
{
    $sqlQuery = "SELECT * FROM projects WHERE projectName = '".$projectName."'";
}

```

During third sprint:

During the third sprint we extensively worked on the front end of the website, first of all they worked on the “submit” button on the project page, which then sends an email to the client keeping them informed that the project has been submitted successfully. They have also made website much more responsive and user friendly for the customers, these includes the navigation bar.

For example, when the user is on a certain page it will show the page name highlighted on the navigation bar, this helps the user know what page they are currently viewing and will not get confused between the pages easily. The front-end team has also worked on the “Contact us” page, this page was created for any issues that were faced by the customer then they can email to one of the support team for help, the contact us includes a submission form for the customer which once submitted will send an email directly to the support team with the customer's form. This is a good feature as the customer can input their issues in greater details on the form, this in term provides better communication between the customer and the support team.

The backend team has linked the create project webpage with the database so that when the user submits their project it will add their project to the project table in the database. Awais also worked on the checks for all the project inputs to make sure the user enters the correct data. The backend team also worked on SQL statements for the search bar. The SQL statement allowed the user to search for the products that were linked to their input and displayed all found projects that were similar to their desired project. The displayed project could then be further filtered using radio buttons from the price being low-to-high and vice versa. When the user submits the project, Sammie coded it to send an email to the user to inform them that the project is successfully made and details of the project.

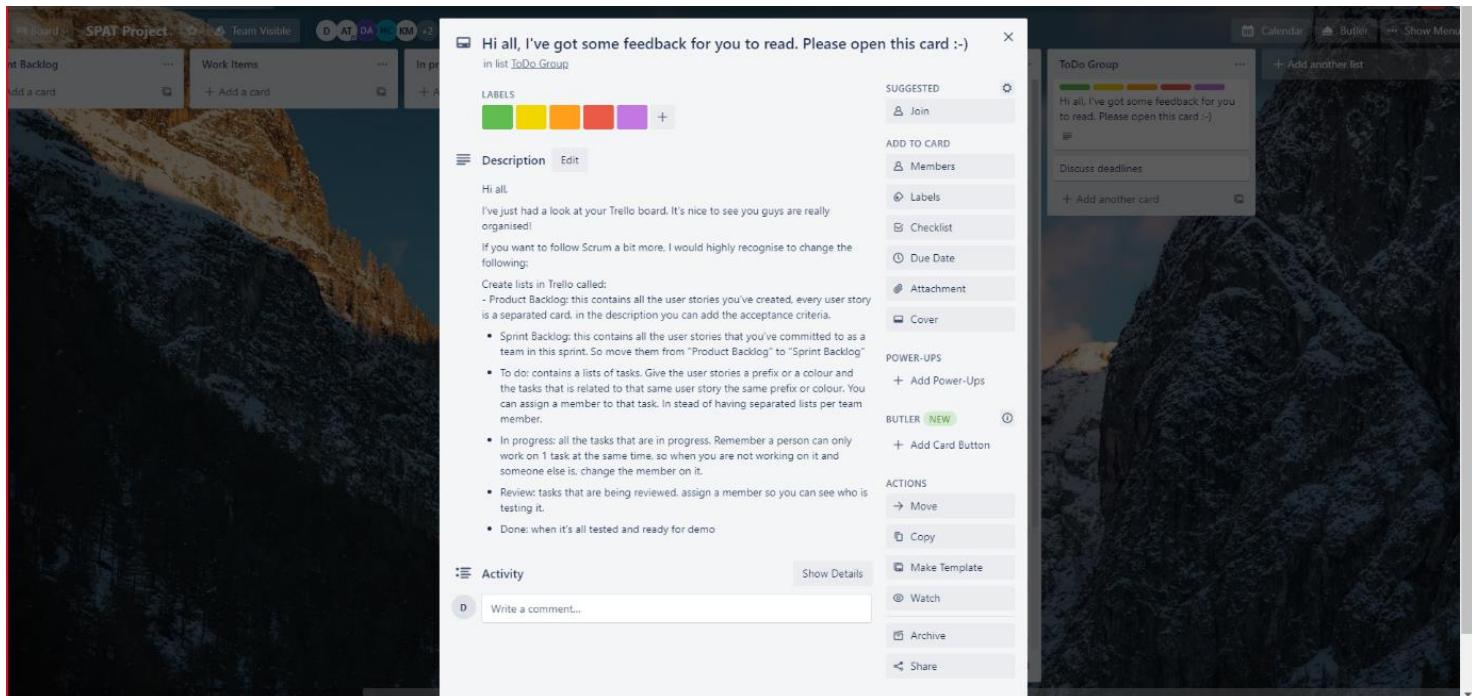
After the demo Kim told the group that she was very happy with the project and that we had completed all the requirements set out by KRM, she was also very pleased that we added extra features to the website that were not initially on her requirements, which includes the search filtering and email functionalities that were added to the website. She claimed that our project was among the top 3 from all the groups she had worked with. She was glad to see the improvements we made from her feedback from the 2<sup>nd</sup> demo. Her only feedback was to further polish the website and fix any bugs. Kim has also given us a really good feedback on our collaboration work as a group and how we maintained effective communication with each other via using Trello.



## Sprint retrospective

### During first sprint:

After the first sprint, the team members got feedback from the product owner of KRM we needed to put more users inside the database to make the website realistic. Kim requested that the colours of the webpage be changed to fit more in line with KRM's vision. The backend team needed to encrypt passwords (because the passwords were in plain text) to stop hackers from hacking passwords and getting unauthorised access. Also, the backend team should work on the link below the register go to the login page of the website, to help the users who have already logged in. Kim also gave review on how to organise the lists and having product backlog and how to work in an agile way, the feedback given was organising the lists and having appropriate lists and in a correct format. The lists were "to do", "in progress", "review" and "done". The client also suggested organising labels and making it visible on who is working particular section.



### During second sprint:

After the second sprint, the team members got feedback from the client, team members discussed what the next part of the project will be. During the demo, the username was displayed in the navigation bar however it was not coherent

with the design of the website and looked out of place. Kim said that this was bad design for the user and asked us to change it so that it would be more user friendly. The team agreed that the front-end team should update the UI so that it was easier on the eyes and felt more consistent. Next the team decided that they needed to add more checks for when the project is being created. This would be done by the mid team namely Ali and Naz by adding if statements for each of the project fields. Kim also stated that the trello board was not being utilised efficiently and should be more scrum oriented. She said that user story and the to-do card should be linked using colours. Furthermore, the to-do tasks should have 1 person assigned to them and moved into the review card. The team decided that restructuring the trello board was the first step for the next sprint. The second sprint feedback consisted of functionality of the web application and focusing on aligning with KRM's vision.

### During third sprint:

The team got feedback from the client the feedback from the third sprint was to get the email working on the "Project page" page as previously the email was not sent to the client once the "submit project" button was pressed. Another Feedback that we have received from our client was to upload our full project on the GitHub so that they could test it out on their servers and check for any bugs and errors. After the meeting, the back-end team has worked on the "submit" button on the project page, which then sends an email to the client keeping them informed that the project has been submitted successfully. Finally, at the end of the meeting Kim has asked us to put the user stories on trello board marked as done, as this was not following scrum protocol. Another feedback given from the client was adding extra functionality to the project and to go over the code and check for errors. At the end, the feedback was very positive.

### Evidence-

#### Kim

During HackCamp, Group 11 has organised 3 sprints. The first demo was on the 15th where the team showed me the set up for the application, the way they organised their sprint and Scrum board.

During review I gave the team feedback on how to improve their way of working in an Agile way. Some of the feedback was:

- Organising their lists as "Product Backlog", "Sprint Backlog", "To do", "In progress", "Review" and "Done".
- Finetuning user stories
- Organising labels and making it visible who's working on what.

After going through the feedback, the team immediately picked up on it and improved as much as possible in the second sprint. In the second sprint the team was also more focussed on adding functionality and making sure that the application was user-friendly.

During the demo (on the 20th) the teams constantly asked for feedback to make sure they were aligned with KRM's vision.

The third and final sprint (on the 23rd) was focussed on finetuning the application and adding a few extra features. The team finished the project in team according to the vision we had. In a short period they managed to optimise their communication, get feedback in time, they kept me up to date about the status and learned how to use Scrum.

As a customer I'm happy with the way the team organised their work in the past 2 weeks. Would be more than happy to do another project with them and I'm sure that they would then find ways to further improve their teamwork, communication and the way they implement Scrum.

## Requirements analysis and system design

As soon as Julian gave out the requirements for the project, the team brainstormed ideas and questions to ask the client. The Scrum Master Awais Tasleem decided that the entire team should be broken down into 2 smaller teams as backend end and front-end developers but worked together as one. This would make it easier to compartmentalise the project, so it is easier to work on, and easier to find problems and bugs in the code.

On the first day, the team had a meeting with the client to see what the client wanted and to see if the requirements were feasible with the team's skills and time budget. The client wanted a web application that would allow their customers to easily submit a project application and have all the details sent to the client's email address. The details must include the name of the project, the name of the customer, details of the customer such as the address and email, a small description of the application, a budget range, and a deadline for the application.

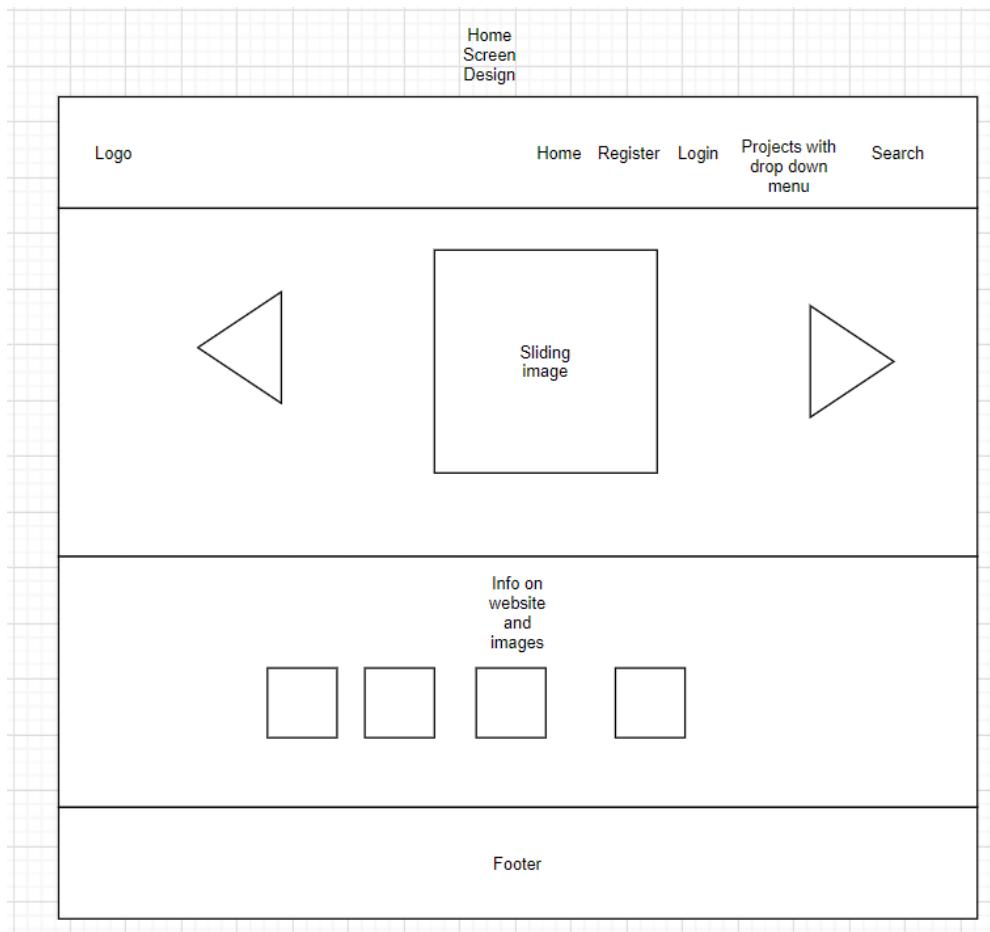
The team broke the main requirements down into 3 smaller goals and had these smaller goals checked by the client. The 3 main goals were, user profiles, create a project and send an email. The team broke the 3 main goals into smaller parts, and we turned them into user stories. The smaller task became the user stories which made it easier to divide the work out with the team.

In the first sprint the team focused on the first goal which was the user profile. The scrum Master between the frontend and backend. The frontend focused on the UI and the forms and the user input. The backend focused on the processing of the front ends user input and giving out a result. The back end team chose to use the PHP programming language because it is server side, and it does not require any extra processing on the user's machine. The front end used HTML5 because it is the latest mark-up language for the web. They have also used CSS and JavaScript for the look and feel of the webapp. The scrum master decided that the project would be made using the MVC model. This makes the communication between the frontend and backend easier because the data would go through the controller.

In the second sprint, the scrum master took the second goal which was to allow a user to create a project application, and for the client to view all the applications and accept or decline them and divide them, with the team. The front end made a form where the user could add their details and submit them. The frontend team also made a view where the client could see all the projects and accept them or decline them. The backend team worked on the security of the web app, and the functionality, where the right data got to the right user.

In the last sprint, the scrum master (Awais) divided the third goal which was sending the details of the project via email to the client, with the team. The frontend had worked on getting better animations on the webapp, cleansing the UI, and cleaning up the bootstrap to make it easier to read. The backend team was improving the security of all the text boxes on the login page and the register page. They were also adding an admin system for the client. The backend team was also cleaning the code up fixing any small bugs that affected the layout of the website. We chose to do the user profile first because the other goals require the

users to be created in order to implement them. The second priority was the create project function because emails are sent after the project has been submitted. The team had a meeting with the client right after 1 goal was achieved and fully tested. This was to make sure that, what the team was building was what the client wanted and to make sure that the team was on track to finish the project in the time given and to make sure it met the client's quality.



