

# **BEST PLATFORM TO DOWNLOAD THE AI MODELS**



ModStore.ai

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## 0. TABLE OF CONTENT

### 1. Research Proposal

1. Project Background.....	2,3
2. Project Aim.....	4
3. Project Objectives.....	4
4. Problem Statement	
4.1. The drop down style menu has to be created.....	5
4.2. Direct mailing function in contact us page .....	5
4.3. User Log-in, Log-out, Register page.....	6
5. Suggested Solutions	
5.1. Create drop down style menu.....	7
5.2. Create contact us page including the direct mailing function.....	7
5.3. Create log-in, log-out, and register page.....	7
6. Project Deliverables.....	8
7. Project Scope.....	8
8. Project plan.....	9
9. Hardware and Software Requirements.....	10

### 2. Background Study

2.1 What is AI and Machine Learning.....	12
2.2 What is AI platform? .....	13
2.3 Tools for implementation	
2.4 Legal Guidelines	

### 3. Research Methodology

**4. Software Development Methodology**

**5. Questionnaires**

**6. Analysis**

**7. Design**

**8. Implementation**

**9. Conclusion**

# 1. Research Proposal

## 1. Project Back ground

The A\*STAR also called the Agency for Science, Technology and Research, is a statutory board under the Ministry of Trade and Industry of Singapore. It is led by the public sector agency of Singapore that leads the research which aims economy to develop scientific discovery and innovative technology. Through open innovation, they collaborate with their partners in both the public and private sectors to benefit society.



Figure 2.1 Logo of A\*STAR

There are several entities in A\*STAR. One of the entity is called the Science and Engineering Research Council, shortly called SERC. SERC manages research institutes and several centers and facilities with core competencies in a wide range of fields. One of the included institute in SERC is Institute of High performance Computing, shortly called 'IHPC'.

IHPC is a research centre under the A\*STAR. They promote and steer scientific development and technological revolutions through computational modeling, simulation, and visualization programs and tools.



Figure 2.2 Logo of IHPC

IHPC is now creating an AI platform which it's called ModStore.ai. Mod-Store is an autonomous AI platform that let users generate and utilize AI models for application. It helps instituters and teams of lean data scientists quickly start to build a model by using the cloud-based computing, and liberate and utilize models as application programming interface. Single users and businesses can then simply retrieve the models in Mod-Store and reuse them to build their own insight source.



ModStore.ai

*Figure 2.3 Logo of ModStore.ai*

There are some key features for the Mod-Store. First, they have AI models to help users training their own models with their created data for predictive maintenance, defect inspection, healthcare, and many other applications. Second key feature is that the templates in the Mod-Store can be used for usual tasks in machine learning for instance, retrogression, categorization, time series, and artificial neural networks. Third, it has developed an intuitive user interface for users from ML beginner to expert, including wizard of the model creation, drag-and-drop workspace and autonomous AI technology, which can automatically perform data construction, model selection and framework adjustment. Lastly, flexible utilization options including on premise, common or personal cloud, and hosting resources are provided to users in the Mod-Store.

The aimed users for the Mod-Store are three. Data specialists, data scientists, and developers. Data experts who provide domain knowledge and business can Mod-Store's own autonomous AI technology to quickly understand the situation. Data analyst can use Mod-Store's AI model building technologies for fast speed in building models and generate customized models for specific domains. Developers are available use AI model development and management systems to use created AI models and check their choices.

The project team for ModStore is small. There are 4 teammates in the project team. At the time the project has just started, they constructed a webpage. However, they only created the main page with the PC version and the mobile version. So ModStore is not ready to open.

ModStore has requested to redesign the webpage by creating a wireframe, considering the latest privacy and security aspects, and build the website by using react, Django, SQL. The website has to gather the personal data to let users register or pay for the subscription, project leader has requested to gather information about legal guidelines for the use and collections of personal data such as GDPR or PDPA. GDPR is the European legal guideline to protect personal data which is called General Data Protection Act, and PDPA is the guideline based in Singapore also called Personal Data Protection Act. GDPR is more strict, and more guidelines to consider in using personal data rather than PDPA. GDPR and PDPA have lots of similar parts however, there is some difference. The project has started on 02-12-2019 and will end on 10-06-2020.

## **2. Project Aim**

The aim of the project is to redesign and build the website.

## **3. Project Objectives**

Create wireframe before build the website.

Building a prototype of ModStore and final report of how the ModStore is created within 6 months.

Build the page which requires personal information according to the GDPR and PDPA.

Create front-end by using React.

Create back-end by using Python django.

Create database by using MySQL.

## **4. Problem Statement**

### **4.1 The drop down style menu has to be created.**

These days, almost every website uses drop down style menu to let users move on to other pages easily. When the drop down menu is activated, it shows a list of other sub menus. If user press the button of the sub menus inside the drop down menu box, they can link into the selected page. This gives user a lot of convenience, so Mod Store need to create drop down menu.

### **4.2. Direct mailing function in contact us page**

These days, the contact us page is the subpage which all of the websites have. The reason of this is that users may encounter problems when using the website and may have some questions about the website. So, the contact us page is required. For users' convenience, website need a direct mailing function to send some requirements through e-mail. So the function of direct mailing by filling the boxes is required.

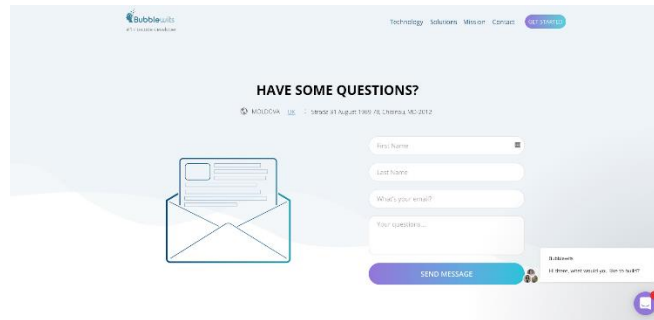


Figure 4.2.1 Contact us page from other website

### 4.3 User Log-in, Log-out, register page

ModStore.ai is a website for users such as data specialists, data scientists, and developers. If users wants to get a domain or UI models, they need to log-in to a website first to be verified and to pay for the products. However, there is no page or button for users to register or log-in. For the main functions of the website to be work, creating the page for register, log-in, log-out page is required.

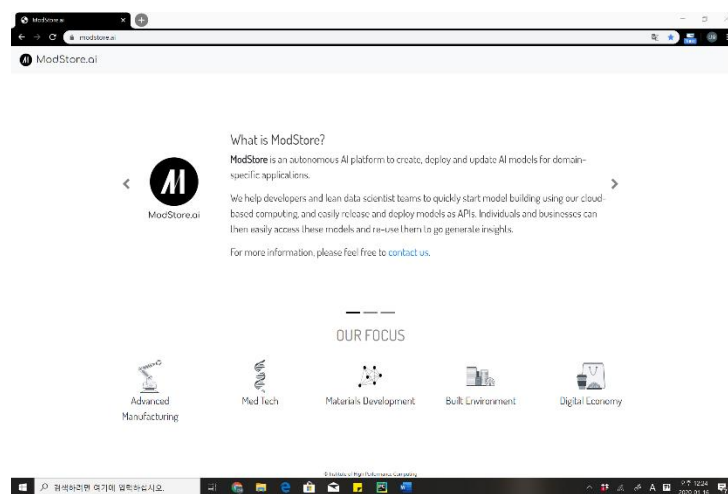


Figure 4.3.1 Webpage of ModStore.ai without User Login button & page

### 4.4 Mobile version of website

Nowadays, mobile version of the website is an essential part in website development. So, Modstore needs to create a mobile version of the website. Every pages including main page, and subpages need the mobile view.

## **5. Suggested Solutions**

### **5.1 Create drop down style menu.**

The function of the drop down menu needs to be included in a menu bar by using the code base of the React framework. All the subpages need to be shown in the drop down menu box. To make this easier, first create a wireframe for the drop-down menu, and then work on the codebase based on the wireframe.

### **5.2 Create contact us page including the direct mailing function.**

To construct the payment page and the direct mailing function, the wireframe of the page is required. Then, according to the created wireframe, the coding for the front-end have to be done. After that, creating the codebase for the direct mailing function is needed. If the coding for the front-end and codebase for the direct mailing function is done, both of the codebase have to be combined and tested.

### **5.3 Create log in, log out, register page.**

To use the contents in the ModStore.ai, user need to register and log in to a website. To create the log in, log out, register page, by creating an use case diagram, make it easier to what users can do after login and how the registration is accepted. So before creating a function, generate use case diagram is required. And then, create a log in, log out, register page by using React and test it works or not.

### **5.4 Create mobile view of the website.**

Every page need the mobile view of the website. For this, not only the wireframe for the PC version of the website, but also the wireframe for the mobile view of the website is required. Then, codebase of both version of the website need to be combined at the end of the coding plan.



## 6. Project Deliverables

There are two ways to deliver this project to users and IHPC.

First is the final project report about how the ModStore.ai is created. By generating a report, users and IHPC can understand how the website is created, what contents, and what functions are added.

Next, by showing the final product the product will be explained. According to the stated problems in part 4 and the solutions in part 5, the final product will be fixed according to a problem and come out with more contents inside. By looking through to the final product of ModStore.ai, users can register, login, and log out. Also, they can pay for a products and use it in their project. The users can link to main page directly by clicking the website logo in any page, and they can click the button to see the contents and menus in small website screen and mobile page screen. Lastly, the database will be created not to be overloaded then the website's loading speed will not become slow in the future.

## 7. Project Scope

For this project, first, the website will be created by coding which is separated into three parts; front-end, back-end, and database. The website will only suitable for PC.

First, the UML diagram which shows how the website works will be created and included in report. For example, use case diagram and class diagram will be included.

Lastly, the wireframe for every pages will be created in the design section of the plan. According to the created wireframe, the website will be created.

## 8. Project Plan

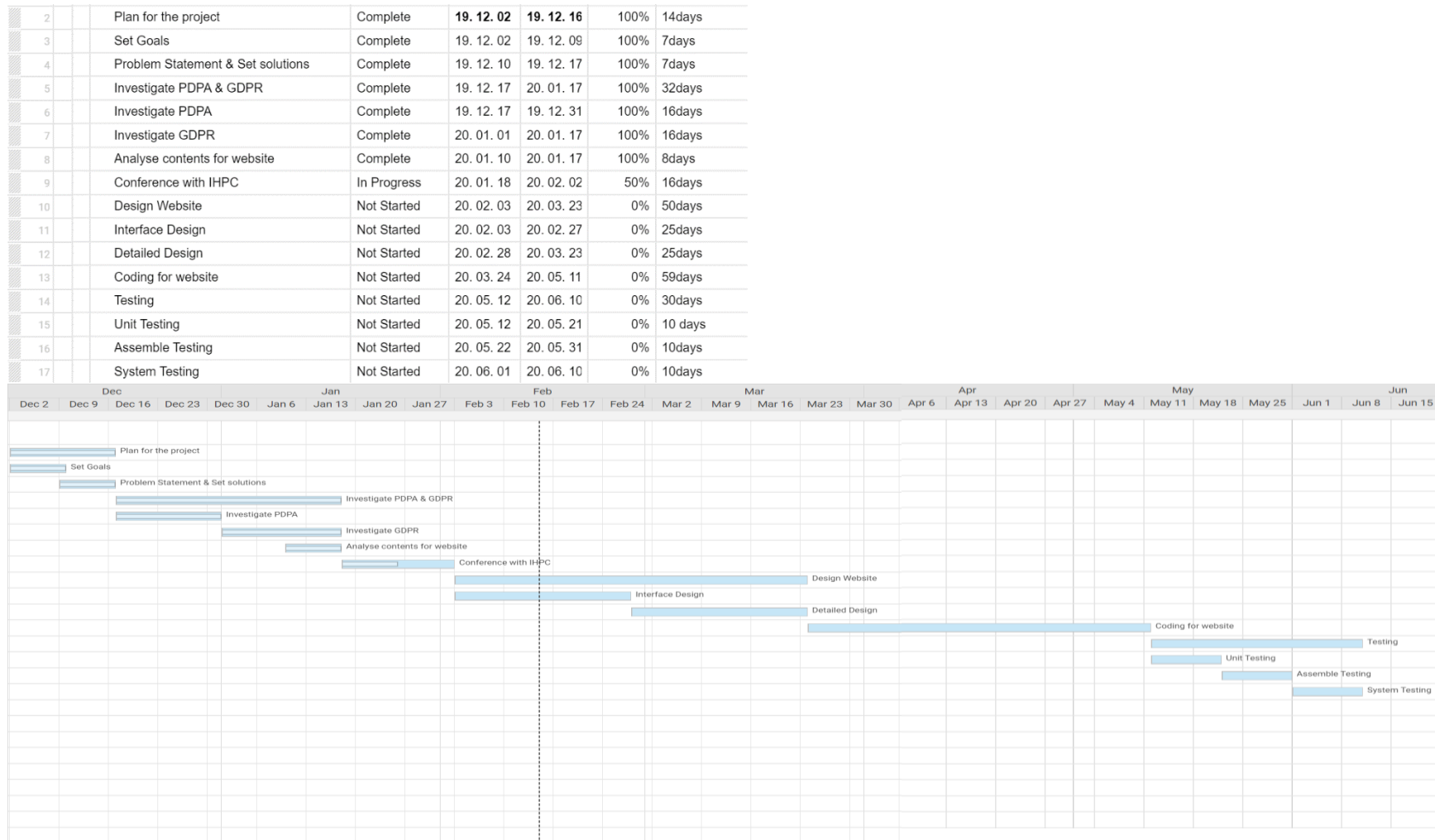


Figure 8.1 Gantt chart for project plan

## 9. Hardware and Software requirements

**Hardware :** DESKTOP – JKAIBHD

Intel® Core™ i5-7200U CPU @ 2.50GHz 2.71GHz

RAM 8.00GB

Windows 10 pro

x64 base processor, 64bit OS

**Software :** React (frame work for front-end)

Office timeline (To create Gantt chart)

Argo UML (To create Use case diagram)

Microsoft Word / PowerPoint / Excel

## **Chapter 2 : Background Study ( Literature Review )**

Mod-Store.ai is an AI platform website which have a lots of AI models that users can use. As the Mod-Store is an AI platform website, some knowledges are required to build and use the AI platform. First, to use and build the Mod-Store, the knowledge of AI, Machine learning and AI platform is required. Second, to build the prototype, the basic knowledge of tools to use for building the website is required. The tools to use when building the Mod-Store are React, Django Python, and My SQL. Lastly, as the Mod-Store handles the personal data for user registration, and log-in, the Mod-Store's final prototype need to follow the legal guidelines for personal data. There are two legal guidelines which Mod-Store need to take care about. They are PDPA and GDPR.

### **2.1 What is AI and Machine learning?**

By Mod-Store handles the model of AI and machine learning, the basic knowledge of AI and machine learning is required. AI is an advanced computer program modeled after human intelligence that uses a logical way to think, learn and judge like a human on a computer. The programming of AI concentrates on learning, illation, and self-correction. (Rouse, 2020)

The learning process concentrates on creating rules on how to collect data and turn it into actionable information. The rules are also called algorithms which gives computing tools step-by-step guidance on how to finish particular tasks. Illation process concentrates on selecting the right algorithm to get to the craving result. Self-correction processes is designed to successively fine-tune algorithms and make certain they supply the most precise consequence possible. (expert system, 2019)

Machine learning is program of AI, which supplies systems the capability to automatically grasp and advance from experience without being obviously programmed. Machine learning concentrates on the advance of computer systems which can access data and use it study for themselves. The main aim is to let the computers learn by themselves without human's help and alert actions consequently. (expert system, 2019)

## 2.2 What is AI platform?

AI platform implies the utilization of machines to execute the tasks that are executed by human. The function such as problem-solving, studying, deduction, social perception as well as overall perception. AI platform is able to help minimize costs in many ways. For instance, avoid overlap of work, automating uncomplicated jobs, and removing some high-priced actions like duplicating or drawing data. The AI platform is also able to supply Data Governance, making sure the utilization of finest practices by AI developers and machine learning engineers. And it can help in ensuring that effort is circulated more equally and done faster. (Foote, 2018)

The Mod-Store is the AI platform. Users can download the AI models to use it on their own modeling. Enterprises, individual developers can use the models uploaded in the Mod-Store. So then they can create their own model easier than before.

## 2.3 Tools for implementation

Before getting into the implementation, the first thing to do was choosing the tool to use for implementation. According to the research, React has chosen to develop the front-end, Python Django has chosen for developing the back-end, and My SQL has chosen to develop the database of Mod-Store.

### 2.3.1 React Framework

React is an open-source JavaScript library which is used for creating UI especially for single-page apps. It's applied to handle the view layer for not only web apps, but also mobile apps. Without reloading the page, React allows users to develop huge web apps which are available to change data. To be quick, scalable, and uncomplicated, these three are the head aim of the React. This aim only works on UI in the application. This matches to the view in the MVC template. It can be used with a combination of other JavaScript libraries or frameworks. (Pandit, 2020)

There is an program that often compares to React. The name of the program is Angular. Comparing React to Angular, there are several categories to compare. First part to compare is the difficulty of using the program. React is minimalistic. There is no dependency injection, no classic template, no overly complicated features. The framework will be quite simple to understand if there is a

knowledge of JavaScript. However, Angular itself is a huge library, and user need to learn all the concepts associated with it will take much more time than learning the React. So, this is one of the reason why the React has chosen because there can be a teammate who is not professional in both React and Angular. Next, according to the research from Stackoverflow.com, the React was chosen as the most reasonable tool to develop the front-end. (Pandit, 2020)

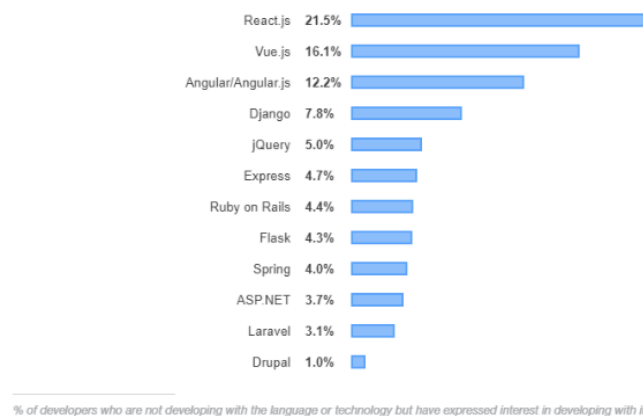


Figure 2.3.1 Chart showing ranking of the front-end tools (existek, 2020)

According to the chart above, 21.5% of users chose React and 12.2% of users chose Angular. So more users think that React is better than the Angular. So the React has chosen for developing the Mod-Store's front-end.

## 2.4 Legal guidelines

As the website handles the personal data, the knowledge of the legal guidelines which considers the personal data is required. As the aimed user of Mod-Store is Europeans and Singaporeans, the legal guidelines such as PDPA and GDPR has to be learned and the website should be created according to the given legal guidelines.

### 2.4.1 Personal Data Protection Act

Personal Data Protection Act, shortly called PDPA, is a law which governs the collection, use and disclosure of personal data by all private organizations. Organizations which fail to comply with PDPA may be fined up to \$1 million and suffer reputation damage.

The definition of personal data in PDPA is that the data can be used to identify an information along each person. And this data can be access by an organization by the fact. The business contact information for the business use is not protected by PDPA. Also the data which is from the person who survived over 100 years, or the data from the person who dead before 10 years ago is not consider as a personal data. As showed in front, there is no special request for the irritable information. (PricewaterhouseCoopers, 2018)



Figure 2.4.1 PDPA at a glance (PricewaterhouseCoopers, 2018)

There are 10 things to check for observing the PDPA. First is limitation of purpose. PDPA says that collected personal data is only available to use or disclose for the defined purpose. Second, is notification. The organizations under PDPA should inform individuals about the purpose of collection, use and disclosure of their personal data during collection. Third is consent. Mod-Store must check that the consent has been obtained from individuals before collecting, using or disclosure of the personal data. Forth is access and correction. If the user request about the how the individual's personal data has been used or disclosed, Mod-Store need to provide the information of it. Also, if user request about their personal data and correct the individual's personal data, Mod-Store has to provide and correct the data. Fifth, the personal data has to be accurate and complete during collection. Sixth, collected personal data has to be secure from unauthorized access, modification, disclosure, use, and copying. Seventh, if the collected personal data is no longer needed, the data has to be destroyed in secure and make sure the destroyed data must be unavailable to recover. Eighth, is openness. Mod-Store need to open the data protection officer's contact information who is managing the personal data. Lastly, there is a Do-Not-Call (DNC) registry. If user has enrolled the DNC registry, Mod-Store should not send the marketing messages

to those users. (PricewaterhouseCoopers, 2018)

Comparing to the EU GDPR, PDPA's requirements are much more relaxed. For example, to gain the personal data, GDPR need a agreement from each person, however PDPA can collect information without any agreement.