Register  
Page

Logo

Home Register Login Projects with  
drop down  
menu Search

Register title

Username

Password

Repeat Password

Register Button

Footer

Login  
popup

Logo

Home Register Login Projects with  
drop down  
menu Search

Login

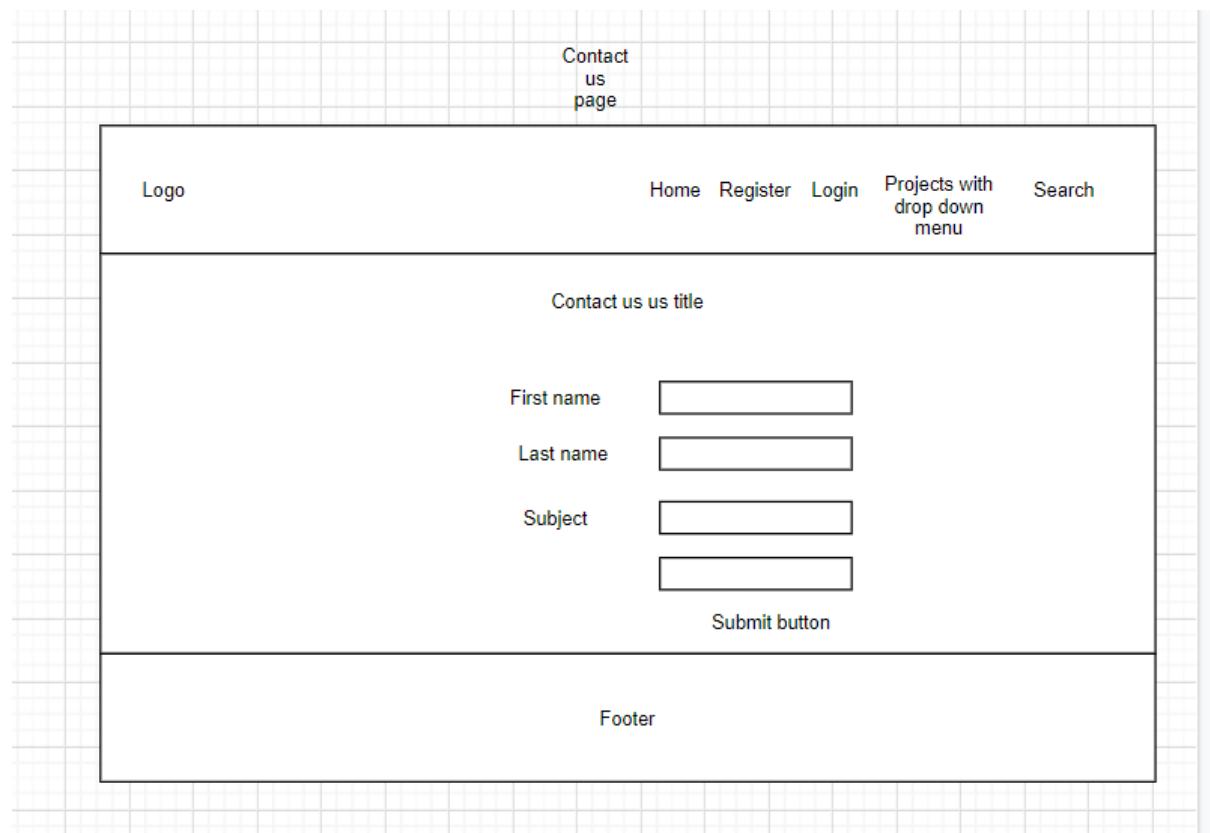
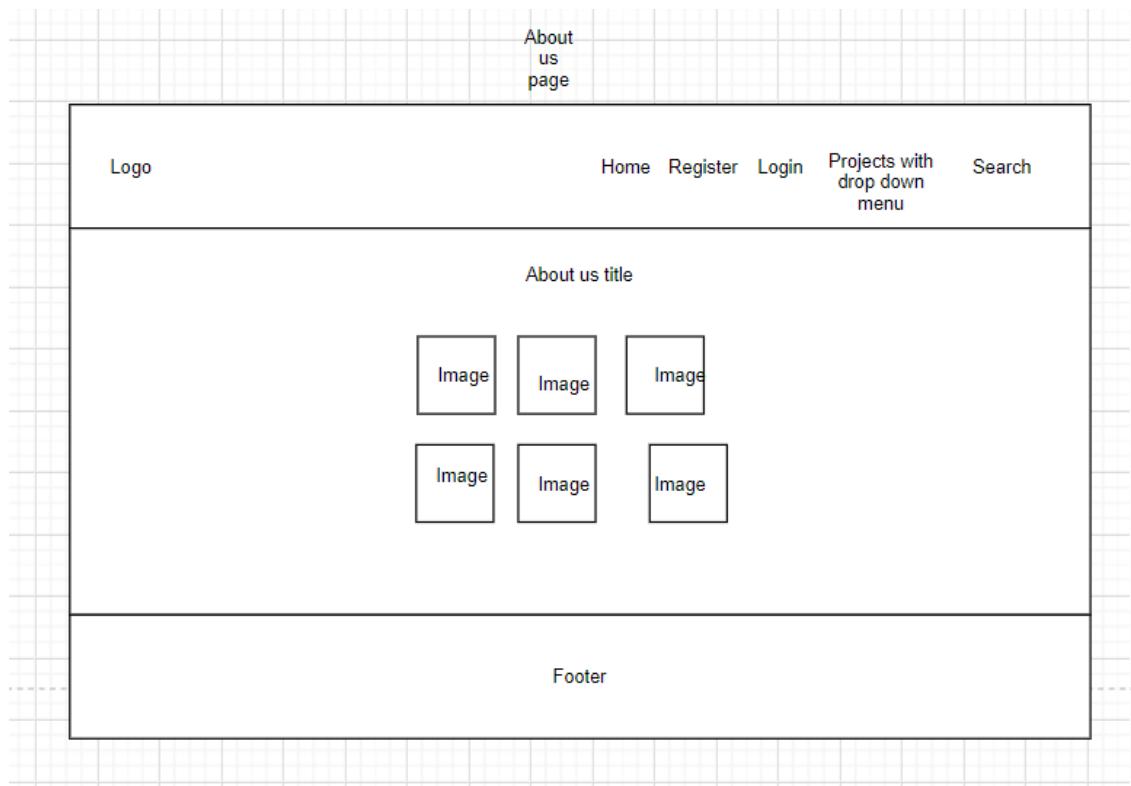
Username

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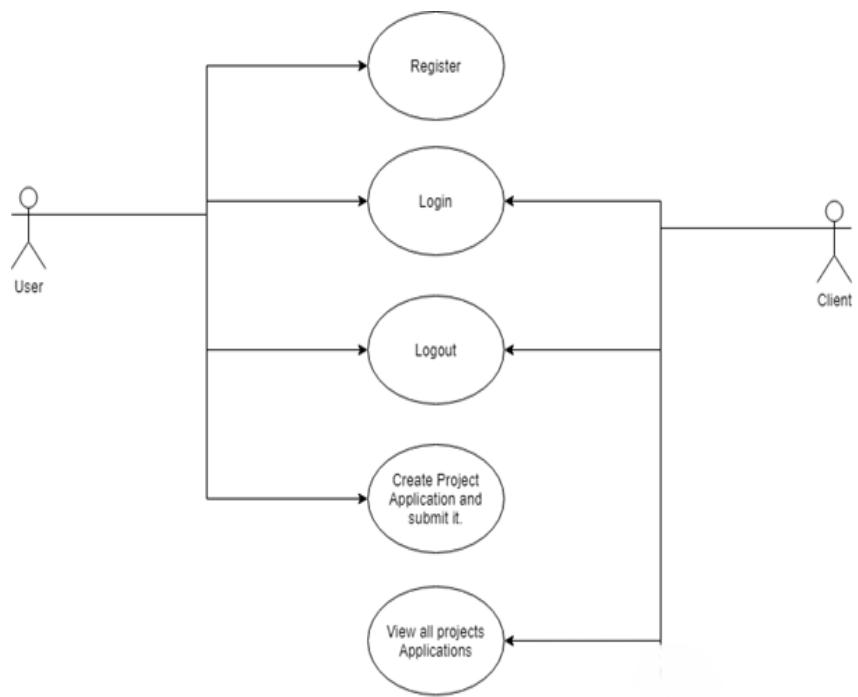
Create project page

Logo	Home	Register	Login	Projects with drop down menu	Search
Create project title					
Details of create project with the requirements					
<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>					
Submit button					
Footer					

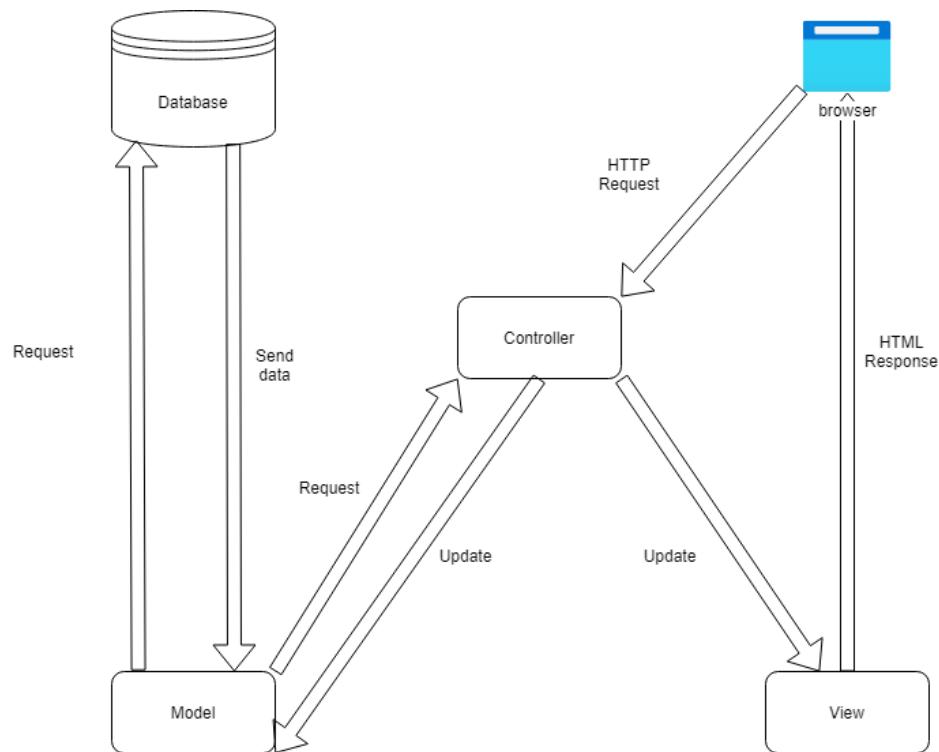
View project page

Logo	Home	Register	Login	Projects with drop down menu	Search
Filters					
<input type="text"/>	<input type="text"/>				
<input type="text"/>	<input type="text"/>				
<input type="text"/>	<input type="text"/>				
Pagination					
Footer					

## Use Case Diagram

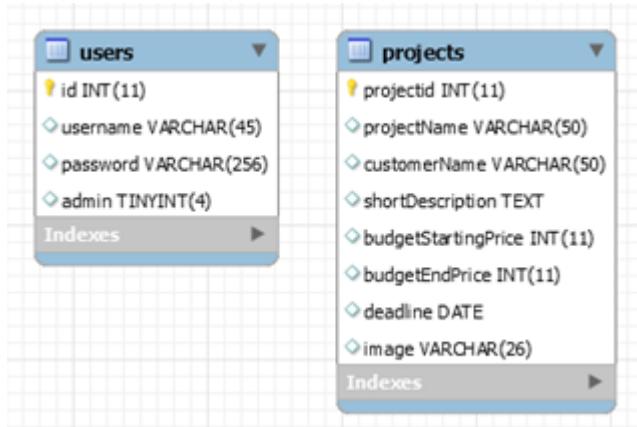


## Overall System Architecture



## Database Design

Before the first demo when having a general conversation with the Kim. She expressed that she has a very high number of connections and when asking her about databases and how she would like it, she introduced us to a full stack software developer who we added to the group and as a team we discussed database questions with Tjeerd (Full stack developer at KRM) to ensure that as a group we were on the right track.



## Solution implementation

The home page design is one of the most important aspect of the website, as this brings in the customers attention to the website leading to them wanting to explore more of the website out of curiosity. The front-end team members implemented a carousel. A carousel will show collection of images which will give a visual message to the user informing them of what the KRM website is all about, such as IT infrastructure, IT security, and IT software. This is really convenient for the customers as the Images show the user without reading text what the website can do for them. The search bar is located on the navigation bar which allows it to be accessible at all times by the customer, this also helps them from getting confused between pages when exploring the website. Most websites have a navigation link to the register and login page, to make the user authenticated to the website. The text on the landing page was in the middle because it will tell the user what the solution is trying to achieve. The text is black because it is a good convention for the user to read it clearly.

Most of the backend was created by using MVC(Model-View-Controller) structure. This is because all the team members were comfortable using MVC on the Auction System

assignment. Most of the front-end was implemented in Bootstrap 4. Bootstrap 4 was used because it is a responsive framework that implements the CSS for the website automatically, and it also helps speed up the production of the solution. All team members were comfortable when using Bootstrap 4 because they used it within their Auction System assignment. The background of the website was white so the images and text can be clearly seen by the user. When the user scrolls down, they will see a “How it works” title, which gives the user an overview of what the website does.

It is necessary to make sure a website looks like a proper website so, all team members thought it was a good idea to add social media icons on the footer, which will show to the users’ that it is a professional website.

The register form has got the correct details, for a user so when they type in a username and a password, they should be able to login (only when they have clicked on the login button and put the correct details in). The front-end and backend team also worked on making sure the repeat password works correctly, like how other websites tell the user to put in their password twice, which will mean that the user must remember the password and get it right every time the user wants to login to the website. If the any of the register form fields are empty, the website will say required, on the respected empty form field, to show the user that it is empty.

The login form was implemented via Bootstrap 4 to work as a modal form, by the front- end team. When a user has put in the wrong username and password, the website will check the details against the users table, and if it is wrong it will tell the user in text “Wrong answer”. If the details are checked and are completely correct within the users table then the user is logged in. If the any of the login form fields are empty, the website will say required, on the respected empty form field, to show the user that the user did not input any value, using the default Bootstrap “required” class.

Within the solution the front-end and back-end team added a about us page to show the user who was involved when creating the solution. Also, within the solution the front-end and back-end team members added a contact page to show the users’ they can contact us through the website using the about us page email addresses.

A user can create a project by clicking on the project's dropdown link. When creating the solution all team members needed to make sure they met the project requirements given by the client. To implement this on the solution the front-end and back-end created a project form for the user to add projects inside the project table once the user has submitted their form. When the user has clicked on view projects, they can see all the projects that was made by a user, however the back-end team implemented this by using mockeroo, which is a tool that is used to create dummy data for a database.

When a user has submitted a project, they can view it on the project's navigation dropdown. The back-end team worked on pagination for usability, because if the website has thousands of projects on 1 page, then it will become bad design, and the user will be annoyed with scrolling down a lot, using a tiny scroll bar. The backend team implemented

search filters to make the user usability easy to use, so when they put filters for low to high or high to low, a user can be able to look at the different projects at their chosen filter.

## Testing and evaluation

### Acceptance Criteria

Number	Acceptance Requirements	Test Result (Number of people)	
		Accept	Reject
1	Test to see that the page links go to the correct page	7	0
2	Test to see that the page external links go to the correct page	7	0
3	Test to see that the carousel goes to the next image	7	0
4	Test to see when users click the home button it goes to the home page	7	0
5	Test to see when users click the register button it goes to the register page	7	0
6	Test to see when users don't enter any information in the register boxes it displays an error	7	0
7	Test to see when users click register on the register page it adds to the database and user account has been made	7	0
8	Test to see when users click sign in, it redirects them to the home page where they can login	7	0
9	Test to see when users click login it loads up the login form	7	0
10	Test to see when users don't enter any	7	0

	information in the login boxes it displays an error		
11	Test to see when users don't enter the correct anti-spam number it displays an error	7	0
12	Test to see when user logs in it displays the username	7	0
13	Test to see when user clicks about us, it goes to the about us page	7	0
14	Test to see when user clicks contact us, it goes to the contact us page	7	0
15	Test to see when user clicks create project, it goes to the create project page	7	0
16	Test to see when user clicks view projects, it goes to the view projects page	7	0
17	Test to see when users don't enter any information in the create project page boxes it displays an error	7	0
18	Test to see when users click submit in create project page, an email gets sent to Kim and it adds to the project table and the view projects table	7	0
19	Test to see when users click the next page in view projects page it goes to the next page	7	0
20	Test to see when users click the previous page in view projects page it goes to the previous page	7	0
21	Test to see when users search by	7	0

	project name in the search bar, it displays the correct details		
22	Test to see when users search by project name from the home screen, it displays the correct details	7	0
23	Test to see when users search by project name and click low to high filter it filters correctly	7	0
24	Test to see when users search by project name and click high to low filter it filters correctly	7	0

## Test Results

### Number 1

#### Before

The screenshot shows the 'About us' section with a brief description of the company's focus on IT specialists and its 20-year history. Below this is a section titled 'Where are we based & how does it work?' with a sub-section about submitting applications. A 'Popular professional services' section follows, featuring four service icons: 'Infrastructure Design' (server racks), 'Hacking' (person with laptop), 'Data entry' (person at a keyboard), and 'Programming' (code on a screen). The 'How it works' section contains three steps: 'Have a project?' (Sign up to submit your project), 'Submit the project' (Once you login, you will be able to submit the project), and 'What happens next?' (The project will be submitted to projects@krm.nl). The footer includes links to KRM, social media, and a 'Follow Us' section.

#### After

The screenshot shows the redesigned website with a large, vibrant illustration of various IT hardware (server racks, monitors, phones, tablets) connected by glowing blue lines forming a network, set against a blue globe background. The KRM logo is in the top left, and a navigation bar with 'Home', 'Register', 'Login', 'Projects', and a search bar is at the top right. The main content area is titled 'IT Infrastructure' with the subtext 'Purchase yours now!'. The URL 'localhost:8002/#demo' is visible at the bottom left.

## Number 2

### Before

**Where are we based & how does it work?**  
We are based in Amsterdam and it works by registering and once logged in you can submit a application  
It is as simple as that!

**Popular professional services**



Infrastructure Design      Hacking      Data entry      Programming

**Have a project?**  
Sign up to submit your project

**How it works**  
**Submit the project**  
Once you login, you will be able to submit the project

**What happens next?**  
The project will be submitted to projects@krm.nl

---

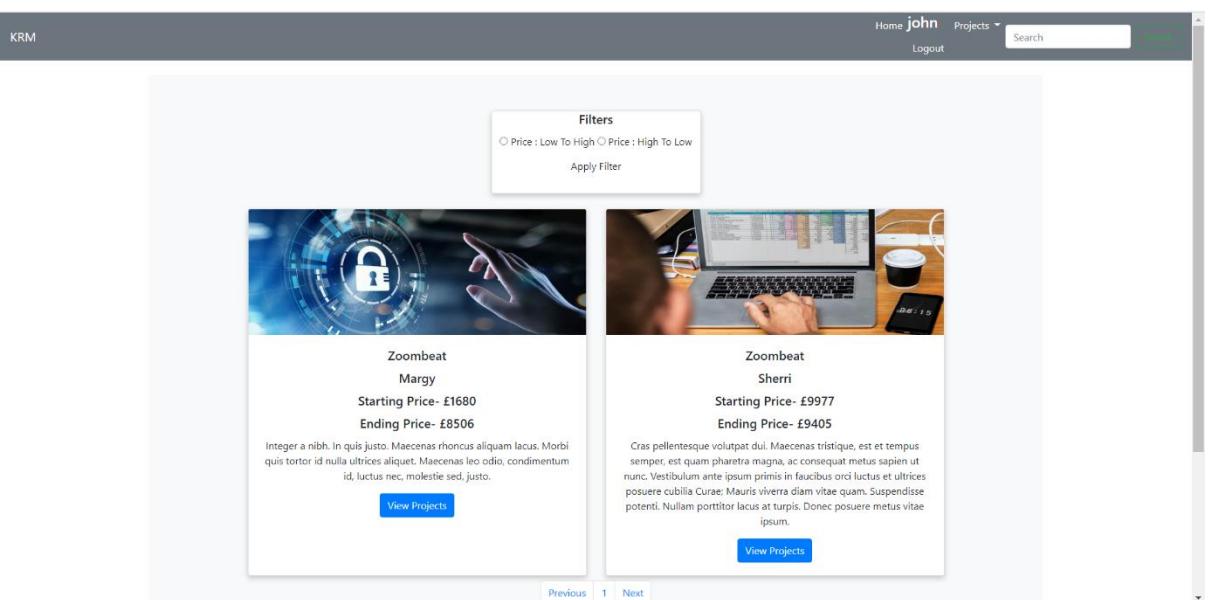
**KRM**  
This website was made by Group 11 SPAT team

**Links**  
About Us  
Create A project  
View my project

**Links**  
Social media  
Jobs  
Contact Us

**Follow Us**  
[Facebook](#) [Instagram](#) [LinkedIn](#) [Twitter](#)

### After



Home **john** Projects Search

**Filters**  
 Price : Low To High  Price : High To Low  
Apply Filter

**Zoombeat**  
Margy  
Starting Price- £1680  
Ending Price- £8506

Integer a nibh. In quis justo. Maecenas rhoncus aliquam lacus. Morbi quis tortor id nulla ultrices aliquet. Maecenas leo odio, condimentum id, luctus nec, molestie sed, justo.

[View Projects](#)

**Zoombeat**  
Sherri  
Starting Price- £9977  
Ending Price- £9405

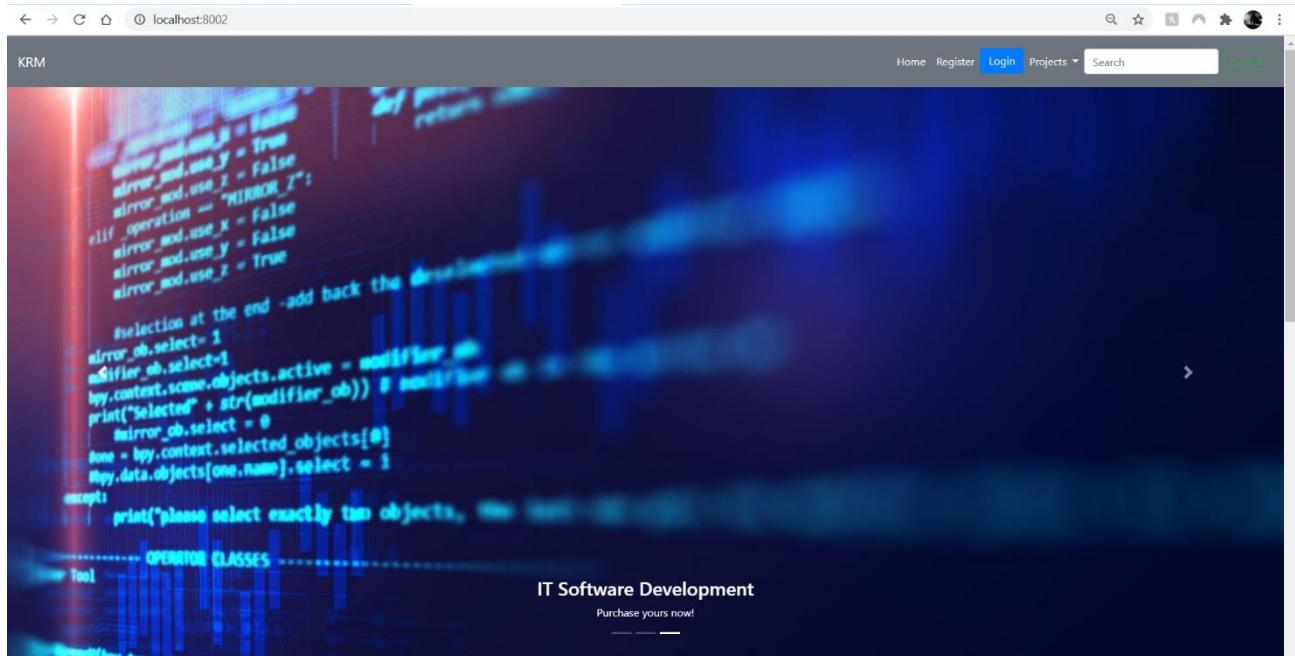
Cras pellentesque volutpat dul. Maecenas tristique, est et tempus semper, est quam pharetra magna, ac consequat metus sapien ut nunc. Vestibulum ante ipsum primis in faucibus orci luctus et ultrices posuere cubilia Curae. Mauris viverra diam vitae quam. Suspendisse potenti. Nullam porttitor lacus at turpis. Donec posuere metus vitae ipsum.

[View Projects](#)

Previous 1 Next

Number 3

### Before



localhost:8002

KRM

Home Register Login Projects Search

```
def mirror_mod_use(self, ob):
    mirror_mod.use_x = True
    mirror_mod.use_y = True
    mirror_mod.use_z = False
    elif_operation == "MIRROR_Z":
        mirror_mod.use_x = False
        mirror_mod.use_y = False
        mirror_mod.use_z = True

    selection at the end -add back the deselction
    mirror_gb.select=1
    modifier_gb.select=1
    bpy.context.scene.objects.active = modifier_gb
    print("Selected" + str(modifier_gb)) + modifier_gb
    mirror_gb.select = 0
    one = bpy.context.selected_objects[0]
    bpy.data.objects[one.name].select = 1
except:
    print("please select exactly two objects, the tool will not work")
    return
```

Tool

-----

OPERATOR CLASSES

IT Software Development

Purchase yours now!

### After



Number 4

### Before



KRM

Home Register Login Projects Search

```
mirror_mod.use_y = True
mirror_mod.use_z = False
elif_operation == "MIRROR_Z":
    mirror_mod.use_x = False
    mirror_mod.use_y = False
    mirror_mod.use_z = True

    #selection at the end -add back the
    mirror_obj.select=1
    modifier_obj.select=1
    bpy.context.scene.objects.active = modifier_obj
    print("Selected" + str(modifier_obj))
    mirror_obj.select = 0
    done = bpy.context.selected_objects[0]
    bpy.data.objects[one.name].select = 1
except:
    print("please select exactly two objects, the second one is the mirror object")
```

Tool

----- OPERATOR CLASSES -----

IT Software Development

Purchase yours now!

localhost:8002/controller/register.php

### After



Number 5

**Before**



**After**

Sign in.'."/>

localhost:8002/controller/register.php

KRM

Home Register **Login** Projects Search

## Register

Please fill in this form to create an account.

**Username**  
Enter Username

**Password**  
Enter Password

**Repeat Password**  
Repeat Password

**Register**

Already have an account? [Sign in.](#)

## Number 6

### Before

KRM

Home Register **Login** Projects Search

## Register

Please fill in this form to create an account.

Username

Enter Username

Password

Enter Password

Repeat Password

Repeat Password

Register

Already have an account? [Sign in.](#)

### After

KRM

Home Register **Login** Projects Search

## Register

Please fill in this form to create an account.

Username

Enter Username

Password

Please fill in this field

Enter Password

Repeat Password

Repeat Password

Register

Already have an account? [Sign in.](#)

Username

st00d

Password

Please fill in this field

Enter Password

Repeat Password

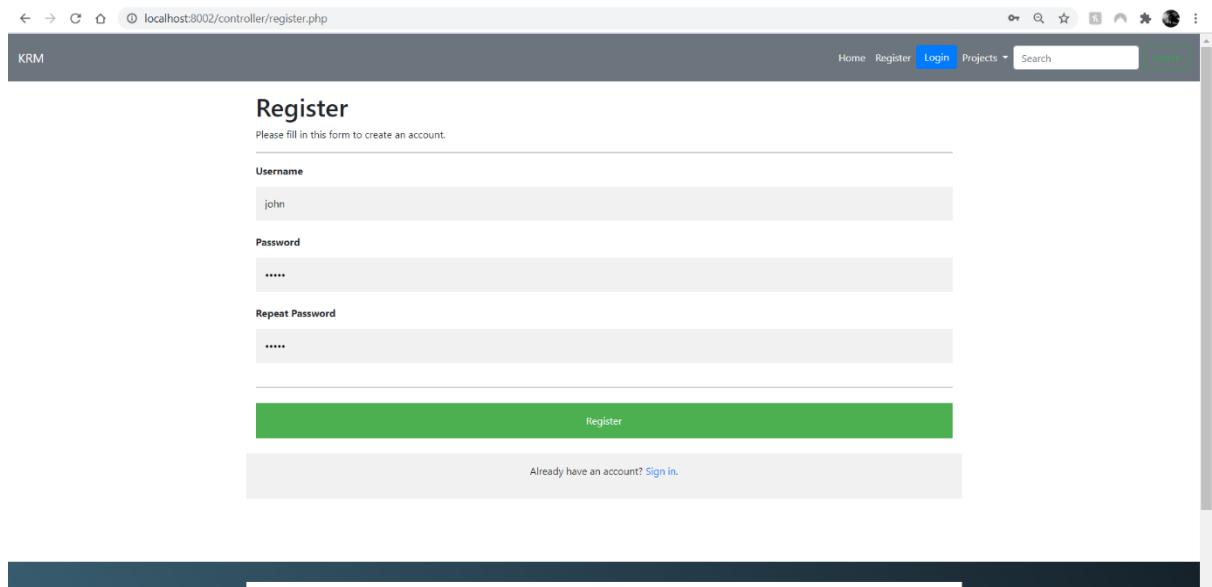
Repeat Password

Register

Already have an account? [Sign in.](#)

## Number 7

### Before



localhost:8002/controller/register.php

KRM

Home Register Login Projects Search

## Register

Please fill in this form to create an account.

Username

john

Password

\*\*\*\*

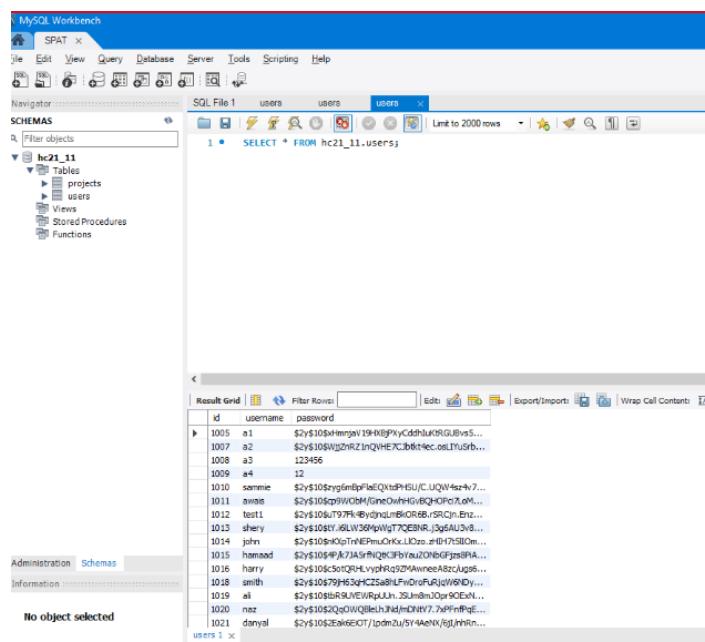
Repeat Password

\*\*\*\*

Register

Already have an account? [Sign in.](#)

### After



MySQL Workbench

File Edit View Query Database Server Tools Scripting Help

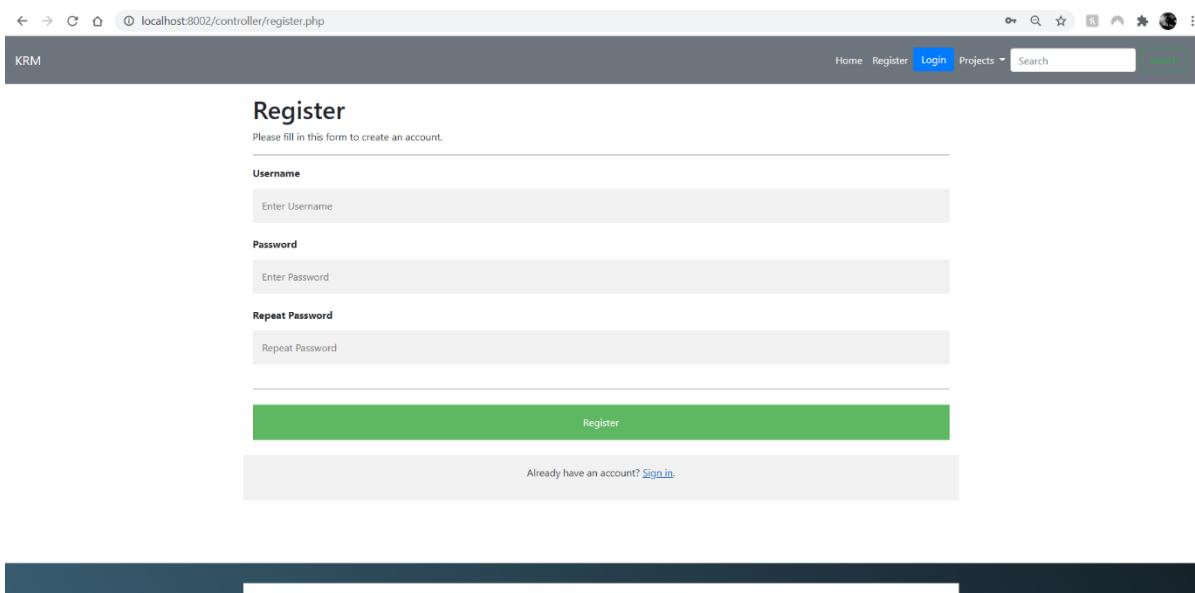
Navigator: Schemas: hc21\_11: Tables: users: users: users

1 • SELECT \* FROM hc21\_11.users;

	id	username	password
1	1005	a1	\$2y\$10\$04Imgv19-0Bj9VYCdhlukRGJUbvs5...
2	1007	a2	\$2y\$10\$Wj2jRZInqHE7CJbd8f4c.osL1uSb...
3	1008	a3	123456
4	1009	a4	12
5	1010	semmi	\$2y\$10\$yrg6nlpfleQxtbPH5U/C.UQW4ez4v7...
6	1011	anmin	\$2y\$10\$kp99iOBm/0neWnHg/BQHOf7.7oM...
7	1012	test1	\$2y\$10\$uT7979-@v@qndLBiCR68.r5CJnEnz...
8	1013	shery	\$2y\$10\$91.6LW38qGW7TQE8NR.3gAU5v8...
9	1014	john	\$2y\$10\$9i0pTnPhmOkxJQhHD759IO...
10	1015	hammed	\$2y\$10\$9P/JIA5rh7Q2fIbyauZOHbG7jm9R...
11	1016	harry	\$2y\$10\$8c5o7QH.vyhnhs2Z4MvneASzLjg...
12	1018	smith	\$2y\$10\$7979h5qHC28aLFLDnOfURjgW9Dy...
13	1019	ali	\$2y\$10\$8sR3VEVrRqoLh.J5uJdn7Op90EvN...
14	1020	nsz	\$2y\$10\$2QgDWQleuLhJhdHdHv7.xePmFq...
15	1021	danysl	\$2y\$10\$2a66C07/bdnzuSY4AenV8jJmtn...

Number 8

**Before**



localhost:8002/controller/register.php

KRM

Home Register Login Projects Search

## Register

Please fill in this form to create an account.

**Username**  
Enter Username

**Password**  
Enter Password

**Repeat Password**  
Repeat Password

**Register**

Already have an account? [Sign in](#).