#### **2.4.2 General Data Protection Regulation (GDPR)**

General Data Protection Regulation, shortly called GDPR is a law regulating how companies protect EU citizen's personal data. If the companies fail to achieve GDPR compliance before the given deadline, companies will get penalties and fines.

Almost every thing is similar with PDPA, but there are some more things to concern when handling a personal data under GDPR

First, under GDPR, using pre-checked boxes when obtaining consent to collect and process personal data is not allowed. Users must provide clear consent and if checkboxes are used, they must be manually checked by users. For consent forms, it should be clear, explain the data that is collected and the language should be easy-to-understand. Also, the information about how long the personal data will be maintain should be informed to visitors. The explanation of the exact types of data which going to be collected and used for the website is must needed. (Admin, 2018)

Next, the website owners must make sure that which type of data they are going to collect. Any collected or processed data should be limited to the minimum necessary amount to achieve the purpose. GDPR requires all personal data to be secured, so the data encryption must be considered. (Admin, 2018)

Third, if the personal data is collected for more than one purpose, gaining separate consent for each purpose, and having clear-auditable process for recording the date and method of consent is required. (Admin, 2018)

Forth, if the under 18's personal data is collected and process it, the systems of verify individual's ages and obtain parental or guardian consent for any data processing activity of individuals under the digital age of consent. (Admin, 2018)

When website collects data, there are six main areas to focus on for GDPR compliant. First is contact form design. Almost every website contains a 'contact us' format, which includes a name, e-mail address. Nevertheless, these are also a personal information so obtaining consent to process the



data and clearly state to individuals that they have the right to access, correct or even request erasure of the information is needed. Next is privacy notices. The privacy policy should be written to reflect the specific policies of the website's own organization. (Tannenbaum, 2018)

The following questions should be considered when writing a privacy notice :

- Who is collecting the personal information?
- What information is going to be collected?
- How the data will be used?
- Who will share the given data?
- How the data will be used for marketing purpose?
- Where the data will be stored?
- What security measures are in place to protect data
- How does the website use cookies
- How to contact company (website-owner)

Third is about cookie consent. Under GDPR, when website uses cookies, the regulation for it has three. First, website need to notice to users that the website uses cookies. Next, website need a explanation of what is the cookies do and why the cookies are doing the thing. Lastly, getting the person's consent to store a cookie on their device is required. Forth is data breaches and obligations. Under GDPR, when the breach has made a result in damage to a person, company need to notify the ICO within 72 hours of the awareness of breach. Lastly, there is a typical law when website handles the personal data of under 18 years old. Having legal basis to process all data, including a child's personal data is must needed. When offering an online service directly to a child, only children aged 13 or over are able to provide their own consent. If the children is under aged than 13, website need to get a consent from the person who has parental responsibility for the child. (Tannenbaum, 2018)

### **3. Research Methodology**

Research methodology is the method which used to verify, choose, manage, and analyze data about a topic. The section of methodology let research readers to estimate the project's overall validity and reliability. There are some types of research methodology. Structured interview, unstructured interview, survey, questionnaire, case study, observational, and Delphi method are the examples of research methodology.

#### **3.1 Structured Interview method in Research Methodology**

The definition of structured interview is research method which is very strict in it's performance let participants free from scope of prompting to receive and analyze results. So, it is also called standardized interview. According to the required data, questions for this structured interview are pre-decided. (libguides, 2017)

In this part, there will be structured interview for web-designer, programmer, and user. This has been done with a Skype call and there was a 3 interview questions for each of the interviewees. Interviewing web-designer, programmer, and user is required because by interviewing them, it is more easy to find what kind of things they need. So by interviewing them, the final prototype can be more improved.

##### **3.1.1 Interview : Web Designer**

The objective of interviewing web designer is to understand how to design a user friendly and eye contracting website.

**Question 1 :** What kind of things are required to design a user-friendly website?

**Question 2 :** How to make a eye contracting design for the website?

**Question 3 :** How the design of the website will be shown? By simple wireframe or detailed wireframe?

### **3.1.2 Interview : Programmer**

The objective of interviewing the programmer is to understand what kind of programs will be used in the development phase. Also, there must be a difficulty for programmers in the development phase so to understand about it, this interview will ask some questions.

**Question 1 :** What kind of programming language you use for developing the website?

**Question 2 :** Is there any difficulties while developing the website?

### **3.1.3 Interview : User**

The objective of interviewing user is to understand user's tendency, and future requirements and knowledge about the AI and AI platforms.

**Question 1 :** Have you used or visited other AI platforms before? How was it?

**Question 2 :** Is there any expectations for our website?

**Question 3 :** Have you tested the beta version of website before? If you have, how was it?

## **4. Software Development Methodology**

Software development methodology is process which is used in a software development. Generally it takes the form of defined phases. It is designed to show a life cycle of software. There are lots of software development methodology. For example, waterfall, agile, these are types of software development methodology. For this project, RAD has chosen for the methodology. (Alliance software, 2017)

### **4.1 Rapid Application Development (RAD)**

RAD is a format of agile software development methodology and it focus on rapid release of

prototype. It highlights the use of software and user feedback over strict planning and requirements recording. (Ankita Singh, 2019)

There are 5 steps in RAD. First, defining and finalizing the project requirements is required. Under this phase, stakeholders need to define and finish project requirements like aim of the project, projection, and timetable of the project. When this requirements are fully defined, project can move on to the next step. Next, the building of prototype begins. After finishing the scope of the project, designers and programmers will design, improve, and implement the product according to the phase set up in the first step. Third, gathering the user's feedback is required. In this step, the beta version of prototype or the system is needed. Then programmers can improve the prototype according to the user's request. Forth, programmers and other workers need to test the prototype. By testing, programmers can fix some bugs and change according to the user's requirements. Lastly, after that, by presenting the prototype before launching, users can train themselves. (Ankita Singh, 2019)

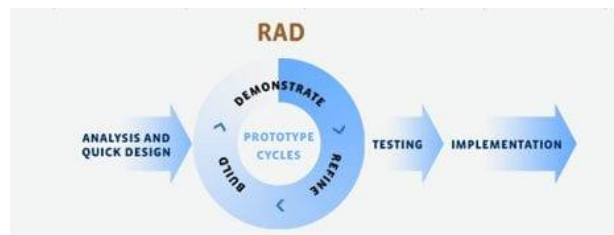


Figure 4.1 Steps of RAD

#### 4.2 Benefits of using RAD

There are some benefits of RAD and these are the reasons why the RAD has chosen as the methodology for the project. First, developers can adjust quickly during the development process, improving flexibility and adaptability. Second, RAD has fast iterations to shorten development time and fast delivery. Third, RAD encourage the reuse of code. This means less manual coding, less error, and shorter the test times. Forth, Risk management is improved as stakeholders can continue the development process as they discuss and address code vulnerabilities. (Ankita Singh, 2019)

#### 4.3 Project Stages according to the RAD

According to the RAD, the project stages are compose. According to the gantt chart, the analyzes and design has done in the first phase. For example, set goals, analyze the researches the team need to look for, and designing. Then implantation is in progress. After that the prototype will be testing again and again. Then the prototype will be released.

#### **4.4 Conclusion**

According to the research above, RAD has chosen for this project. There are several reasons why it is suitable. First, as the project is having a short time period, RAD was suitable because it encourages developers reducing the development time by reusing the code. Second, AI platform need to gather lots of user request to develop it well. RAD encourages the project team to gather user requirements in each phase and help to change the plan or prototype in every phase. Also according to this, the user's satisfaction will be increased.

### **5. Questionnaires**

#### **1. Select your gender.**

- 1) Male
- 2) Female

#### **2. What is your age?**

- 1) 19 to 25
- 2) 26 to 30
- 3) 31 to 35
- 4) 35 to 40
- 5) Above 41

#### **3. Which device you usually use when you are surfing the website?**

- 1) Laptop
- 2) Desktop
- 3) Mobile phone
- 4) Tablet PC

5) Others

**4. Which browser you usually use when you are surfing the website?**

1) Firefox

2) Safari

3) Internet Explorer

4) Microsoft edge

5) Chrome

**5. How long have you worked/studied about AI or Machine learning?**

1) 1 to 5 years

2) 5 to 15 years

3) More than 15 years

4) Haven't studied/worked

**6. Are you able to read and understand the English?**

1) Yes

2) No

**7. If you said no in question 6, which language you can read and understand?**

1) Chinese

2) Korean

3) Japanese

4) Others

**8. Where are you from?**

- 1) National ( Singapore )
- 2) International

**9. Do you have any disabilities? If have, what kind of disability you have?**

- 1) No
- 2) Visual impairment
- 3) Hearing impairment
- 4) Others

**10. Have you build any of AI models before?**

- 1) Yes
- 2) No

**11. If you had used some other website which handles AI models before, have you satisfied with their service? Select your level of the satisfaction.**

- 1) Very Disappointed
- 2) Disappointed
- 3) Satisfied
- 4) Very satisfied

**12. Which type of category you are interested in?**

- 1) Advanced Manufacturing
- 2) Medical Technology

- 3) Materials Development
- 4) Built Environment
- 5) Digital Economy
- 6) Others

**13. When using the other websites, do you accept the cookies?**

- 1) Yes
- 2) No

**14. If you haven't built AI models before, would you like to get some information about how to build the AI model in the website?**

- 1) Yes
- 2) No

**15. If you are just a simple visitor, would you like to get some information about AI and Machine learning in the website?**

- 1) Yes
- 2) No

**16. How would you like to contact the company if there is any question or problem?**

- 1) Send the e-mail or enquiry directly from the webpage.
- 2) See the contact details on the webpage and contact by yourselves.
- 3) Choose the way to contact between phone call and message directly from the page.