**After**

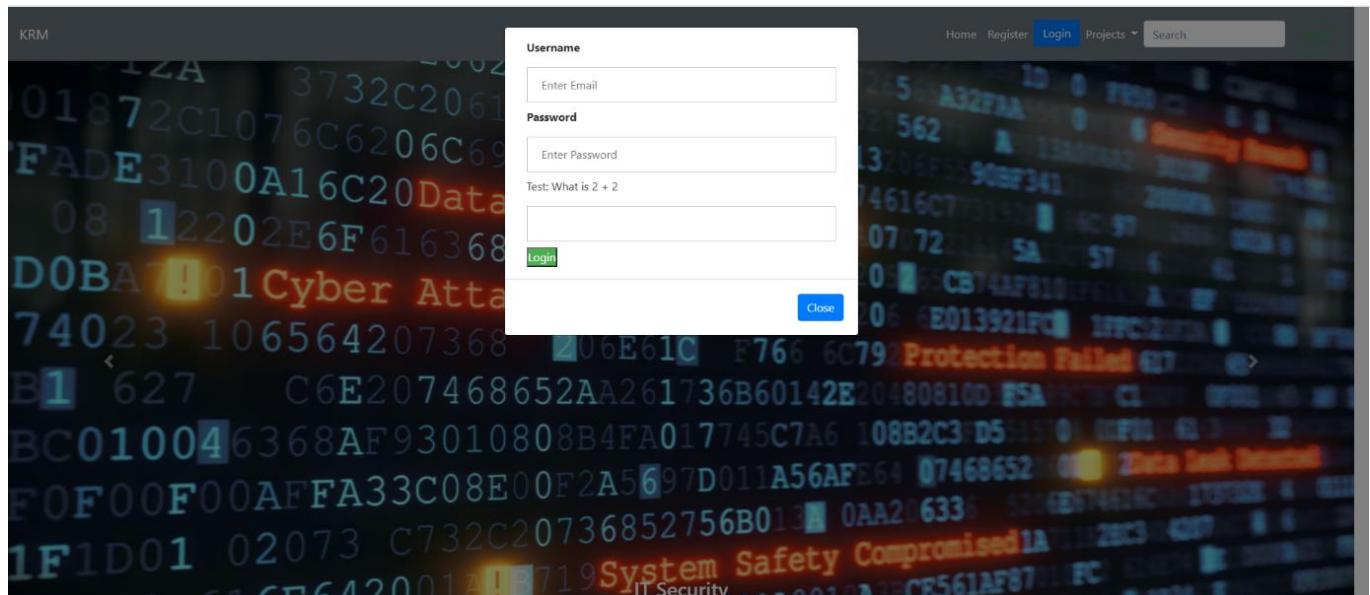


Number 9

**Before**

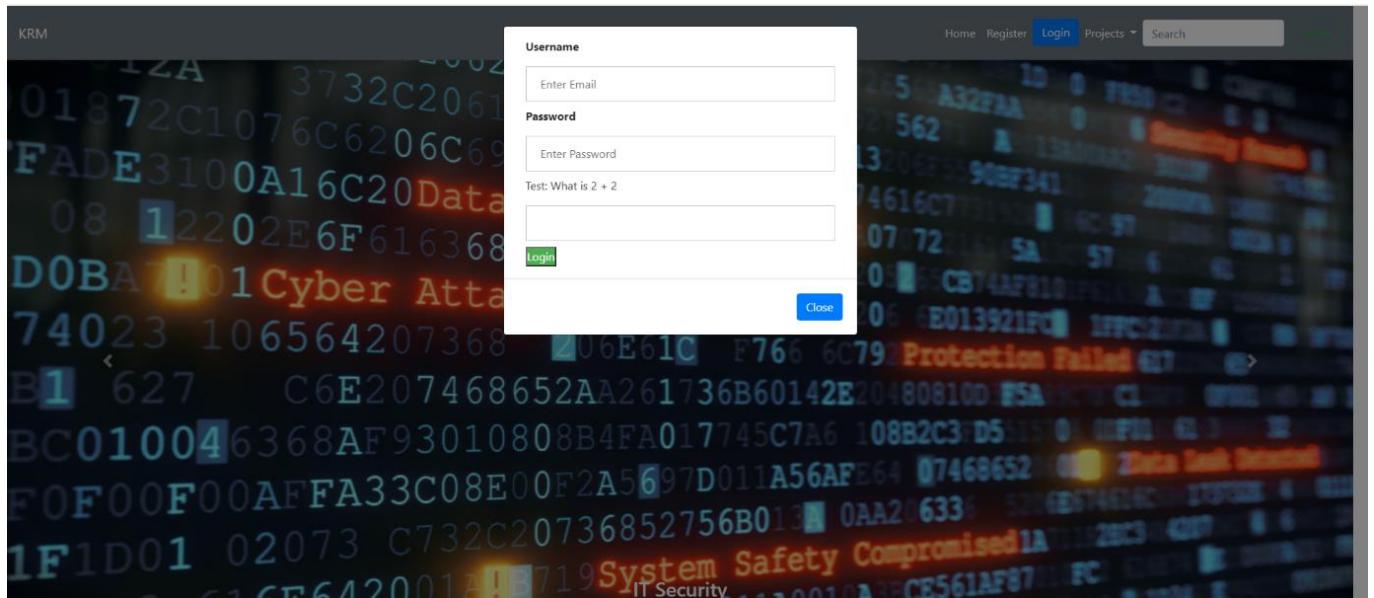


**After**

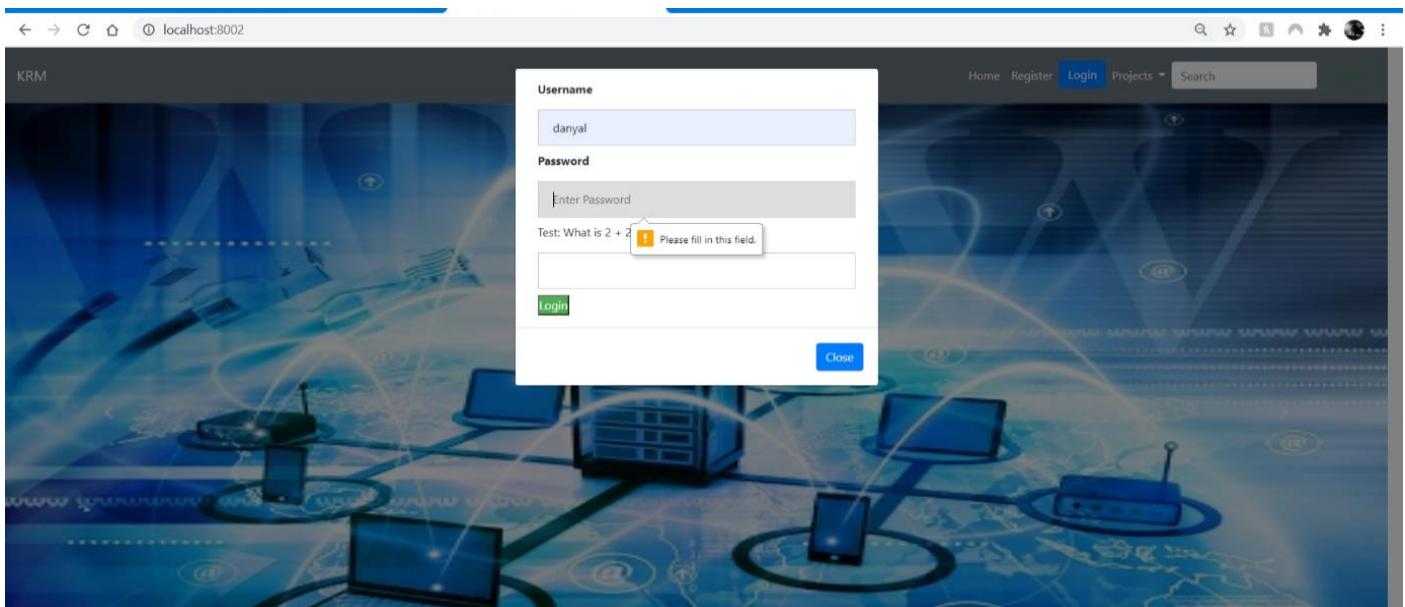


Number 10

**before**

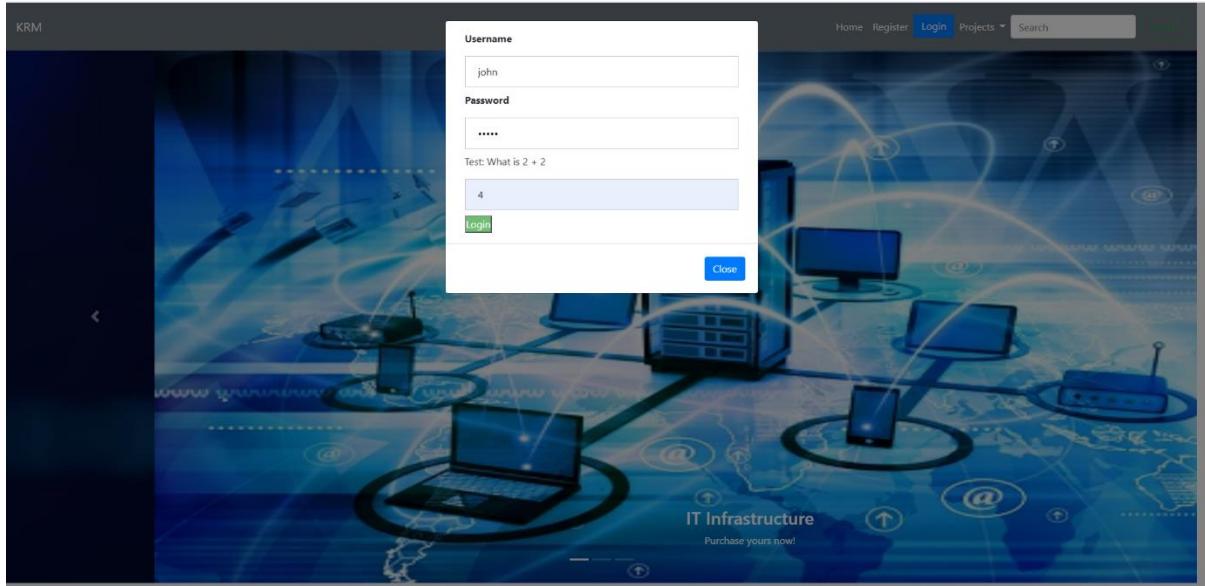


**After**

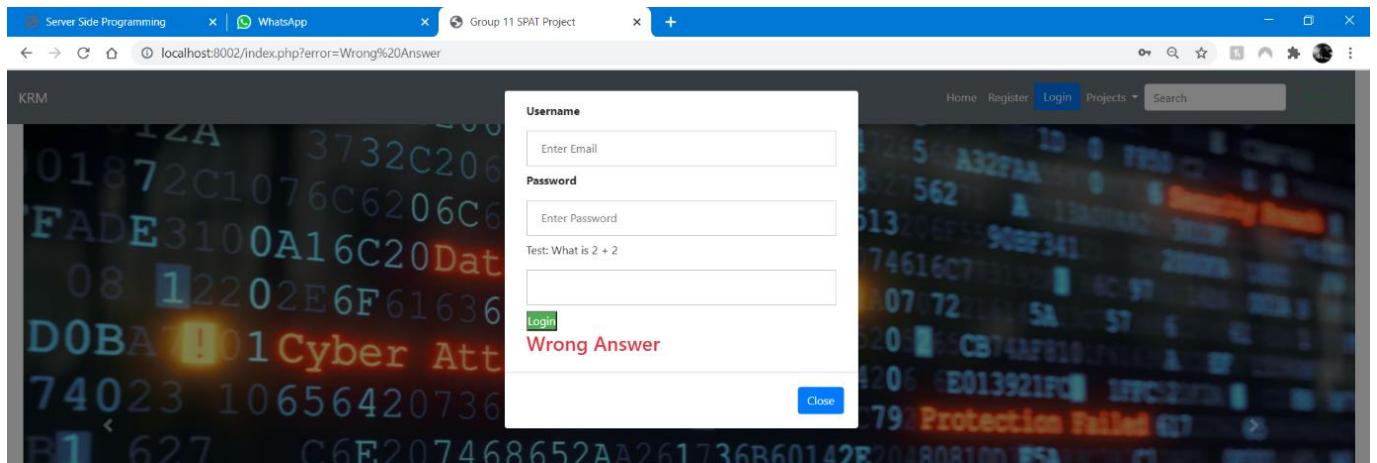


Number 11

**Before**

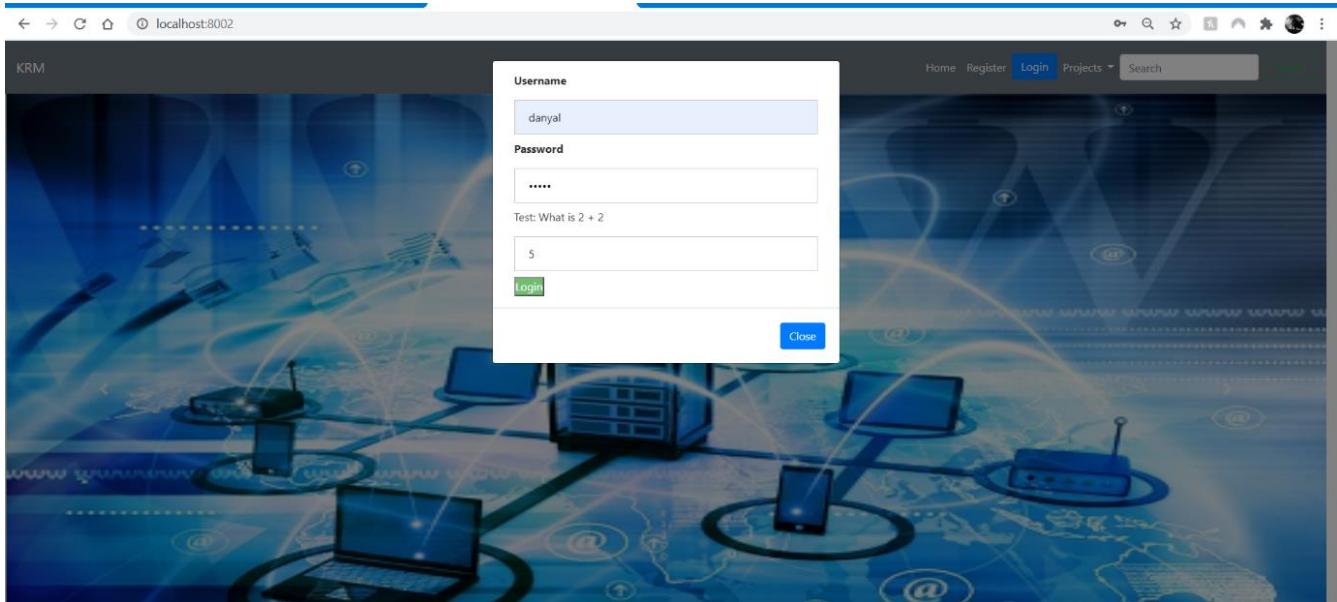


**After**



Number 12

**Before**

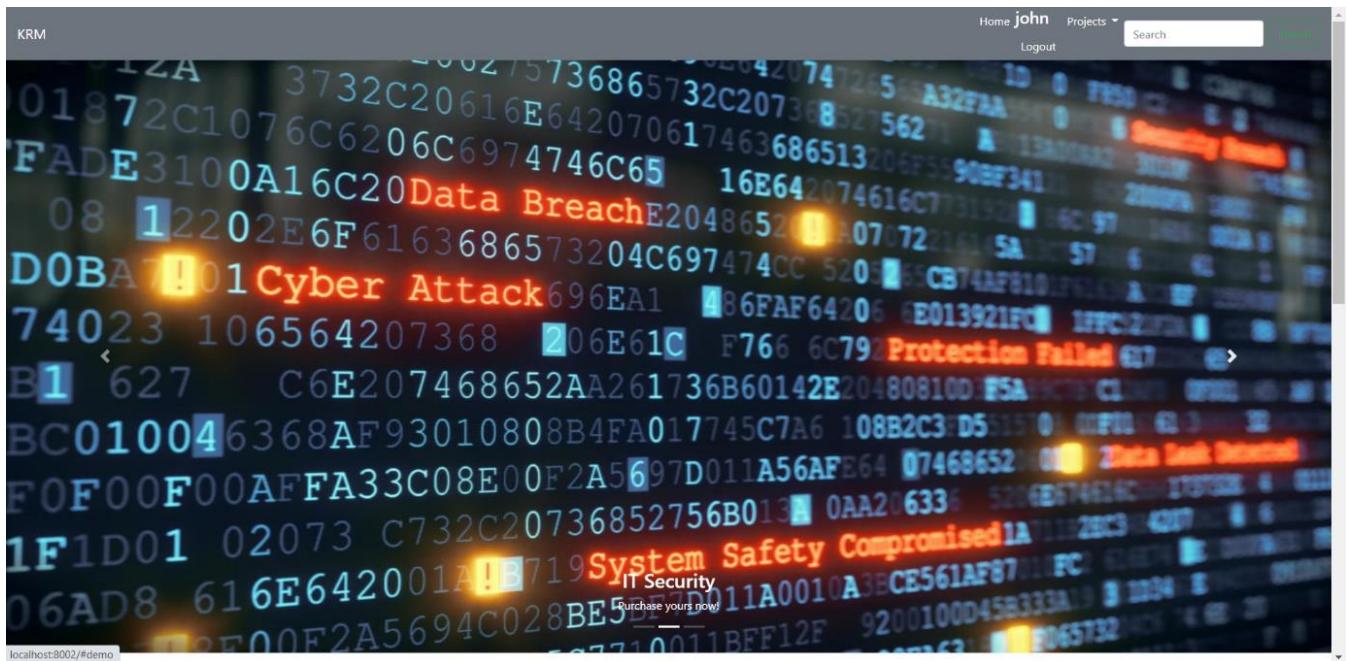


**After**

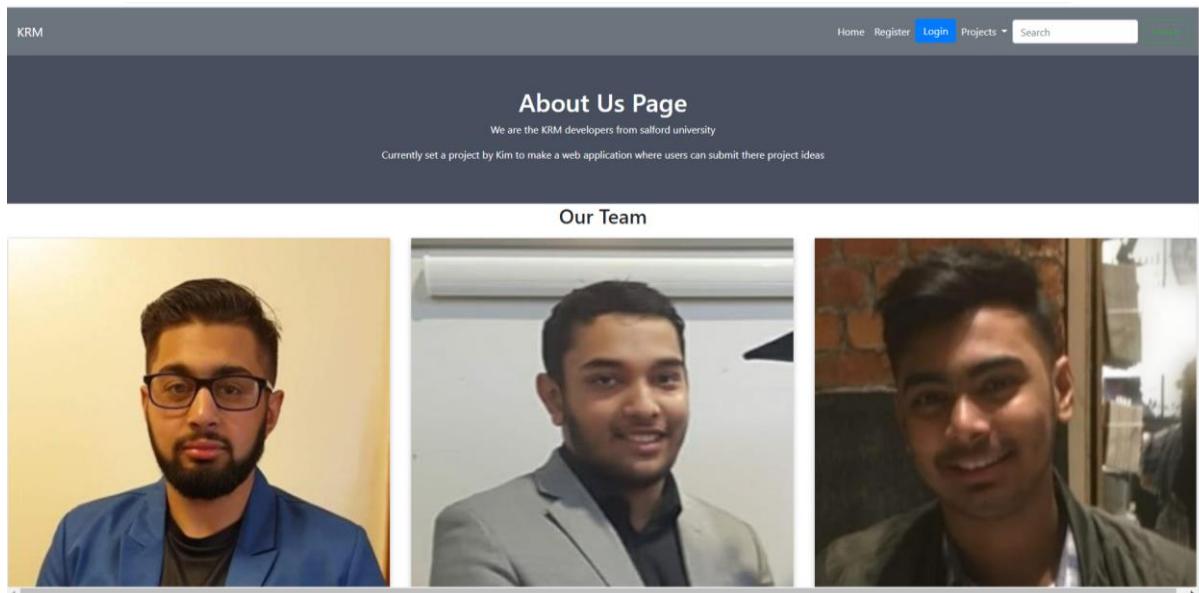


Number 13

**Before**



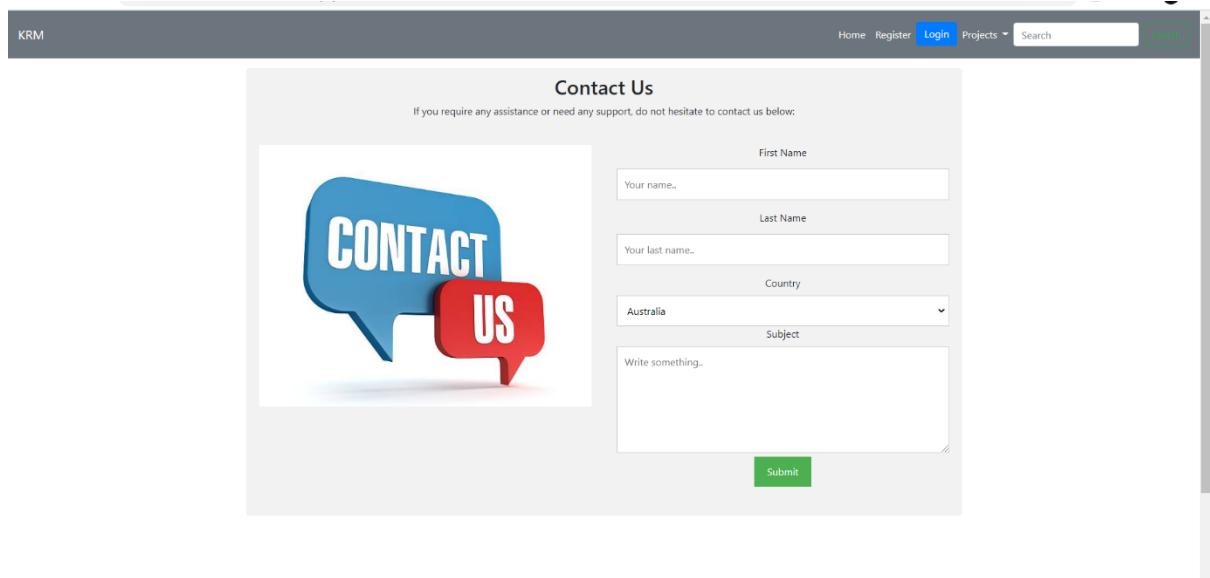
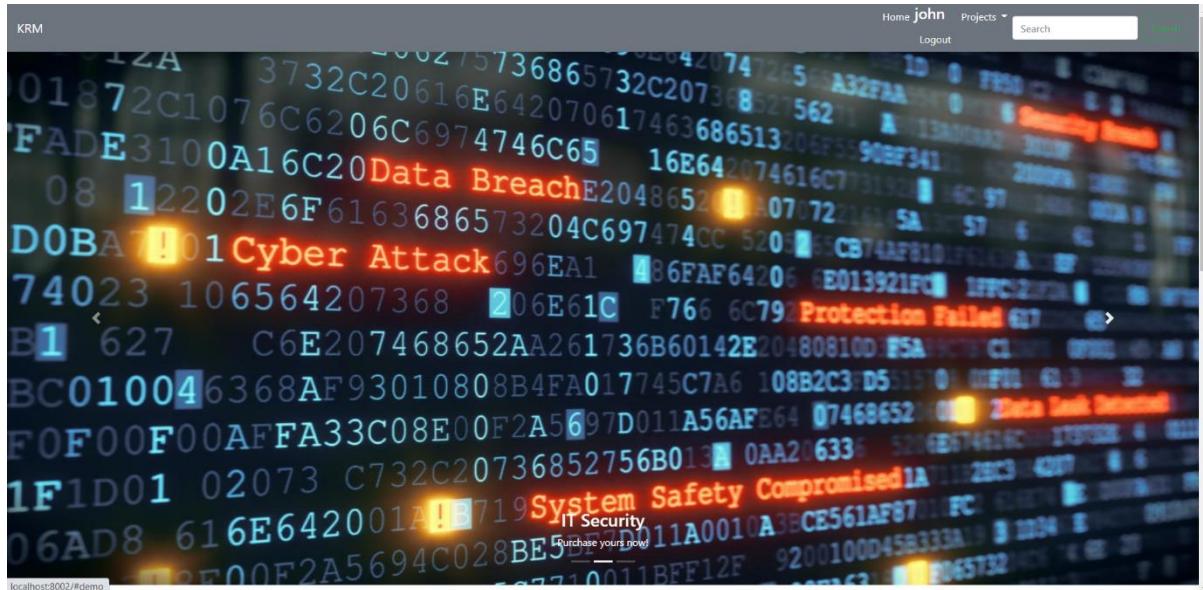
**After**



Number 14

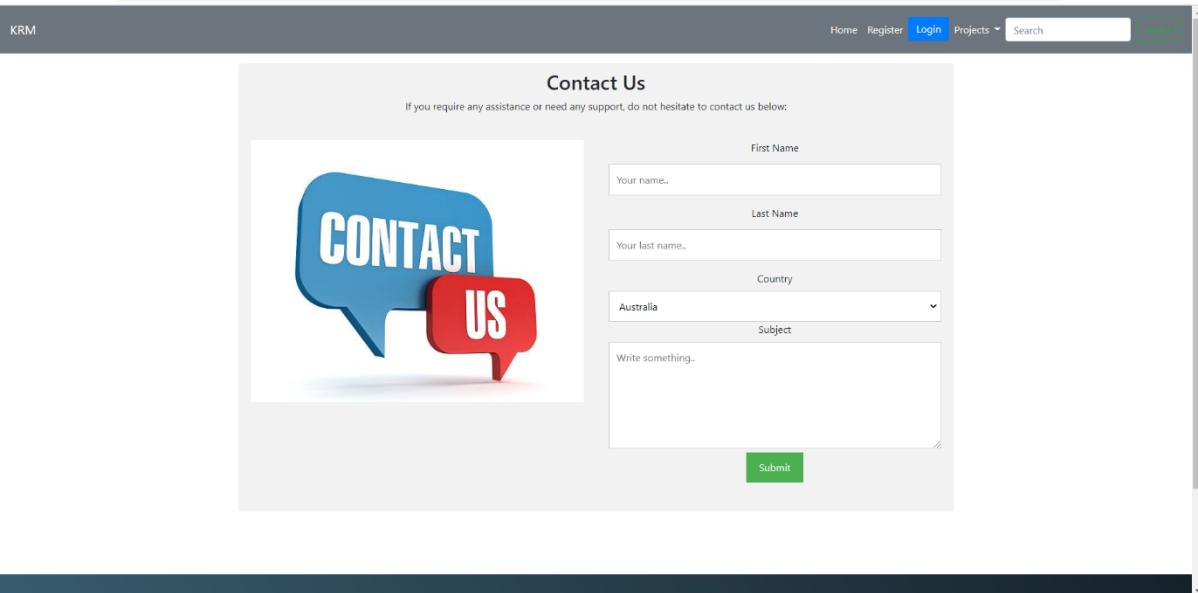
**Before**

**After**



Number 15

**Before**



KRM

Home Register **Login** Projects Search 

### Contact Us

If you require any assistance or need any support, do not hesitate to contact us below:

CONTACT US

First Name  
Your name..