**17. In each of the product's detail page, which category do you think is most interesting?**



- 1) Advantages of the model
- 2) Product Details
- 3) How to use the product?
- 4) Recommended specifications of PC

**18. Which one do you prefer? Login and Register function is in one webpage, or the Login page and register page is existing separately?**

- 1) Login and register function in one page.
- 2) Login and register page in separate pages

**19. Do you want to register by using the g-mail account or just register by using your own personal information?**

- 1) Use g-mail account to register
- 2) Register by your own personal information by filling the required boxes

**20. Has the AI model you have downloaded been different from what you were expected?**

- 1) Yes
- 2) No

## **6. Analysis**

### **6.1 Summary of collected data**

#### **6.1.1 Summary of Interview**

**Interview 1 (Web-designer) :** Web designer said that for user friendly website, the most important thing is not to make users think when they see the website. So the contents in the website should

be clear and easy to understand. Also, to make a eye contracting website, web designer said that the placement of content is most important. According to the analysis user's vision, web designer said the main contents should follow this eye tracking analysis research.



*Figure 6.1.1 eye tracking analysis*

Lastly, web designer said he will create a detailed wireframe. The reason is because the detail wireframe can help programmer to build the website easier than the simple wireframe.

**Interview 2 (Programmer)** : Programmer said that he will use three types of program. They are React, Django, and My SQL. Programmer said while developing the website, the crash between each codebase when combine all the code base will be the most difficult part.

**Interview 3 (User)** : Users said that they have used other AI platform such as Google AI and Amazon Cloud. They expect to Mod-Store to design easier to understand the content and user friendly UI. User said he have tested the beta version of other website before, so according to that experience, he said he can test the Mod-Store more deeply. For example, he said he will test how does all the buttons work in website and the speed of the surfing.

### 6.1.2 Summary of Questionnaire

#### Summary 1.

1. What is your gender?

응답 20개

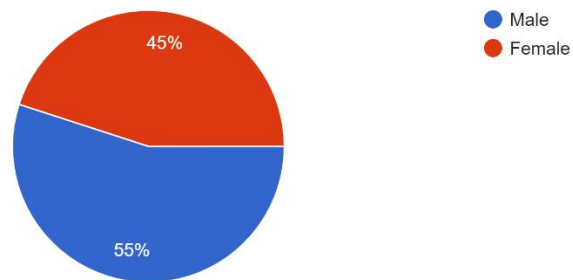


Figure 6.1.2.1 Collected data of Questionnaire

2. What is your age?

응답 20개

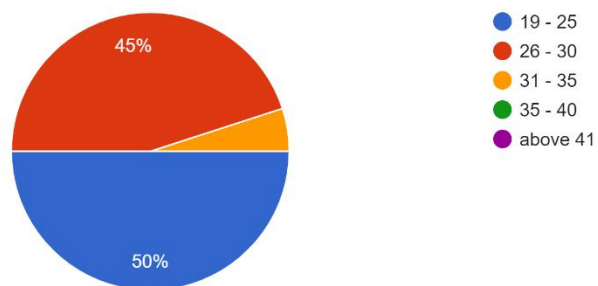


Figure 6.1.2.2 Collected data of Questionnaire

3. Which device you usually use when you are surfing the website?

응답 20개

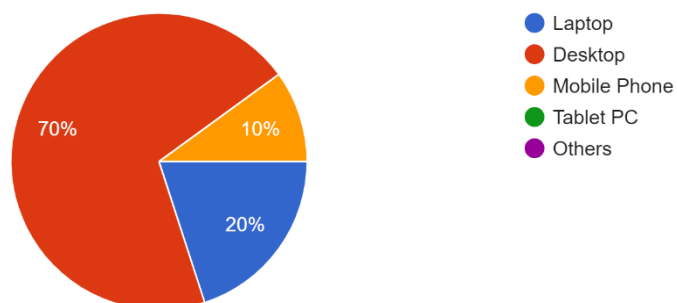


Figure 6.1.2.3 Collected data of Questionnaire

4. Which browser you usually use when you are surfing the website?

응답 20개

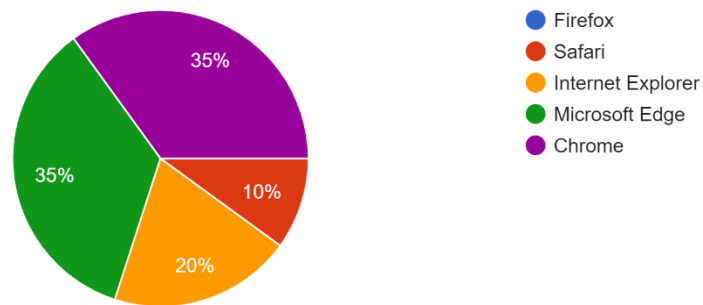


Figure 6.1.2.4 Collected data of Questionnaire

5. How long have you worked/studied about AI or Machine learning?

응답 20개

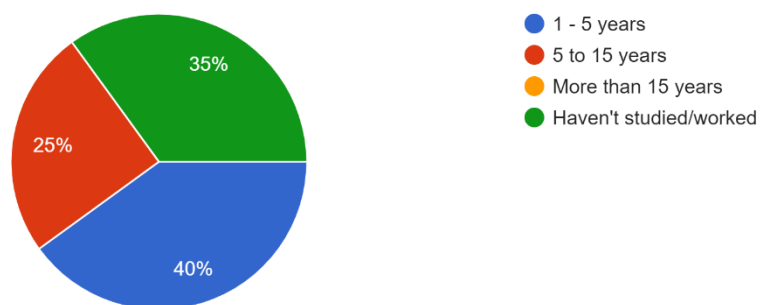


Figure 6.1.2.5 Collected data of Questionnaire

The first data of questionnaire is based on the type of the future users. For the gender of the user, 55% of the user was male, and 45% was female. For the age, 50% of the users were age between 10 to 25, 45% was from age 26 to 30, and the left was over 30. For the device of the users use, when they surf the website, 70% of the users use desktop, 20 % of the users use laptop, and 10% of users use mobile phone. For the browser users use to surf the website, both of Chrome and Microsoft Edge came out with 35%. 20% of the users said that they use Internet Explorer and left 10% of users said that they use Safari. For the next question, 40% of users were have an experience working or studying about AI for 1 to 5 years. 35% of the users said they have no experience about it. And 25% of users said that they have an experience about 5 to 15 years. According to this survey, checking the average age of the future user is available. Also the most important part is the browser

users use when they surf the website. As the user of Chrome and Edge came out with same with the highest percentage, testing the webpage is going to be held on the Edge and Chrome.

## Summary 2

6. Are you able to read and understand the English?

응답 20개

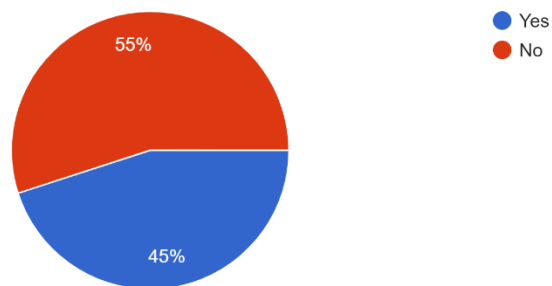


Figure 6.1.2.5 Collected data of Questionnaire

7. If you said 'NO' in question 6, which language you can read and understand?

응답 6개

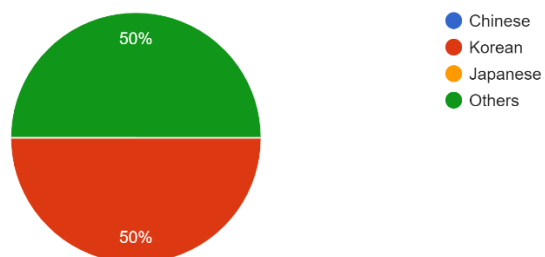


Figure 6.1.2.5 Collected data of Questionnaire

8. Where are you from?

응답 20개

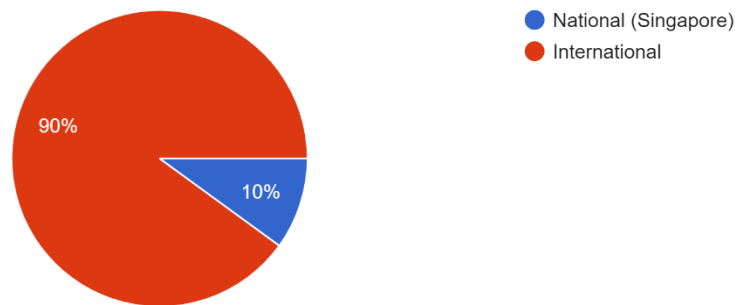


Figure 6.1.2.5 Collected data of Questionnaire

9. Do you have any disabilities? If you have, what kind of disability you have?

응답 20개



Figure 6.1.2.5 Collected data of Questionnaire

The second data of questionnaire is the data for W3C Web content Accessibility Guidelines (WCAG). 55% of the users said they are not able to understand English deeply, and 45% of them said they are available to understand English. From the 55% who said that they don't understand the English, 50% of them said they can understand Korean. 90% of the users said they are from international, and 10% of the users said they are Singaporean. Lastly, 100% of users said that they have no disabilities. According to this result and WCAG, the website will be considered better website if putting a translation function in the website. But as the result came out with 100% in the disability part, the website don't need to create a version for disabilities.

### Summary 3

10. Have you build any of AI models before?

응답 20개

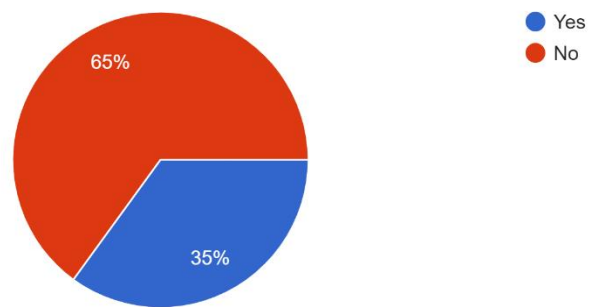


Figure 6.1.2.5 Collected data of Questionnaire

11. If you had used some other website which handles AI models before, have you satisfied with their service? Select your level of the satisfaction.