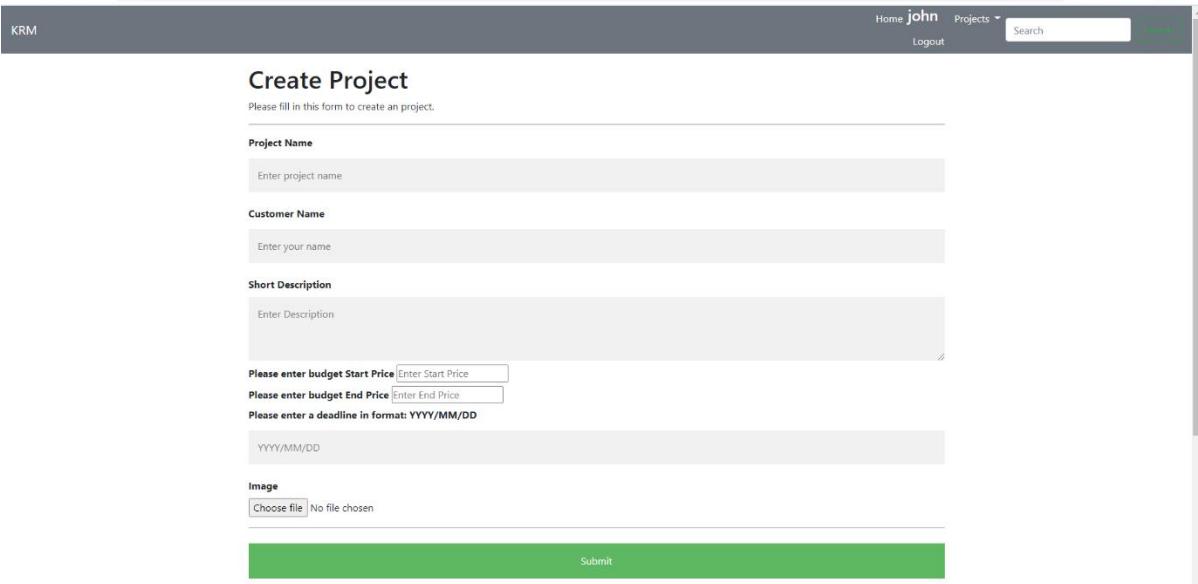
Last Name  
Your last name..

Country  
Australia

Subject  
Write something..

Submit

**After**



KRM

Home **john** Projects Logout Search 

### Create Project

Please fill in this form to create a project.

**Project Name**  
Enter project name

**Customer Name**  
Enter your name

**Short Description**  
Enter Description

Please enter budget Start Price  Enter Start Price

Please enter budget End Price  Enter End Price

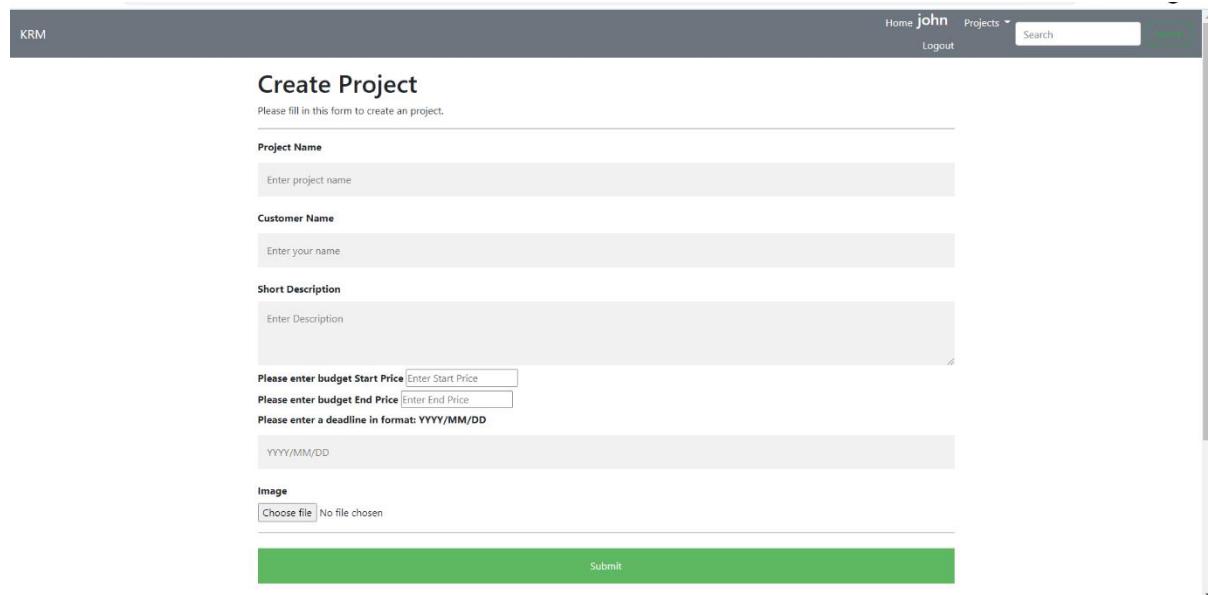
Please enter a deadline in format: YYYY/MM/DD  
YYYY/MM/DD

**Image**  
 Choose file | No file chosen

Submit

Number 16

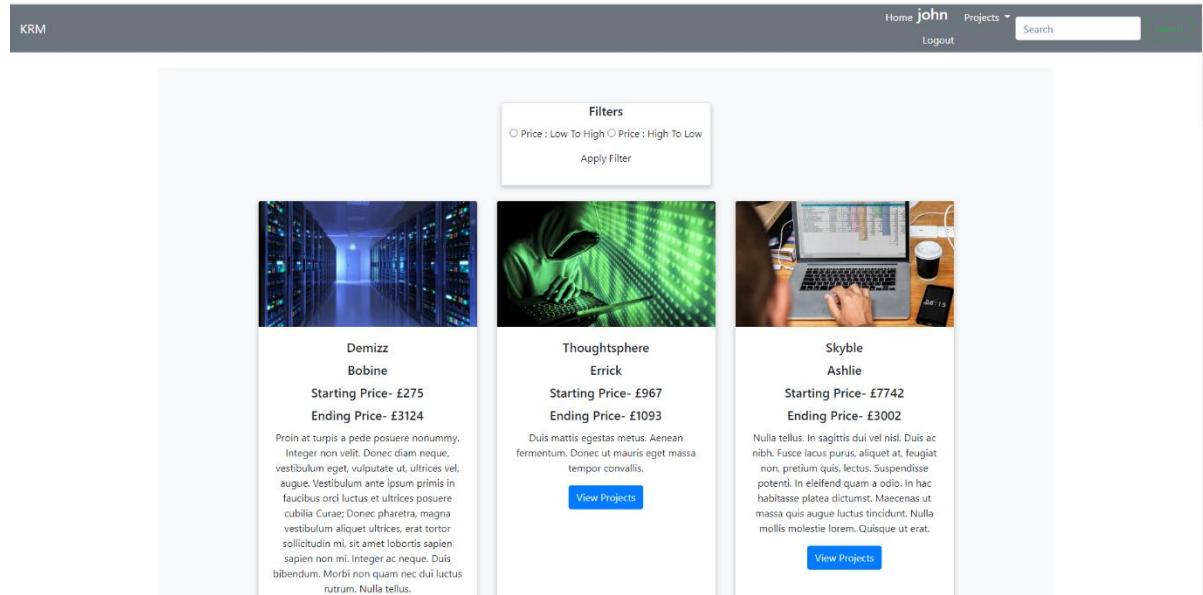
## Before



The screenshot shows a 'Create Project' form on a web page. At the top, there is a dark header bar with the text 'KRM' on the left and a navigation bar on the right containing 'Home', 'john', 'Projects', 'Logout', and a 'Search' input field. The main form area has a light gray background and contains the following fields:

- Project Name:** A text input field with the placeholder 'Enter project name'.
- Customer Name:** A text input field with the placeholder 'Enter your name'.
- Short Description:** A text input field with the placeholder 'Enter Description'.
- Budget Fields:** Three input fields labeled 'Please enter budget Start Price', 'Please enter budget End Price', and 'Please enter a deadline in format: YYYY/MM/DD'.
- Image:** A file upload input field with the placeholder 'Choose file' and the message 'No file chosen'.
- Submit:** A large green 'Submit' button at the bottom.

## After

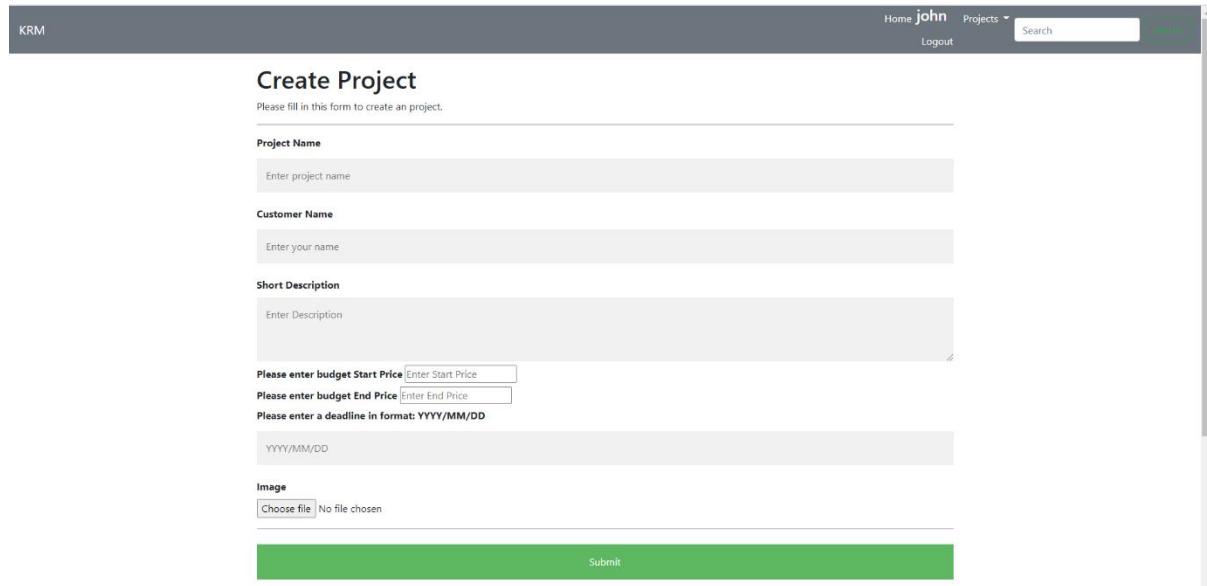


The screenshot shows the same 'Create Project' form after optimization. The layout has been simplified and improved. A 'Filters' modal is now displayed at the top right, containing radio buttons for 'Price : Low To High' and 'Price : High To Low', and a 'Apply Filter' button. The main content area has been rearranged into three columns, each featuring a project thumbnail, the project name, and a 'View Projects' button. The text input fields have been replaced by a single large input field for the deadline, and the budget fields have been removed.

Project Name	Description	Actions
Demizz	Bobine	Starting Price- £275 Ending Price- £3124
Thoughtsphere	Errick	Starting Price- £967 Ending Price- £1093
Skyble	Ashlie	Starting Price- £7742 Ending Price- £3002

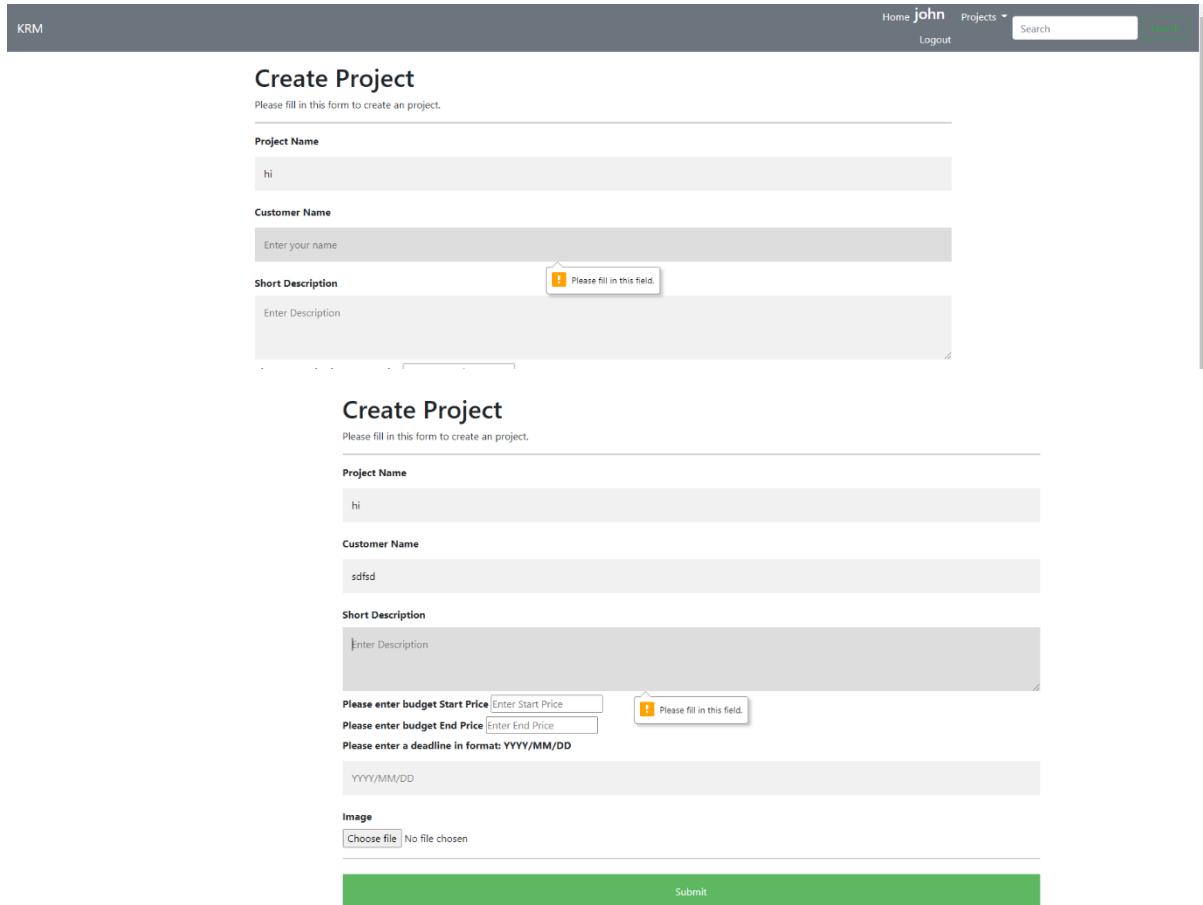
Number 17

**Before**



The screenshot shows a 'Create Project' form on a web page. The header includes 'Home', 'john', 'Projects', a 'Logout' link, and a 'Search' bar. The main title is 'Create Project' with a sub-instruction 'Please fill in this form to create an project.' Below the title are several input fields: 'Project Name' (placeholder 'Enter project name'), 'Customer Name' (placeholder 'Enter your name'), 'Short Description' (placeholder 'Enter Description'), and 'Image' (input field with 'Choose file' and 'No file chosen' text). At the bottom is a green 'Submit' button.

**After**



The screenshot shows the same 'Create Project' form after validation. The 'Project Name' field now contains 'hi'. The 'Customer Name' field contains 'Enter your name'. The 'Short Description' field contains 'Enter Description' and has a yellow validation message box with an exclamation mark and the text 'Please fill in this field.' The other fields and the 'Submit' button are identical to the 'Before' screenshot.

## Number 18

## Before

Server Side Programming | WhatsApp | Group 11 SPAT Project | +

localhost:8002/controller/createProject.php

KRM

Home john Projects Logout

Search

## Create Project

Please fill in this form to create an project.

---

**Project Name**

**Customer Name**

**Short Description**

**Please enter budget Start Price**

**Please enter budget End Price**

**Please enter a deadline in format: YYYY/MM/DD**

**Image**

600ed6fb0e203.jpg

---

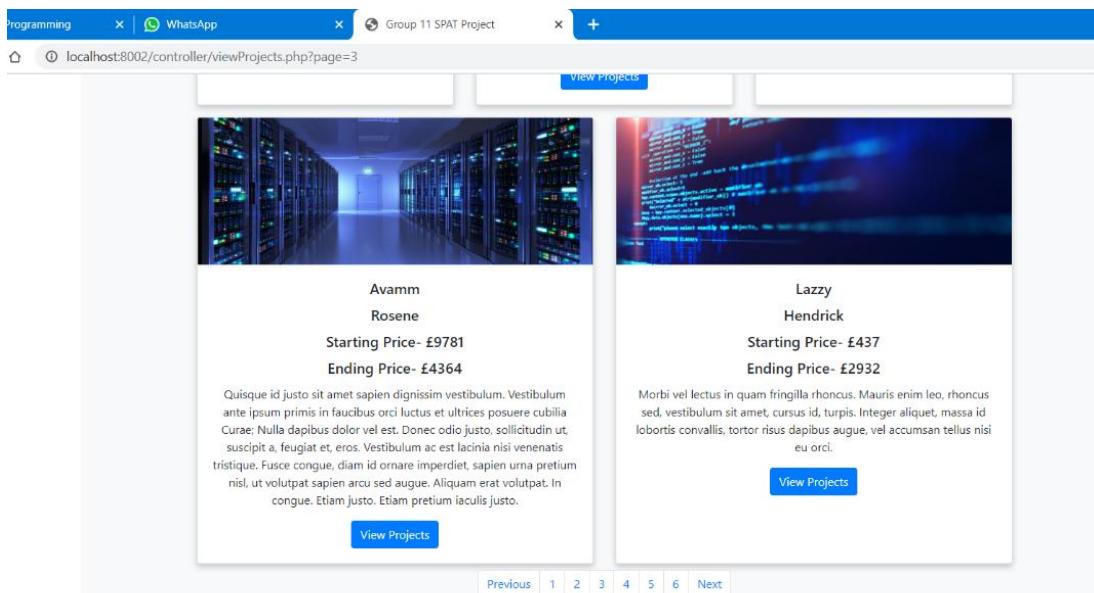
**Submit**

## After

Result Grid									
		Filter Rows		Edit		Export/Import		Wrap Cell Content	
projectid	projectname	customerName	shortDescription	budgetStartDate	budgetEndDate	price	deadline	image	
99	Ents	Cynthia Nam	Hans leo odio, porttitor id, consequat..., 3255	1691	2021-08-31	1000	2021-09-15	data:image/jpg	
100	Jabberwock	Byrle	Hullum ond pede, venenatis non, sodales sed, ..., 7792	8657	2021-11-17	1000	2021-12-01	data:image/jpg	
101	Haar	Haar	Haar	20	2021-09-01	1000	2021-09-15	data:image/jpg	
102	Test1	JonTest	DenTest	25	50	2021-09-29	2957.jpg		
103	summa upda...	Deryal Ayan...	edasde	3	20	2021-07-12	6006179ff04f5c.jpg		
104	SPAT	Tim	this is groups work	4	30	2021-02-20	60061cb263b3c.jpg		
105	SPAT	Tim	this is groups work	4	30	2021-02-20	60061cb263b3c.jpg		
106	summa upda...	Deryal Ayan...	edasdehttps://99475gh	1	4	2021-05-29	60061d74982a03c.jpg		
107	summa upda...	Deryal Ayan...	edas	2	7	2021-05-29	60061d74982a045c.jpg		
108	Avata Project	Alisa Tadek...	Harvest Test	25	999	2022-06-19	60061f9882a02d0c.jpg		
109	Hammed ph...	Hammed	Hammed ph... in my project	5	100	2021-07-12	60061f9882a02d0c.jpg		
110	Hammed ph...	Hammed	#BS 35 HAMMADS WORK	500	100	2021-07-12	60061f9882a02d0c.jpg		
111	Harris pro	Harry	This harris pro	200	500	2021-07-12	60061f9882a03e4c.jpg		
112	denial project	denial	haha	6	16	2021-05-29	6006189f912c.jpg		
113	Hilz g	hil	hs	3	400	2021-05-29	60061e4c129ed12c.jpg		

## Number 19

### Before



Programming | WhatsApp | Group 11 SPAT Project

localhost:8002/controller/viewProjects.php?page=3

View Projects

Avamm  
Rosene  
Starting Price- £9781  
Ending Price- £4364

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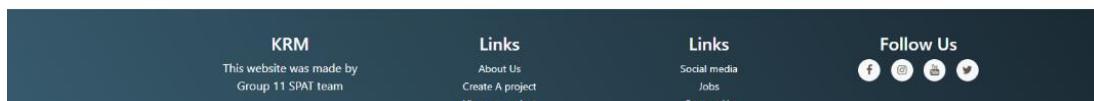
Lazzy  
Hendrick  
Starting Price- £437  
Ending Price- £2932

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View Projects

View Projects

Previous 1 2 3 4 5 6 Next

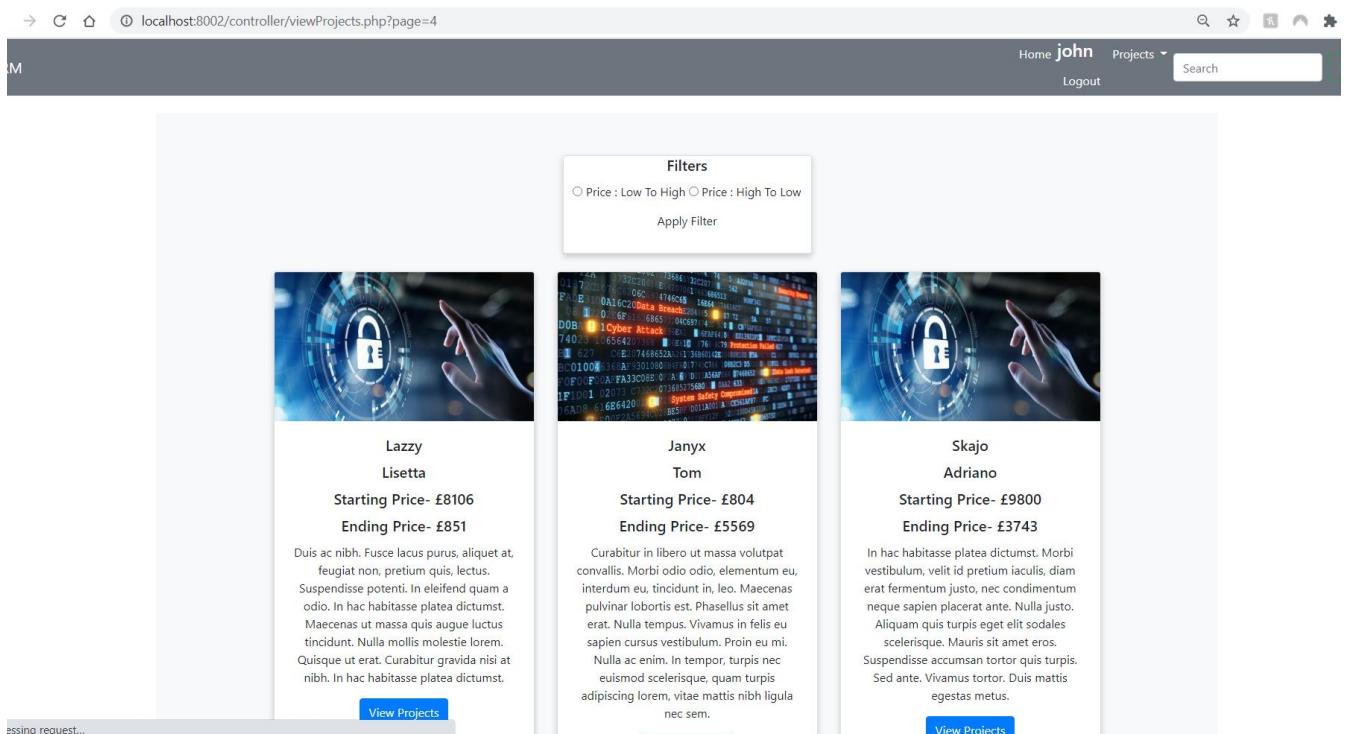


KRM  
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Group 11 SPAT team

Links  
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Create A project  
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Follow Us  
Social media  
Jobs  
Contact Us

### After



localhost:8002/controller/viewProjects.php?page=4

Home john Projects Logout Search

Filters  
Price : Low To High Price : High To Low  
Apply Filter

Lazzy  
Lisetta  
Starting Price- £8106  
Ending Price- £851

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Tom  
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Ending Price- £5569

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Adriano  
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Ending Price- £3743

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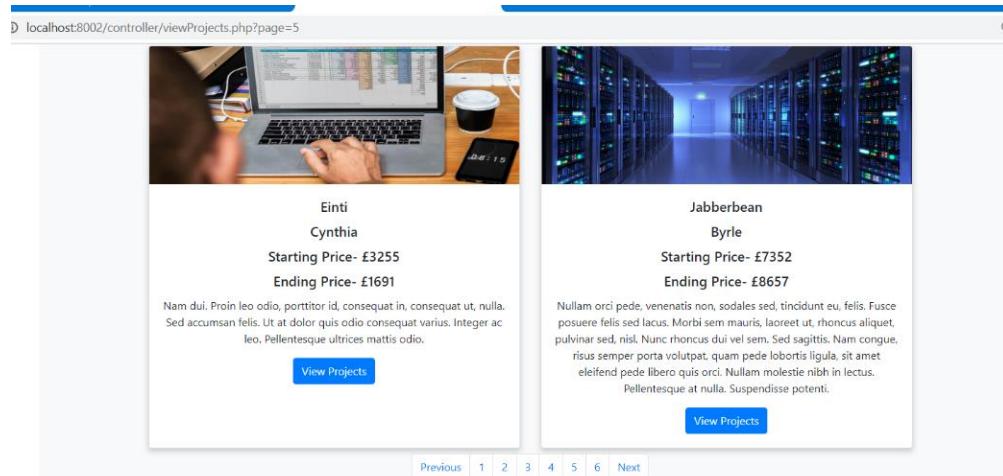
View Projects

View Projects

## Number 20

### Before

localhost:8002/controller/viewProjects.php?page=5



**Einti**  
Cynthia  
Starting Price- £3255  
Ending Price- £1691

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**Jabberbean**  
Byrle  
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Ending Price- £8657

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[View Projects](#)

Previous 1 2 3 4 5 6 Next



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Group 11 SPAT team

**Links**  
About Us  
Create A project  
View my project

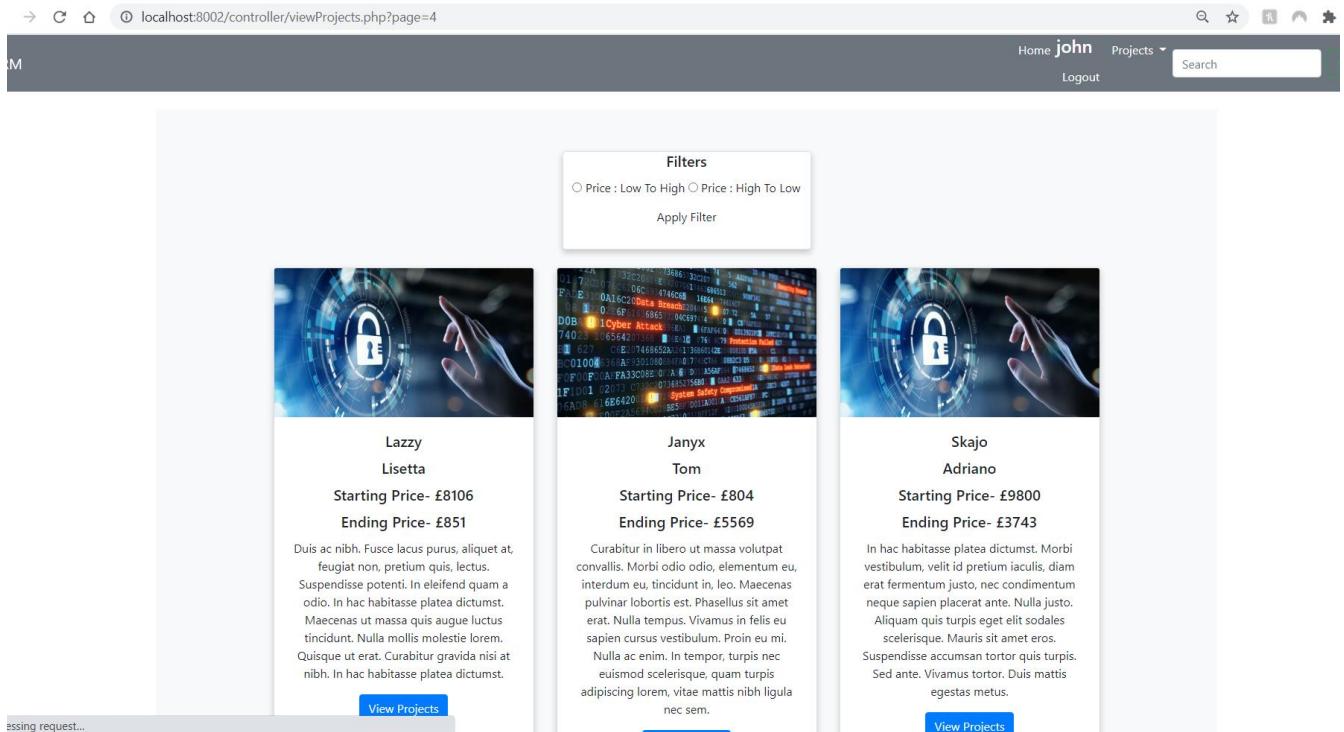
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Social media  
Jobs  
Contact Us

**Follow Us**  
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### After

localhost:8002/controller/viewProjects.php?page=4



**Lazzy**  
Lisetta  
Starting Price- £8106  
Ending Price- £851

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**Janyx**  
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Ending Price- £5569

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**Skajo**  
Adriano  
Starting Price- £9800  
Ending Price- £3743

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[View Projects](#)

[View Projects](#)

## Number 21

### Before

KRM

Home john Projects [Logout](#) [Zoombeat](#) [Search](#)

**Filters**

Price : Low To High  Price : High To Low

Apply Filter

**awaais Ihkav**  
Starting Price- £10  
Ending Price- £20  
cahjgaog

**Test1 JonTest**  
Starting Price- £25  
Ending Price- £50  
DesTest

**sammies updatd proekte**  
Danyal Aurangzeb  
Starting Price- £3  
Ending Price- £20  
asdadad

**View Projects** **View Projects** **View Projects**

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### After

KRM

Home john Projects [Logout](#) [Search](#)

**Filters**

Price : Low To High  Price : High To Low

Apply Filter

**Zoombeat Margy**  
Starting Price- £1680  
Ending Price- £8506

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**Zoombeat Sherri**  
Starting Price- £9977  
Ending Price- £9405

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**View Projects** **View Projects**

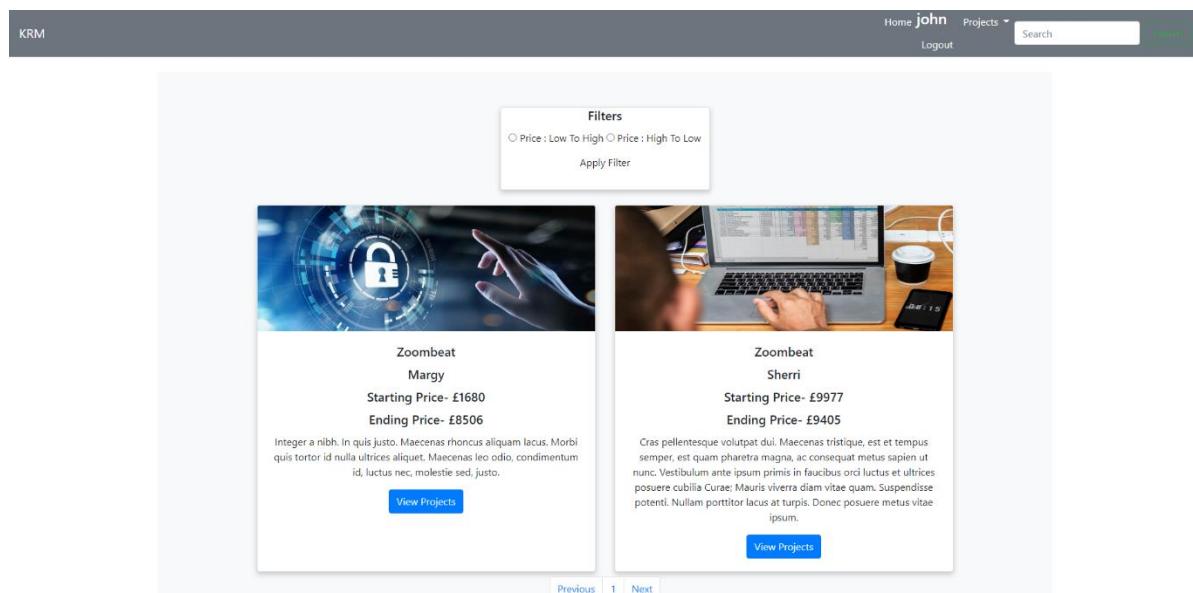
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Number 22

**Before**

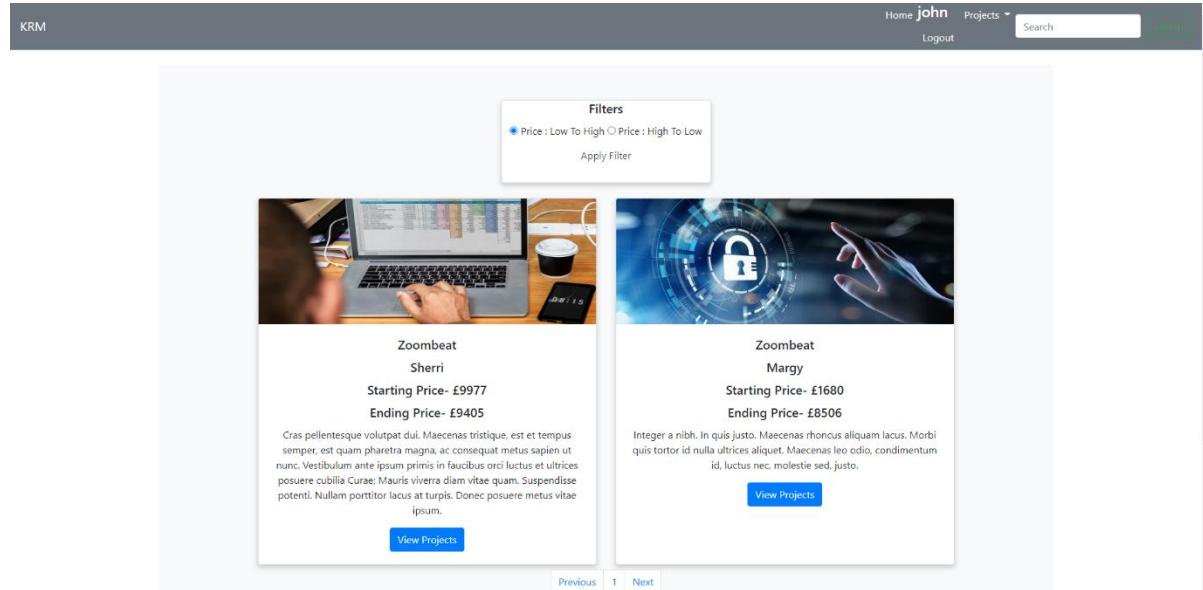


**After**



Number 23

### Before



Filters

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**Zoombeat**  
Sherri  
Starting Price- £9977  
Ending Price- £9405

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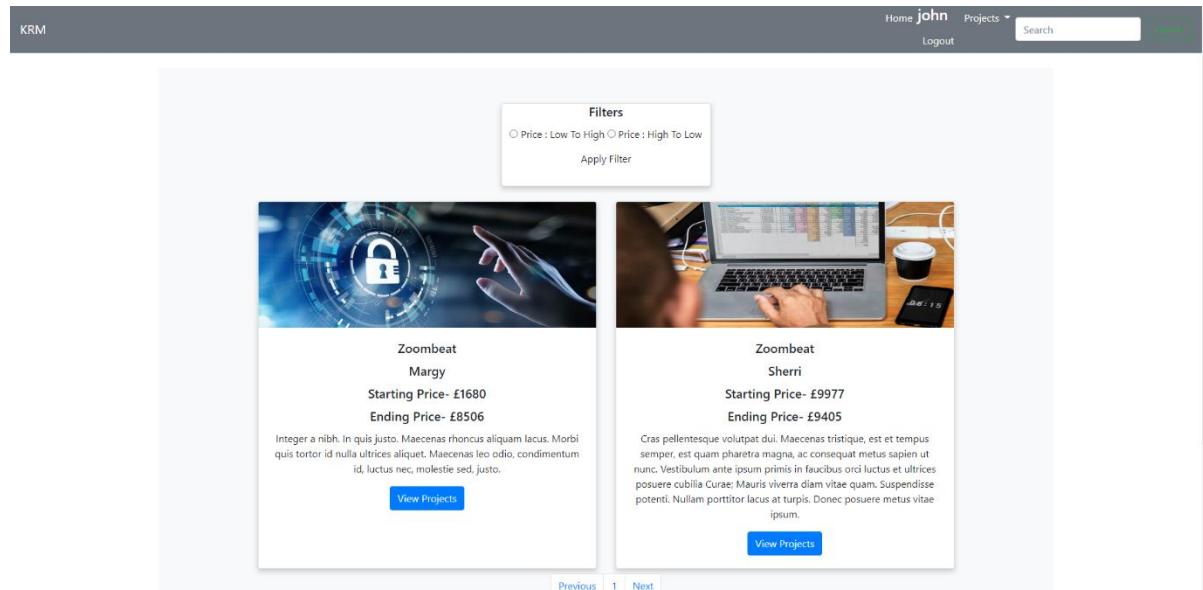
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[View Projects](#)

Previous | 1 | Next

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Filters

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Starting Price- £1680  
Ending Price- £8506

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Sherri  
Starting Price- £9977  
Ending Price- £9405

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[View Projects](#)

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## Number 24

### Before

KRM

Home john Projects ▾ Logout Search Search

**Filters**  
 Price : Low To High  Price : High To Low  
 Apply Filter



**Zoombeat**  
**Margy**  
**Starting Price- £1680**  
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[View Projects](#)



**Zoombeat**  
**Sherri**  
**Starting Price- £9977**  
**Ending Price- £9405**

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[View Projects](#)

Previous 1 Next

### After

KRM

Home john Projects ▾ Logout Search Search

**Filters**  
 Price : Low To High  Price : High To Low  
 Apply Filter



**Zoombeat**  
**Sherri**  
**Starting Price- £9977**  
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[View Projects](#)



**Zoombeat**  
**Margy**  
**Starting Price- £1680**  
**Ending Price- £8506**

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[View Projects](#)

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## Testing Evaluation

As a group the team members believe that the task set to us was completed to a very high standard. We were really efficient with our communication as a group. Testing was conducted in professional manner and by various group members within the project. As we all worked together and some members were focusing more on backend and some more on front end, everyone had the opportunity to test the website. As a group trello was also used and we had a review tab where each member was assigned a colour and each member chose to test what they want, and this was shown within our trello. Testing was overall a very important and big factor as we did not want a code to go wrong so once a team member was done doing the front end or the backend then it was put on trello and this was then picked up by another member who then tested that section e.g., register was completed by the backend team and this was then tested by another separate user and once this was completed and the test worked correctly then it was moved to a complete section.

The results and screenshots overall from testing show that our project runs proficiently as intended. When completing the tests. The group tested it locally to ensure everything was working as intended before moving the web application to the university servers. We did not face any issue when testing our website on a local server, however due to the university servers being maintained poorly the code did not work well when hosted by the Poseidon server and this issue was raised to the client who then gave feedback and said the group are fine with doing it locally.

What went well was that each member got to experience testing and testing each compartment, this meant that each individual member has now experience of code and web application testing which is very positive and good experience. Another positive was within the group scrum was very well implemented as we followed a trello scrum way of working which our client wanted us to learn and develop into. Working in a scrum way meant that each user story and each task was completed, and it was a great way of organising work to ensure what we had left and what still needed to be completed.

When completing the testing and doing the acceptance criteria, as a group we believe testing was done correctly and testing was approved by the 6 team members and the client aswell which was very positive and promising. It showed that the testing did work multiple times and as a result means less code problems.

In the future as a group as an improvement, we believe the web application should have first been put on the university servers and this would have been a better approach as it would have meant that when testing, it would have worked on the university servers which would have made it easier for testing. Our team leader (Awais) actually had his own personal server, this was one task we could have done and used Awais personal server for testing as he can configure it manually and tailor it to professional standards.