응답 20개

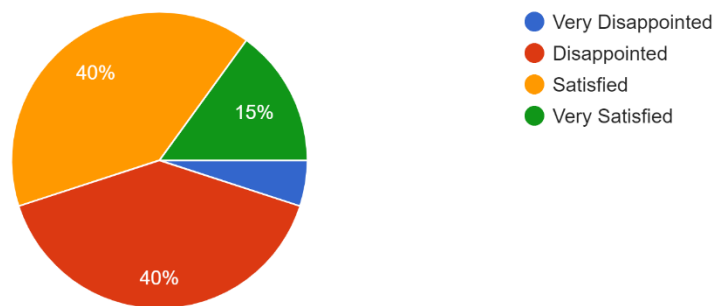


Figure 6.1.2.5 Collected data of Questionnaire

12. Which type of category you are interested in?

응답 20개

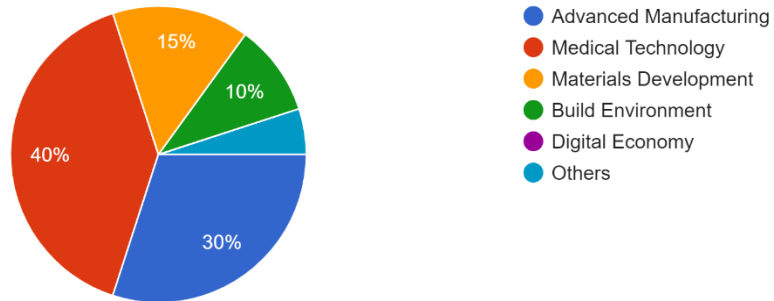


Figure 6.1.2.5 Collected data of Questionnaire

13. When using the other websites, do you accept the cookies?

응답 19개

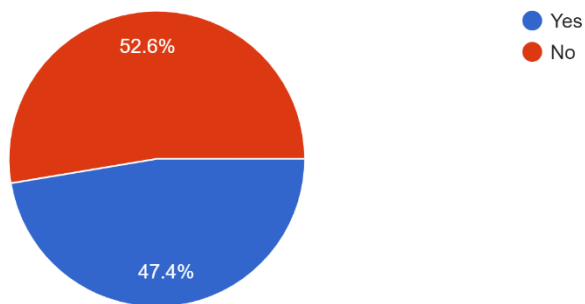


Figure 6.1.2.5 Collected data of Questionnaire

14. If you haven't built AI models before, would you like to get some information about how to build the AI model in the website?

응답 19개

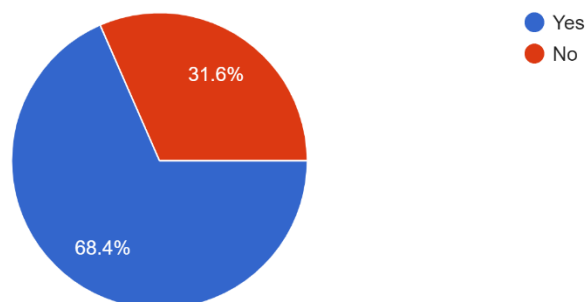




Figure 6.1.2.5 Collected data of Questionnaire

15. If you are just a simple visitor, would you like to get some information about AI and Machine learning in the website?

응답 20개

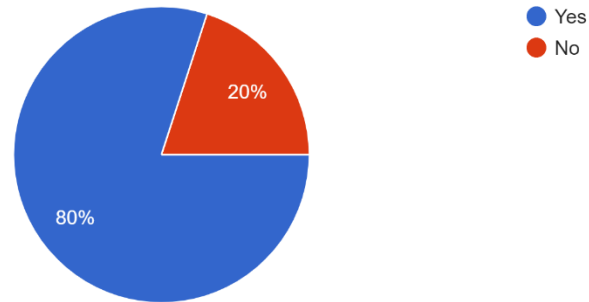


Figure 6.1.2.5 Collected data of Questionnaire

16. How would you like to contact the company if there is any question or problem?

응답 20개

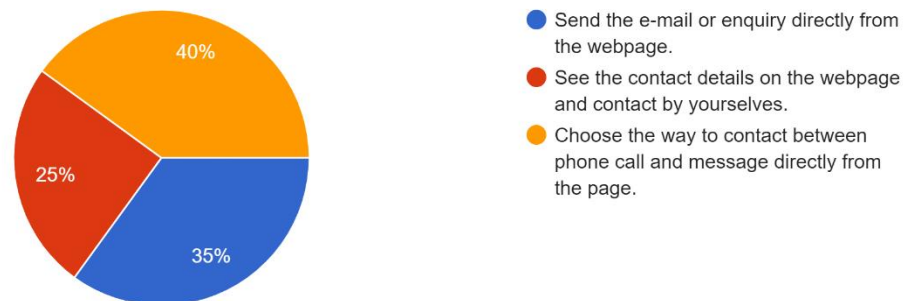


Figure 6.1.2.5 Collected data of Questionnaire

17. In each of the product's detail page, which category do you think is most interesting?

응답 20개

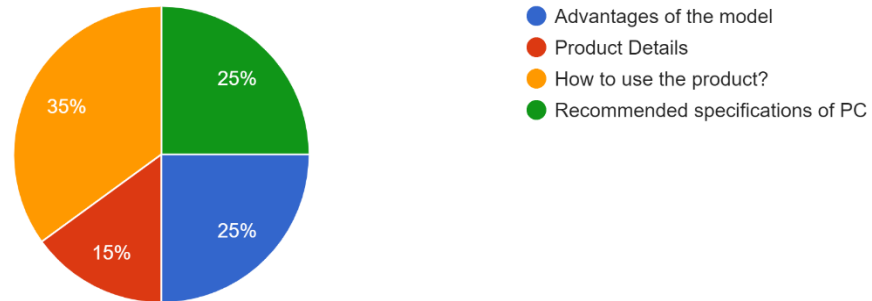


Figure 6.1.2.5 Collected data of Questionnaire

18. Which one do you prefer? Login and Register function is in one webpage, or the Login page and register page is existing separately?

응답 20개

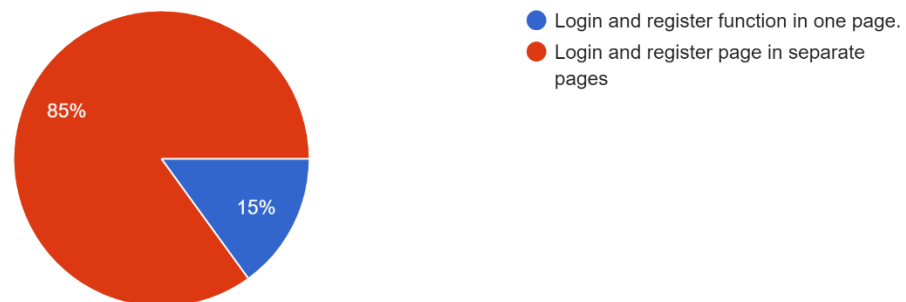


Figure 6.1.2.5 Collected data of Questionnaire

19. Do you want to register by using the g-mail account or just register by using your own personal information?

응답 19개

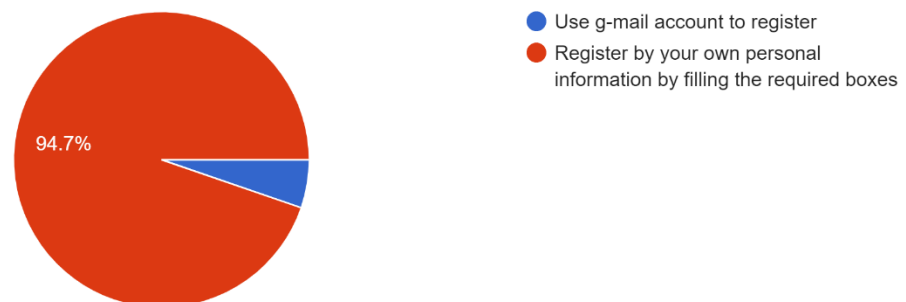


Figure 6.1.2.5 Collected data of Questionnaire

20. Has the AI model you have downloaded been different from what you were expected?

응답 20개

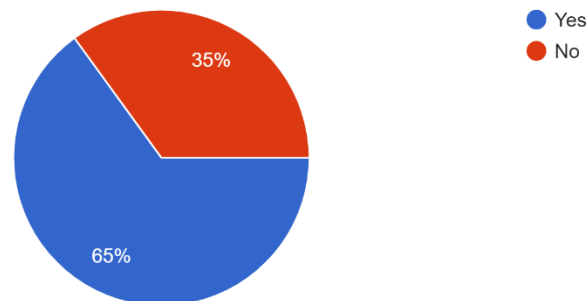


Figure 6.1.2.5 Collected data of Questionnaire

In this summary, the collected data is going to be used for develop the website. In the question 10, 65%of the users had an experience in developing the AI models, but 35% of the users didn't have. In the question 11, both of satisfied and disappointed users were same as 40%. In question 12, 40% of users were interested in medical technology, 30% was interested in advanced manufacturing. In question 13, 47.4% of users said they accepts cookies, and 52.6% of users said that they don't accept cookies. In question 14, 68.4% of users said that they want to learn how to build the AI model in the website, and 31.6% said no in this question. For question 15, 80% of users said that they want some information about AI and machine learning in the website, and 20% of them said no. According to this, the resources page which has information about the AI and machine learning is created. In question 16, 40% of users said they want to choose the way of contact to company between phone call and message directly in the website. And 35% of users said they want to send e-mail directly from the website. According to this answer, the contact way should be chosen as the 40% one, however, as the leader of the team required to create a contact us page which contains the direct mailing function, the contact us page has created with the function of direct mailing. In question 17, 35% of the users said they are interested in how to use a product, both of advantage of model and the recommended specification of the PC to run the model came out with 25%, and 15% of users want the information about product details. In question 18, 85% of the users preferred the separated login and register page. So the login page and register page is separated in different page. In question 19, 94.7% of users preferred register by using their own personal information rather than using Gmail account to register to the website. In question 20, 65% of the users said the downloaded models were different from what they expected and 35%

said it was same as they expected. According to this, the product details should be written in more details.