## Conclusion, summary, and evaluation of achieved results

In conclusion as a group, we believe that we did a good job in completing the project. KRM was a very good client to work for. When we first started as a team, we did not know how we were going to complete the project and were very unsure as we did not really know each other's strengths and weaknesses. We had a meeting at the start of the project where we got to know each other, the group started to realise each other's strengths and weaknesses and how each member can perform, and the work ethic involved with each team member. The skills assessment done by Julian gave a great understanding of each member and the skills each member can provide on this project. The first couple of days were very good as we got to discuss with the clients and Kim who was very nice and helpful. When speaking with the client as a group we were very nervous as we were new to this style of working and had no previous experience working with clients however it was very good experience and Kim told us the tasks, she would like us to complete and what extra features we would like to add. As a group we had very good communication with Kim who was very open and welcoming.

As the days developed, we started to split the group into smaller suitable groups to ensure that everyone was taking a part and had something to do, these groups still worked as one whole team, but some members wanted to focus more on backend and some more on front end and this was done accordingly. As a group we all believe that working in an agile environment was very important and beneficial to us as it allowed us to work within our own times and work collaboratively on the project. We completed the allocated task given to us and after our 3<sup>rd</sup> demo Kim was very impressed with the work we had done and really praised our team for the effort we had put in. When we asked for feedback from Kim, she had very little feedback to give and was really impressed and actually said it was top 3 in the projects she had seen which was very positive.

As a team we managed to complete the majority of the user stories and we had two user story left which were extra features that we couldn't add in due to server problems which were the added admin parts. In terms of the project requirements, as a group we allowed users to register and then create a project, this was our main work that was set out to us. As a group we did a good job getting the main task finished very quickly and on time. As we had quite a long time, we added extra features of encrypted passwords, pagination, search facility, filters and view projects page which was all added features we implemented.

Overall, we believe we did a good job in getting the main tasks done and communicating with each team members and the client. All team members attended the meetings on time, and all were there when presenting. We believe the attendance was a crucial part to the team's success of making the project. For communication we used teams where we had the main files, and this allowed all team members to work collaboratively to ensure each task were completed.

Communication on teams was very good and a communication application as all team members had access to teams and all were familiar to how to use it.

As a team at the end, we reflected on our work and believe the weaknesses included part time jobs, availability of members and work system problems. Some team members had part time work commitments which meant that for some days there were some members not working and some members were working on most days. We believe in the future if we had more time, it would have been better that we worked on this project a little bit longer so we could have added the extra feature of admin which was a feature we wanted to implement, due to work commitments we did not have enough time to get the extra feature done. As some team members had slower PCs and some were using laptops, there were connection problems and speed problems with some devices. This was also impacted due to COVID-19 and as a result the work produced by some members and distraction from siblings caused delays in working being completed and as some members had a full working office setup, they were working better and had very little distractions. As a whole we believe all members contributed quite significantly and did a good job in getting everything complete. When completing the last demo with Kim, she complemented the group with the work produced in very short time and was very happy and satisfied with the overall web application.

The advantages of following a scrum method were that each team member knew what to do and had a clear idea of work requirements in a very organised manner. Using trello which was recommended quite significantly meant that progress could be seen as the days went by and when using trello and demonstrating it in our demos that we had been following a scrum way, the client was very happy. The only problem or negative was that as a team we were all new to using trello and working in a scrum way. It did take a couple of days to get used to the trello boards and how everything worked, and how to properly follow the scrum way, but our client and Kim in particular did support and guide us when required. As a whole we enjoyed working in a scrum way and this will be very good experience for the future. A very key benefit was the allow for change, as each team member assigned task to each other to complete, each member was focused on completing the agreed task. Each member had the opportunity to consistently develop the trello boards and add a new or change a task which allowed opportunity for changes within a short time.

The advantages of working in an agile technique was that each member had a role and a task to complete. This meant that each member had a task to do and worked very well. Another massive advantage of working in an agile software development was the improved quality which was resulted from the team members working collaboratively, as we used teams to discuss and upload all our work, when a team member needed support or assistance then working collaboratively meant that there was a massive, improved quality of work being produced. Also, as each task was broken down into short tasks which meant the team knew what the tasks were and how they were broken down which resulted in high quality development,

collaboration, and testing. Furthermore, within each sprint each member discussed the work that was produced and what they had done, and these frequent catchups resulted in conducting reviews and quality was improved as each member added to the work already completed. Alongside the quality of work, the quality of communication was also a very positive factor and working with Kim developed a higher degree of client satisfaction. Within each sprint and working within an agile software development quick ability to change and incorporating feedback from demos and client feedback and resulted in higher quality work.

Another advantage of working within an agile software development technique for our group is that as an agile process was being followed, client and stakeholder engagement was very high which was very positive. Doing catch ups with all team members and the client in each sprint engaged in high engagement with each sprint. By involving all team members and the client it resulted in higher degree of collaboration between teams. High engagement resulted in more opportunity to understand the client's requirements and all team members understanding the client's main requirements, vision, and the style of code they would like to be produced. Working frequently and having multiple sprints resulted in having a stronger relationship with the client and a higher level of trust being created which was very positive as the client encouraged and shared more critical feedback which as a group could be acted upon. Higher engagement also resulted in the team members engaging more to focus on the feedback and trust being created to deliver a very high-quality working web development website.

One challenge that we faced whilst working within an agile way was team member's behavioural change. As all team members contributed and played a part into getting the work complete, working in an agile environment meant that there were constant changes for our group and although some members found this fine to work with, some members were very frustrated with the constant changes of requirements and tasks and as a result resulted in not the best work being produced. Accepting change as it went along for some team members meant that the highest quality of work wasn't being produced and once a solution was done, it was often accepted by other team members.

As a team we learned that the key factors that contribute to success of agile team are very high communication and confidence skills, if all members were very confident and have very high communication skills then it speeds up the process of completing tasks and when meeting up in the sprints, each member would know how and why they completed the task as they should, and this skill would generally increase the speed of completing the project. We learned this skill was essential as there is a lot of focus being done with clients and having high communication allows requirements being asked in a more efficient manner.

Another key factor that contributes to success of agile team is high team working and high collaboration skills. We realised as a team when using trello and working collaboratively resulted in high quality of work being produced and tasks getting

done quicker and faster. It also meant that more focus can be done on the clients work and tasks being completed quicker. It is also very useful when a team member is stuck and can't complete the task as help can be provided and the task can be rearranged to another member.

Another final key factor that contributes to success of agile team is a clear strong vision and a very strong work ethic. As a team we did a lot of work completing the task set to us by our client. We all supported and helped each other and even when we got feedback from clients there was still a lot of work to do, as a group we believe having a very strong work ethic is required to ensure the client work is completed to a very high standard.

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## Appendices

### Daily Scrum Stand Up Meetings



**Meeting of SPAT Group 11 on 12<sup>th</sup> of January 2021 at 11am over Discord**

#### Agenda

##### 1. Apologies for absence

All team members were present during the meeting

##### 2. Minutes of the previous meeting

There was no previous meeting

##### 3. Matters arising from the minutes

None

##### 4. Tasks assigned

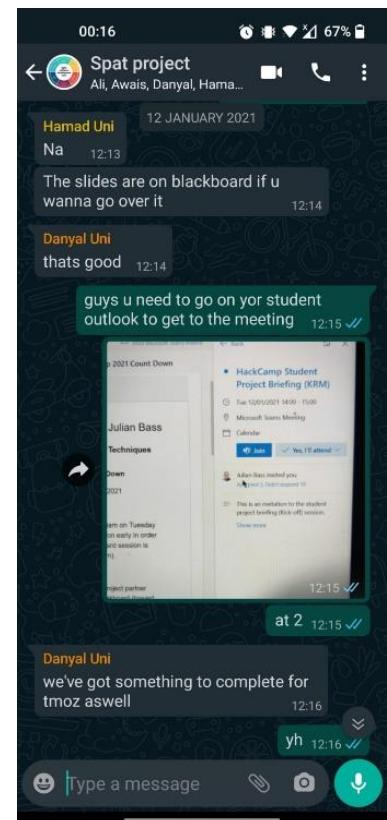
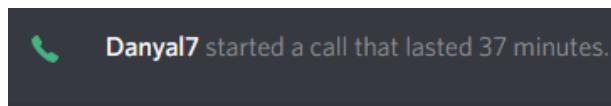
- To receive: The task assigned, respectively.  
To discuss: Discuss the skills inventory for all team members highlighting strengths and weaknesses  
To receive: All team members must put their skills inside the skills inventory document

##### 5. Finalisation on the plan

- To receive: All team members skills put into the final document  
To discuss: Any problems anyone may have had with their skills inventory part or any topic they may want or need advice or feedback on.  
To receive: Finalisation on work that has been taken place  
Finalising other aspects (Awais Tasleem)  
To review: If everyone's has put their work the final document

##### 6. Any other urgent business

Meeting was conducted on discord



**Meeting of SPAT Group 11 on 13<sup>th</sup> of January 2021 at 11am over MS teams call**

**Present**  
(Awais Tasleem, Samiwul Mussaweer, Danyal Aurangzeb, Mohammed Ali, Nazmol Torofdar, Hamad Chaudrey)

**Agenda**

- 1. Apologies for absence**  
All team members was present during the meeting.
- 2. Minutes of the previous meeting**  
The previous meeting was on 12<sup>th</sup> Jan.
- 3. Matters arising from the minutes**  
There was no matters that occurred during the minutes.
- 4. Tasks assigned**  
To receive: The task assigned, respectively. What is the best way to meet the web application requirements.  
Do the user stories for the project requirements.  
To discuss: Discuss the database design for the web application.  
Discuss what programming language to use.  
To receive: Draft of the database design.
- 5. Finalisation on the plan**  
To receive: Draft of database design.  
To discuss: Any problems anyone may have had with their database design part or any topic they may want or need advice or feedback on.  
To receive: Finalisation on work that has been taken place  
Finalising other aspects (Awais Tasleem).  
To review: If the database is following the correct practices.
- 6. Any other urgent business**  
Check the database draft with other team members making sure it has the correct values and datatypes.



**Meeting of SPAT Group 11 on 14<sup>th</sup> of January 2021 at 11am over MS teams call**

**Present**

(Awais Tasleem, Samiul Mussaweer, Danyal Aurangzeb, Mohammed Ali, Nazmul Torofdar, Hamad Chaudrey)

**Agenda**

**1. Apologies for absence**

All team members was present during the meeting.

**2. Minutes of the previous meeting**

The previous meeting was on 13<sup>th</sup> Jan. All team members must have created a database design draft so team members can check which team member has the correct one. The minutes was proved as an accurate record.

**3. Matters arising from the minutes**

All team members was fixing the datatypes for the SQL create table query.

**4. Tasks assigned**

To receive: The task assigned, respectively.  
Nazmul, Mohammed, Hamad should do the front end and check if it is correct with the scrum master.  
Samiul should help doing the backend with Danyal and Awais  
Danyal and Awais should be able to present the demo  
Discuss which team member will present our work tomorrow.  
Discuss how to encrypt passwords.  
To receive: Front end and backend of the users registering and logging in.

**5. Finalisation on the plan**

To receive: Check if Danyal knows how to setup and present the demo.  
To discuss: Any problems anyone may have had with their front end design and backend scripts or any topic they may want or need advice or feedback on.  
To receive: Finalisation on work that has been taken place  
Finalising other aspects (Awais Tasleem).  
To review: Check the front and back end code is working how it is supposed to be.

**6. Any other urgent business**

Make sure users can register and login successfully.

**7. Communication**

Discussed: All team members discussed what is the next part of the project we need to do.



**Meeting of SPAT Group 11 on 15<sup>th</sup> of January 2021 at 11am over MS teams call**

**Present**

(Awais Tasleem, Samiul Mussaweer, Danyal Aurangzeb, Mohammed Ali, Nazmul Torofdar, Hamad Chaudrey)

**Agenda**

**1. Apologies for absence**

All team members was present during the meeting.

**2. Minutes of the previous meeting**

The previous meeting was on 14<sup>th</sup> Jan. The meeting minutes was approved.

**3. Matters arising from the minutes**

There was some errors in the backend code from the login and register that Samiul, Danyal, and Awais fixed.

**4. Tasks assigned**

To receive: The task assigned, respectively.

All team members should ask questions to the client if they need to.

Danyal and Awais should be able to present the demo to the client.

To discuss: What parts of the front end and backend can we improve on.

To receive: Front end and backend of the users registering and logging in.

**5. Finalisation on the plan**

To receive: Check if Danyal knows how to setup and present the demo.

To discuss: Any problems anyone may have had with their front end design and backend scripts or any topic they may want or need advice or feedback on.

To receive: Finalisation on work that has been taken place

Finalising other aspects (Awais Tasleem).

To review: Check the front and back end code is working how it is supposed to be.

**6. Any other urgent business**

Make sure users can register and login successfully and also check the if the user is added to the database. Fix trello boards.

**7. Communication**

Discussed: All team members discussed what is the next part of the project we need to do. For example a user will be able to add a project to the website.

Meeting in "General" started

Collapse all

MA 15/01 14:40 i cant hear anyone

Meeting ended: 26m 45s

AT DA NT HC SM +1

Reply

**Meeting of SPAT Group 11 on 18<sup>th</sup> of January 2021 at 11am over MS teams call**

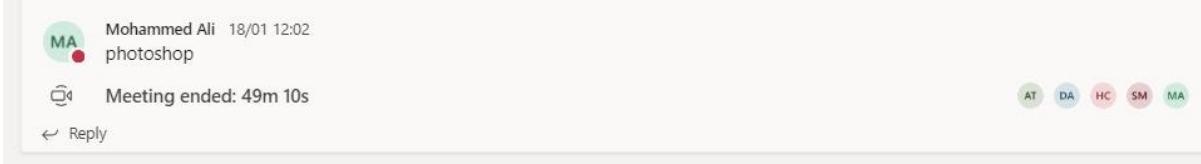
Present  
(~~Awas Taseem, Samiul Mussawir, Danyal Aurangzeb, Mohammed Ali, Nazmul Torofdar, Hamad Chaudrey~~)

**Agenda**

1. **Apologies for absence**  
All team members ~~was~~ present during the meeting.
2. **Minutes of the previous meeting**  
The previous meeting was on 18<sup>th</sup> Jan. The meeting minutes was approved.
3. **Matters arising from the minutes**  
Database datatypes needed to be fixed because some of the datatype values did not have the correct datatype.
4. **Tasks assigned**  
To receive: The task assigned, respectively.  
All team members should start working on the client requirements for when users want to add a project. Hamad, Mohammed, and ~~Nazmul~~ should work on the front end code for adding a project. ~~Samiul, Awas, Danyal~~ should work on the backend code for adding a project.  
To discuss: What parts of the front end and backend can we improve on.  
To receive: Front end and backend of the users registering and logging in.
5. **Finalisation on the plan**  
To receive: Check if the backend and front code is working in harmony.  
To discuss: Any problems anyone may have had with their front end design and backend scripts or any topic they may want or need advice or feedback on.  
To receive: Finalisation on work that has been taken place  
Finalising other aspects (~~Awas Taseem~~).  
To review: Check the front and back end code is working how it is supposed to be.
6. **Any other urgent business**  
Make sure users can add a project successfully ~~and also~~ check the if the project is added to the database. Fix ~~trellis~~ boards.

**7. Communication**

Discussed: All team members discussed what will be needed when a user wants to add a project to the website. Also team members discussed what is the next part of the project.]



**Meeting of SPAT Group 11 on 19<sup>th</sup> of January 2021 at 11am over MS teams call**

**Present**

(Awais Tasleem, Samiul Mussaweer, Danyal Aurangzeb, Mohammed Ali, Nazmol Torofdar, Hamad Chaudrey)

**Agenda**

**1. Apologies for absence**

All team members was present during the meeting.

**2. Minutes of the previous meeting**

The previous meeting was on 18<sup>th</sup> Jan. The meeting minutes was approved.

**3. Matters arising from the minutes**

There was a lot of bugs to go through when we programmed the backend, so Samiul, Danyal, and Awais went through the code to fix the bugs.

**4. Tasks assigned**

To receive: The task assigned, respectively.

Samiul, Awais, Danyal should work on the backend code fixing errors for adding a project.

To discuss: All team members discussed when will the next demo of the client will be.

To receive: Fixed backend code for the website.

**5. Finalisation on the plan**

To receive: Check if the backend code is working properly.

To discuss: Any problems anyone may have had with their front end design and backend scripts or any topic they may want or need advice or feedback on.

To receive: Finalisation on work that has been taken place

Finalising other aspects (Awais Tasleem).

To review: When will the clients next demo be.

Check the front and back end code is working how it is supposed to be.

**6. Any other urgent business**

Fix trello boards.

**7. Communication**

Discussed: Also team members discussed what is the next part of the project.

The screenshot shows a Microsoft Teams meeting transcript. The top bar indicates the meeting started on 19 January 2021. The transcript includes the following entries:

- Meeting in "General" started** (by Awais Tasleem at 18/01 23:20)  
A code snippet is shown:

```
$statement = $this->_dbHandle->prepare($sqlQuery);
$stmt->execute();
```

See more
- Meeting ended: 2h 15m** (by Awais Tasleem at 19/01 00:35)  
Participants: AT, DA, SM
- Meeting in "General" ended: 2h 28m** (by Awais Tasleem at 19/01 00:35)  
Participants: AT, DA, HC, NT, SM, +1  
A reply button is shown.

**Meeting of SPAT Group 11 on 20<sup>th</sup> of January 2021 at 11am over MS teams call**

**Present**

(Awais Tasleem, Samiwul Mussaweer, Danyal Aurangzeb, Mohammed Ali, Nazmol Torofdar, Hamad Chaudrey)

**Agenda**

**1. Apologies for absence**

All team members was present during the meeting.

**2. Minutes of the previous meeting**

The previous meeting was on 19<sup>th</sup> Jan. The meeting minutes was approved.

**3. Matters arising from the minutes**

None

**4. Tasks assigned**

To receive: The task assigned, respectively.  
Samiwul, Awais, Danyal should work on the backend code fixing errors for adding a project.

To discuss: All team members discussed who will present the next demo the client.  
Ask questions to the client about how can we improve the project to make sure the client remains happy.

To receive: Who is going too present the demo to the client.

**5. Finalisation on the plan**

To receive: Check if the backend code is working properly. For example

To discuss: Any problems anyone may have had with their front end design and backend scripts or any topic they may want or need advice or feedback on.

To receive: Finalisation on work that has been taken place  
Finalising other aspects (Awais Tasleem).  
When will the clients next demo be.

To review: Check if the project is added to the projects database

**6. Any other urgent business**

Update trello boards.

**7. Communication**

Discussed: Also team members discussed what is the next part of the project.

20 January 2021

 Meeting in "General" ended: 39m 6s	    
  Reply	
 Meeting in 'Group 12' ended: 1h 16m	
  Reply	

**Meeting of SPAT Group 11 on 21<sup>th</sup> of January 2021 at 12am over  
Snapchat audio**

**Present**  
(Awais Tasleem, Samiul Mussaweer, Danyal Aurangzeb, Mohammed Ali, Nazmol Torofdar, Hamad Chaudrey)

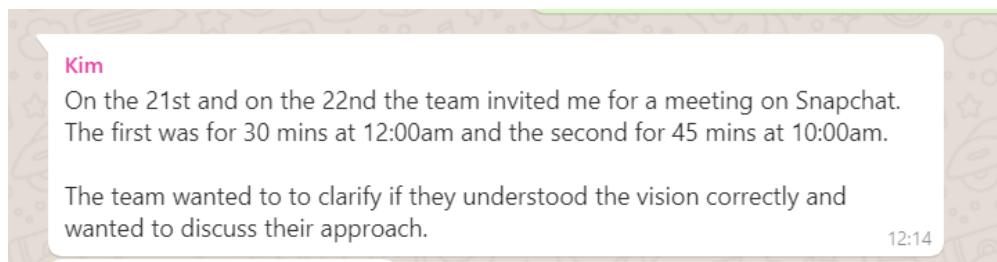
**Agenda**

- 1. Apologies for absence**  
All team members was present during the meeting.
- 2. Minutes of the previous meeting**  
The previous meeting was on 20<sup>th</sup> Jan. The meeting minutes was approved.
- 3. Matters arising from the minutes**  
Kim wanted us to fix the front end part where the name came on the navbar links, which does make the website look unprofessional.
- 4. Tasks assigned**

To receive:	The task assigned, respectively. Hamad, Nazmol, and Mohammed should find out the problem of the username front end part, which displays with the navbar links.
To discuss:	All team members discussed where the problem of the front end might be.
To receive:	Check if the username displays correctly not near the links.
- 5. Finalisation on the plan**

To receive:	Check if the front end code is working prop <span style="background-color: pink; border-radius: 50%; padding: 2px 5px;">NT</span>
To discuss:	Any problems anyone may have had with the front end design and backend scripts or any topic they may want or need advice or feedback on.
To receive:	Finalisation on work that has been taken place Finalising other aspects (Awais Tasleem). When will the clients next demo be.
To review:	Check if the username doesn't display near the navbar links.
- 6. Any other urgent business**  
Update trello boards.
- 7. Communication**  
Discussed: Also team members discussed what is the next part of the project.

We did a team meeting on snapchat however the group got deleted and the evidence was gone however Kim was there when we had a meeting, so she has provided evidence to show that we were in meeting.



**Meeting of SPAT Group 11 on 22<sup>th</sup> of January 2021 at 10am over  
Snapchat audio**

**Present**

(Awais Tasleem, Samiwul Mussaweer, Danyal Aurangzeb, Mohammed Ali, Nazmol Torofdar, Hamad Chaudrey)

**Agenda**

**1. Apologies for absence**

All team members was present during the meeting.

**2. Minutes of the previous meeting**

The previous meeting was on 21<sup>th</sup> Jan. The meeting minutes was approved.

**3. Matters arising from the minutes**

None

**4. Tasks assigned**

To receive: The task assigned, respectively.

All team members should identify bugs for the website

To discuss: All team members discussed where the problem of the front end or backend might be.

To receive: Check if the username displays correctly not near the links.

**5. Finalisation on the plan**

To receive: Fix bugs from the code.

To discuss: Any problems anyone may have had with their front end design and backend scripts or any topic they may want or need advice or feedback on.

To receive: Finalisation on work that has been taken place  
Finalising other aspects (Awais Tasleem).

When will the clients next demo be.]

To review: Check if the bugs have gone.

**6. Any other urgent business**

Update trello boards.

**7. Communication**

Discussed: Also team members discussed what is the next part of the project.

We did a team meeting on snapchat however the group got deleted and the evidence was gone however Kim was there when we had a meeting, so she has provided evidence to show that we were in meeting.

On the 21st and on the 22nd of January the team did take part in a meeting and I can confirm I did see evidence. The meeting was done on Snapchat. The first was for 30 mins at 12:00am and the second for 45 mins at 10:00am

13:02

**Meeting of SPAT Group 11 on 23<sup>rd</sup> of January 2021 at 11am over MS teams call**

**Present**

(Awais Tasleem, Samiwul Mussaweer, Danyal Aurangzeb, Mohammed Ali, Nazmol Torofdar, Hamad Chaudrey)

**Agenda**

**1. Apologies for absence**

All team members was present during the meeting.

**2. Minutes of the previous meeting**

The previous meeting was on 22<sup>nd</sup> Jan. The meeting minutes was approved.

**3. Matters arising from the minutes**

Fix bugs of the website

**4. Tasks assigned**

To receive: The task assigned, respectively.

All team members should identify bugs for the website

To discuss: All team members discussed what the problem might be

To receive: A fixed website with no bugs.

**5. Finalisation on the plan**

To receive: Fix bugs from the code.

To discuss: Any problems anyone may have had with their front end design and backend scripts or any topic they may want or need advice or feedback on.

To receive: Finalisation on work that has been taken place

Finalising other aspects (Awais Tasleem).

Final report in pdf format for 27<sup>th</sup> January.

To review: Check if the bugs have gone.

**6. Any other urgent business**

Update trelio boards.

**7. Communication**

Discussed: Also team members discussed how the final report will be implemented.

Meeting in "Demo with Kim" started

Mohammed Ali 23/01 15:52  
<https://css-tricks.com/snippets/html/mailto-links/>

**Mailto Links | CSS-Tricks**  
Basic Open default mail program, create new message with the TO field already filled out. Email Us Adding  
css-tricks.com

Mohammed Ali 23/01 16:21  
notes: add linkedin contact to about us  
add more conturys

trelio  
See more

Awais Tasleem 23/01 16:27  
<http://sgb849.poseidon.salford.ac.uk/clientserver/AwaisAuctions/index.php>

Meeting ended: 43m 23s

AT DA HC NT UU +2

## Proof

### Kim

During HackCamp, Group 11 has organised 3 sprints. The first demo was on the 15th where the team showed me the set up for the application, the way they organised their sprint and Scrum board.

During review I gave the team feedback on how to improve their way of working in an Agile way. Some of the feedback was:

- Organising their lists as "Product Backlog", "Sprint Backlog", "To do", "In progress", "Review" and "Done".
- Finetuning user stories
- Organising labels and making it visible who's working on what.

After going through the feedback, the team immediately picked up on it and improved as much as possible in the second sprint. In the second sprint the team was also more focussed on adding functionality and making sure that the application was user-friendly.

During the demo (on the 20th) the teams constantly asked for feedback to make sure they were aligned with KRM's vision.

The third and final sprint (on the 23rd) was focussed on finetuning the application and adding a few extra features. The team finished the project in team according to the vision we had. In a short period they managed to optimise their communication, get feedback in time, they kept me up to date about the status and learned how to use Scrum.

As a customer I'm happy with the way the team organised their work in the past 2 weeks. Would be more than happy to do another project with them and I'm sure that they would then find ways to further improve their teamwork, communication and the way they implement Scrum.

20:25

### Kim

The first demo was done on the 15th of January. I can confirm as Kim. I did join as a guest on Microsoft teams and this did not add my name to the call.

However, I can confirm the meeting with group 11 did take place on Microsoft teams at 16:00pm and it did last 30 minutes. The second meeting was done on the 20th of January and it was at 15:45pm and it did also last 30 mins. The final meeting was on the 23rd of January at 16:00 and it lasted 30mins.

13:11

## Greater contribution

**As a team we believe Danyal played a critical role in success of this project and report. Danyal's contribution was a lot greater than the average team effort and was very hardworking making sure that everything was up to date and supported and helped each member when help was required. His contribution in the backend development was exceptional and spent quite some time on the work to make sure it was at a very high standard.**

**As a group, the client (Kim) would also agree that Danyal was very vocal and fantastic in presenting when doing the demos and helped quite significantly in the report making sure it is done in a correct and professional manner. Danyal needs to be highly praised for his work ethic and high contribution in this project.**