## **6.2 Functional requirements and Non-Functional requirements**

### **6.2.1 Functional requirements**

For the functional requirement, there are few requirements.

- Log-in, Logout, and register function is required.
- Register by using their own personal information.
- Contact Mod-Store by filling in the contact us form in the contact us page.
- Drop down menu to see the other menu more easily.

### **6.2.2 Non-Functional requirements**

For the non-functional requirements, there are few requirements.

- Users need some resources to learn about AI and Machine learning. If there is a resources about this, people who are not familiar with AI and Machine learning can be familiar with it, and can be a future user of the webpage.
- Users need to understand the contents easily. So the UI have to be simple.

## 7. Design

### 7.1 Use Case Diagram

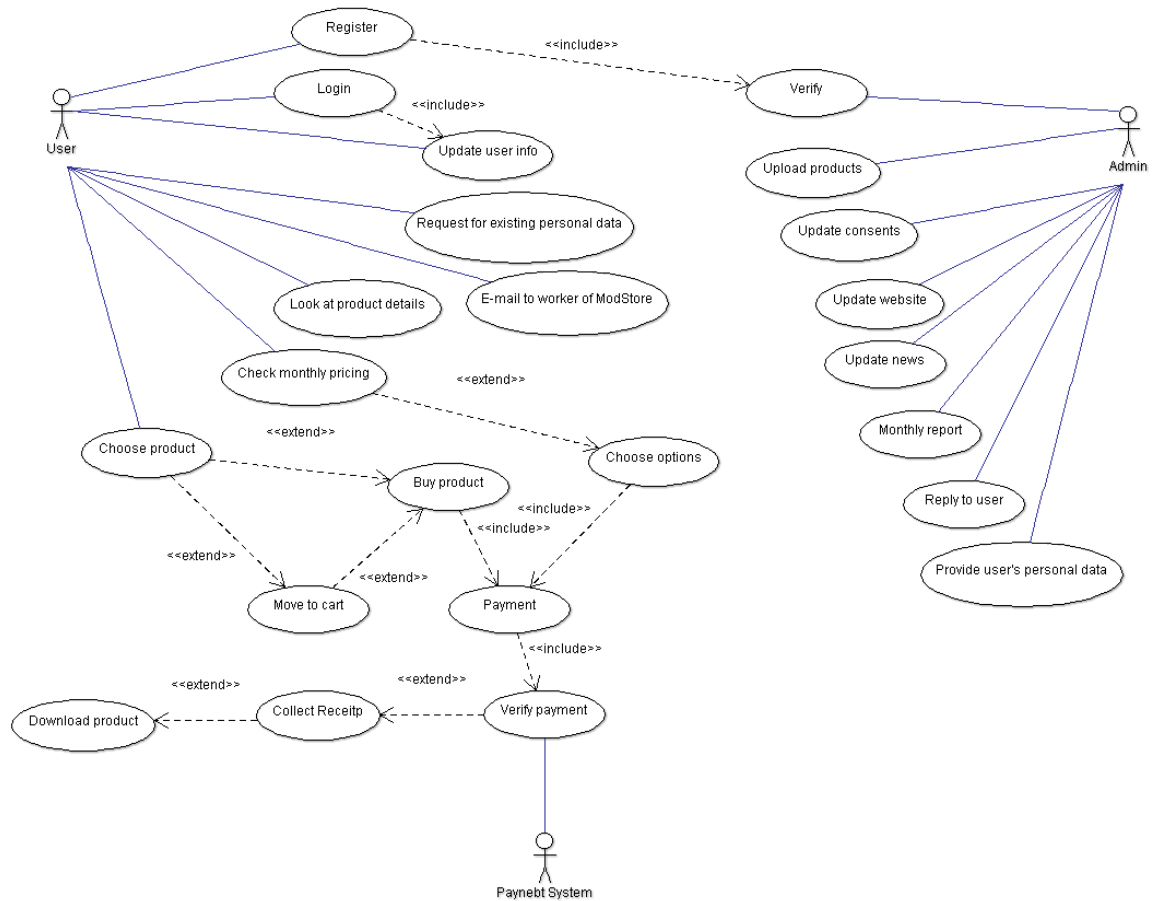


Figure 7.1 Use case diagram

## 7.2 Website structure

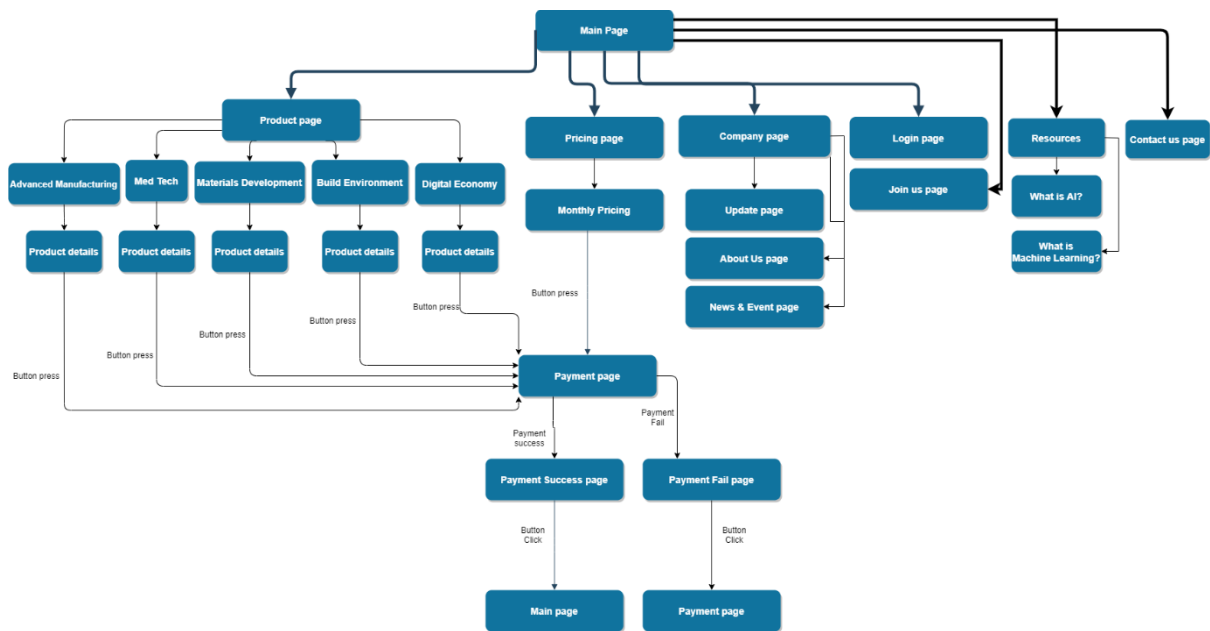


Figure 7.2 website structure

This website structure shows what contents are inside the website. From the main page, users can link into the product page, pricing page, company page, resources page, log in page, register page, and contact us page.

In the product page, users can link into the separate product pages which is sorted by categories, and each of the product have their own product detail page. In the company page, users can link into the updates page, about us page, and news and events page.

## 7.3 Wireframe of the website

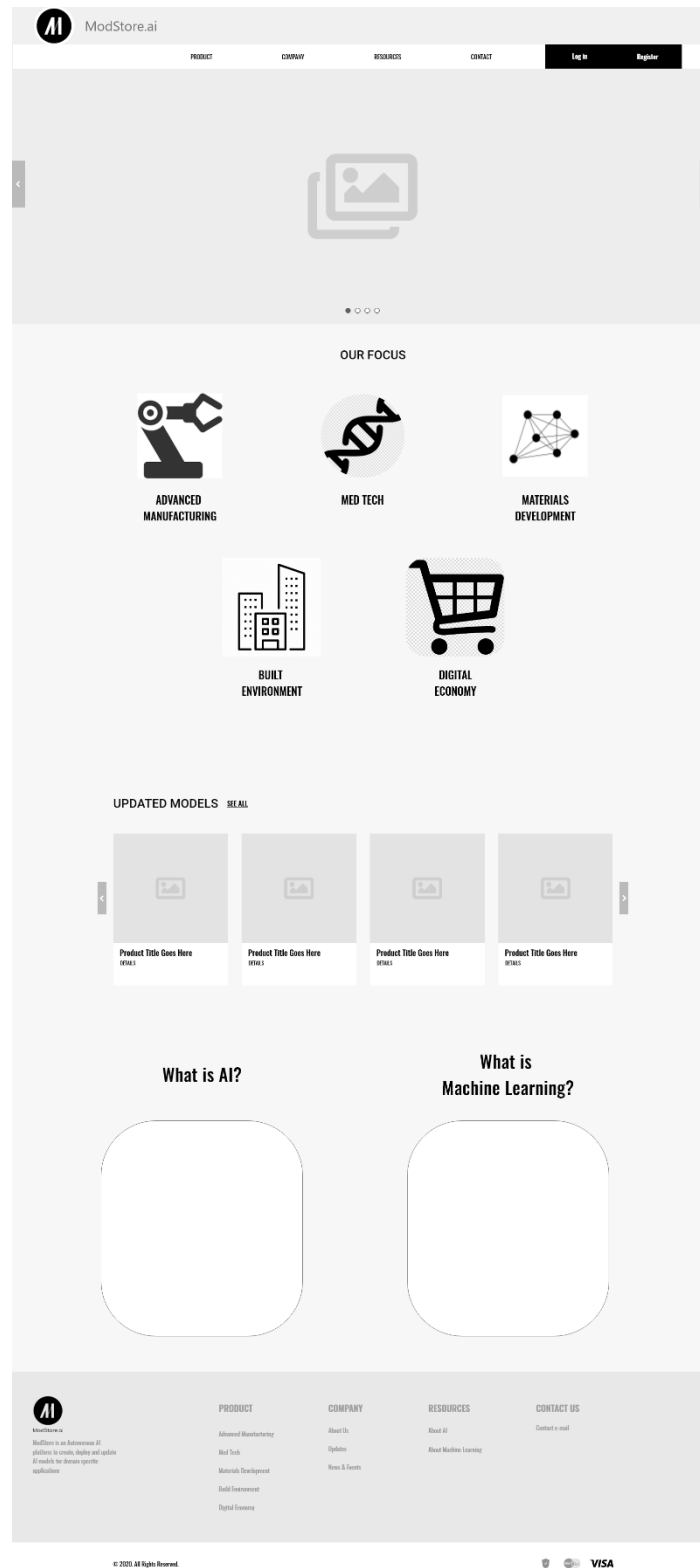


Figure 7.3 Wireframe of Main page of the website

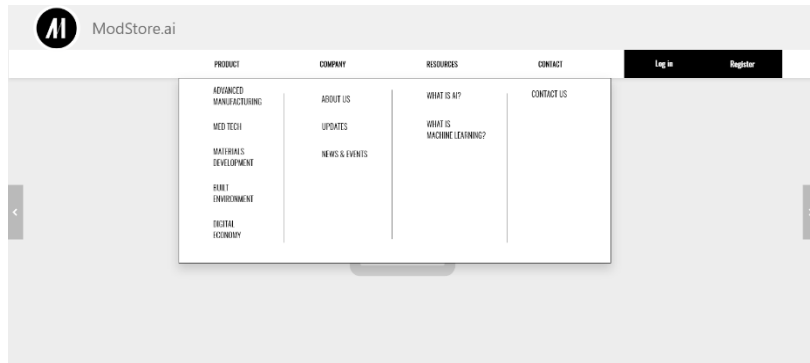


Figure 7.3 Wireframe of drop down of the website

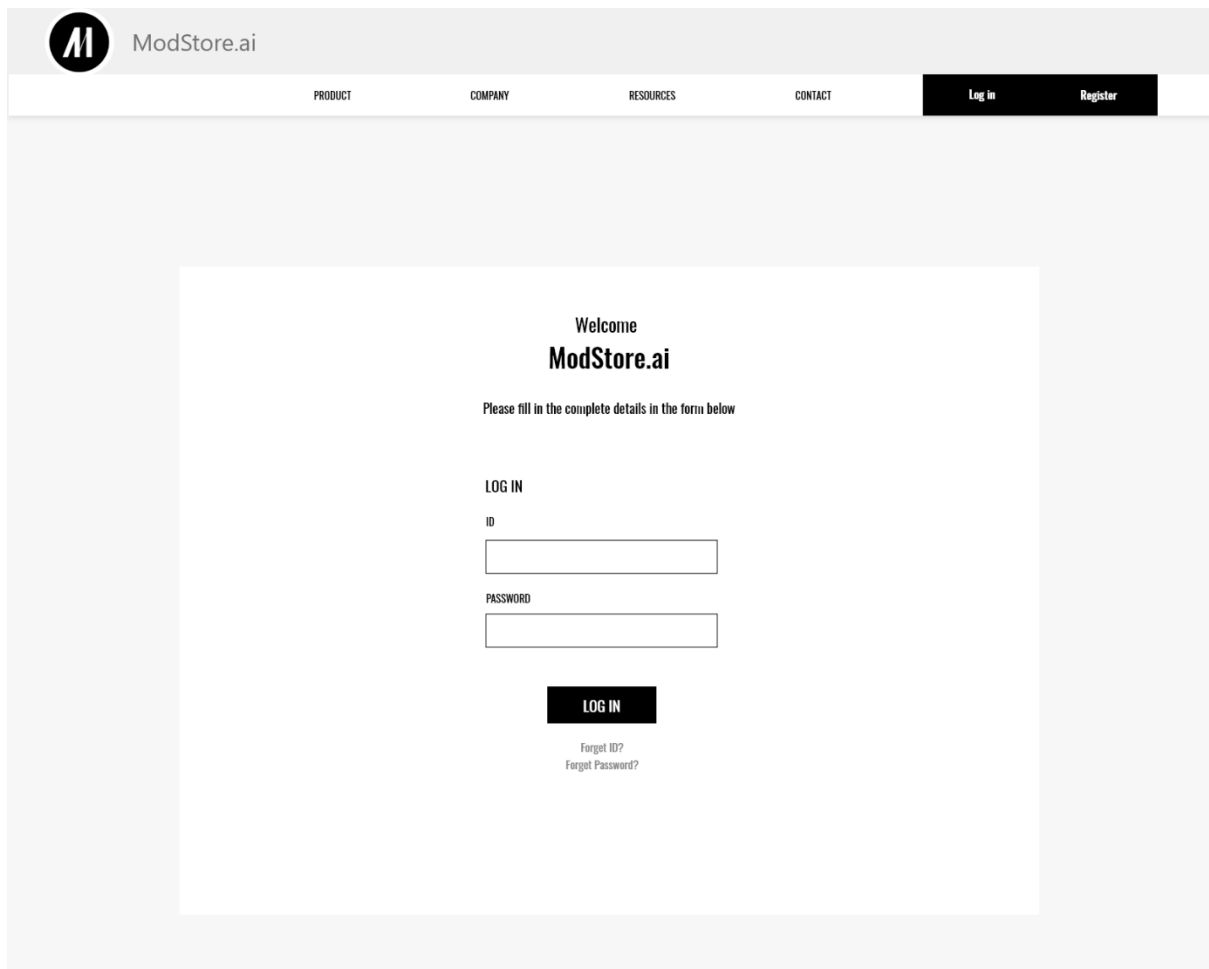



Figure 7.3 wireframe of Login page in the website



ModStore.ai

[PRODUCT](#)[COMPANY](#)[RESOURCES](#)[CONTACT](#)

[Log in](#)[Register](#)

REGISTER

Personal Details

First Name

Last Name

E-mail

ID

AVAILABLE

Password

Confirm Password

REGISTER

Figure 7.3 Wireframe of register page in the website

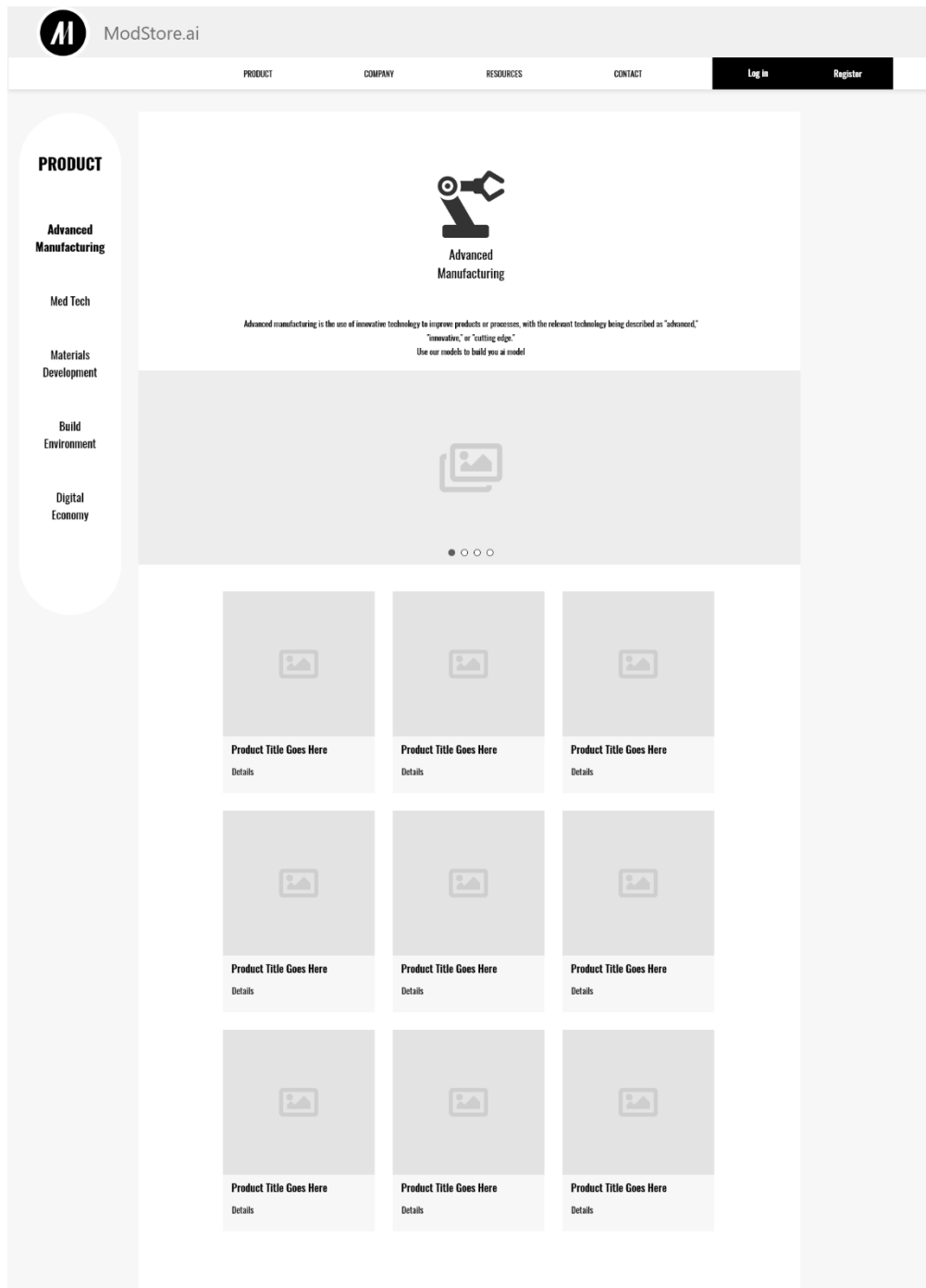


Figure 7.3 Wireframe of product page in the website

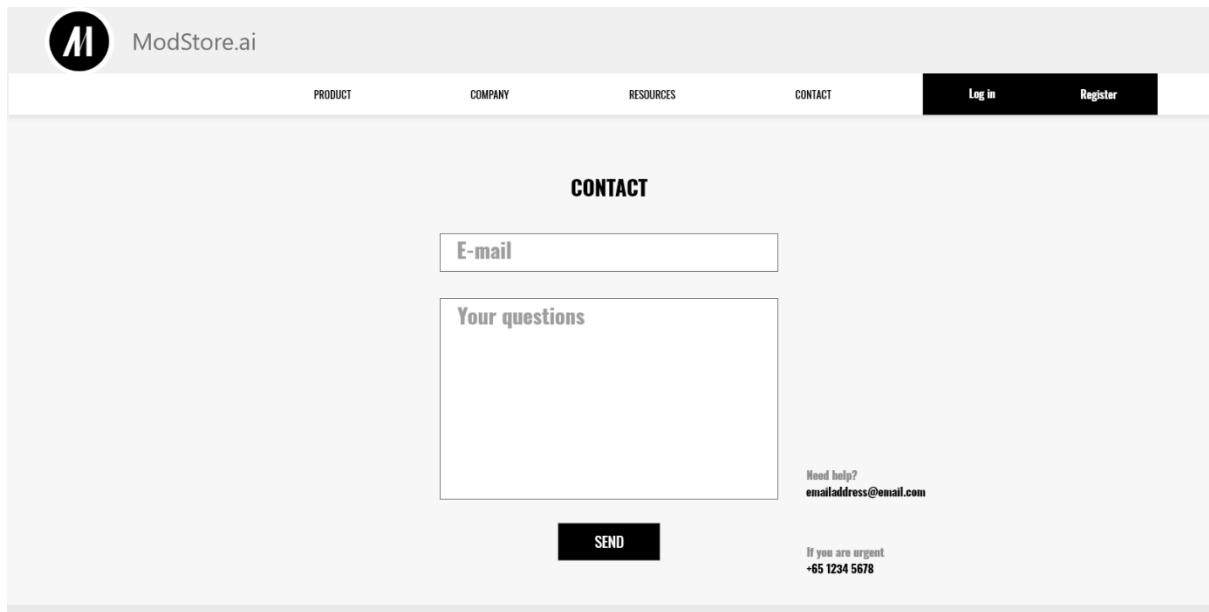


Figure 7.3 Wireframe of Contact us page in the website

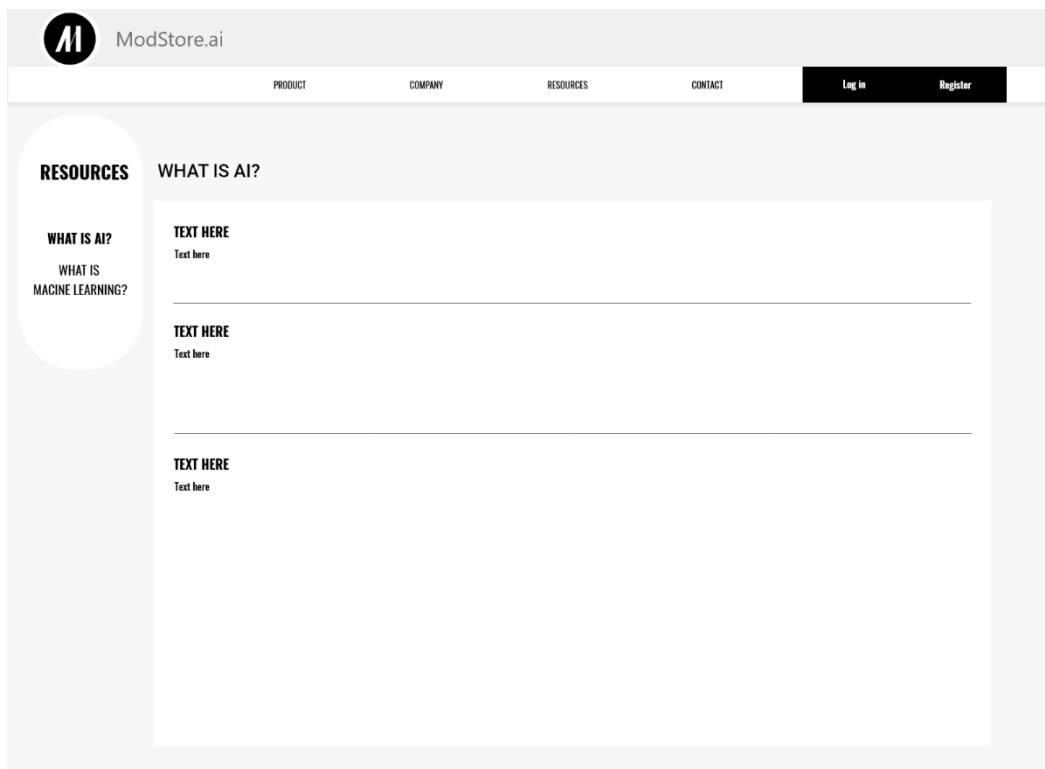


Figure 7.3 Wireframe of Resources page in the website

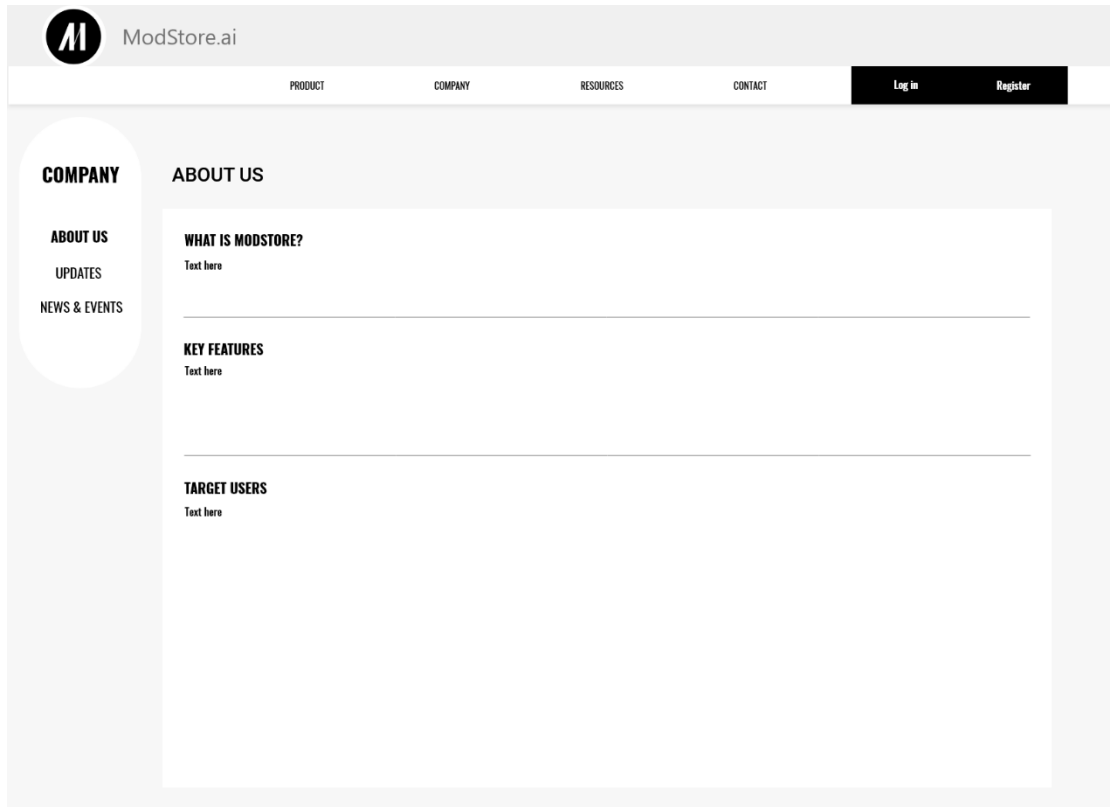


Figure 7.3 Wireframe of About us page in the website

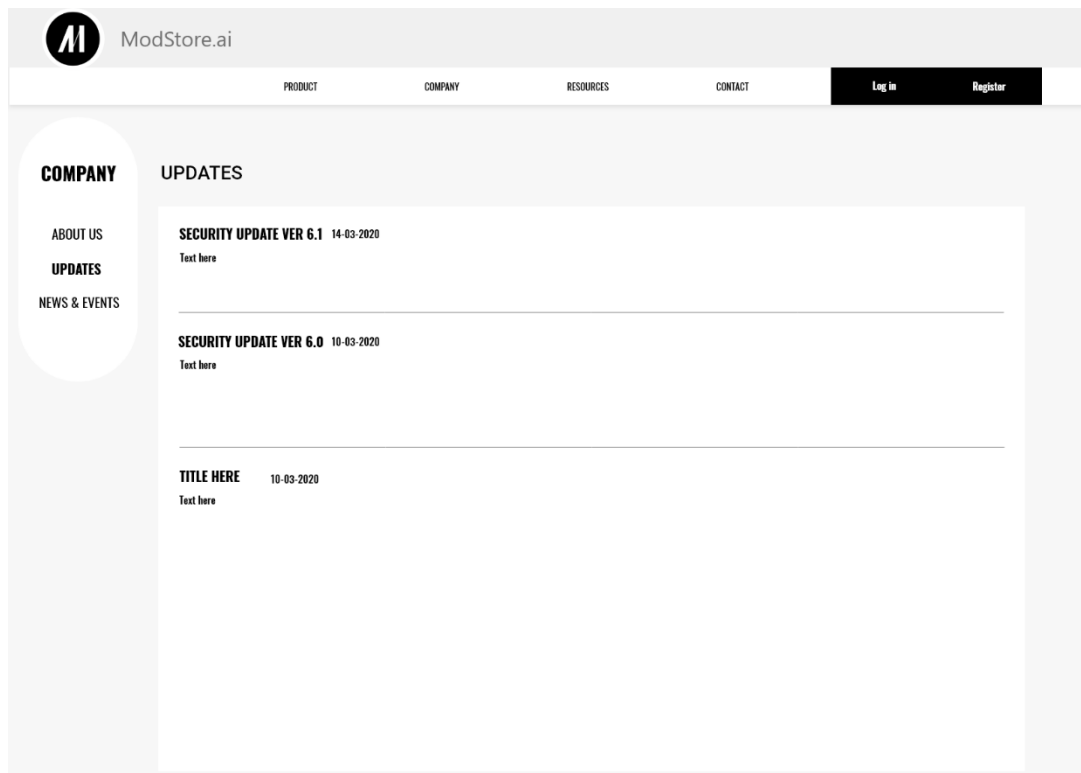


Figure 7.3 Wireframe of Update page in the website

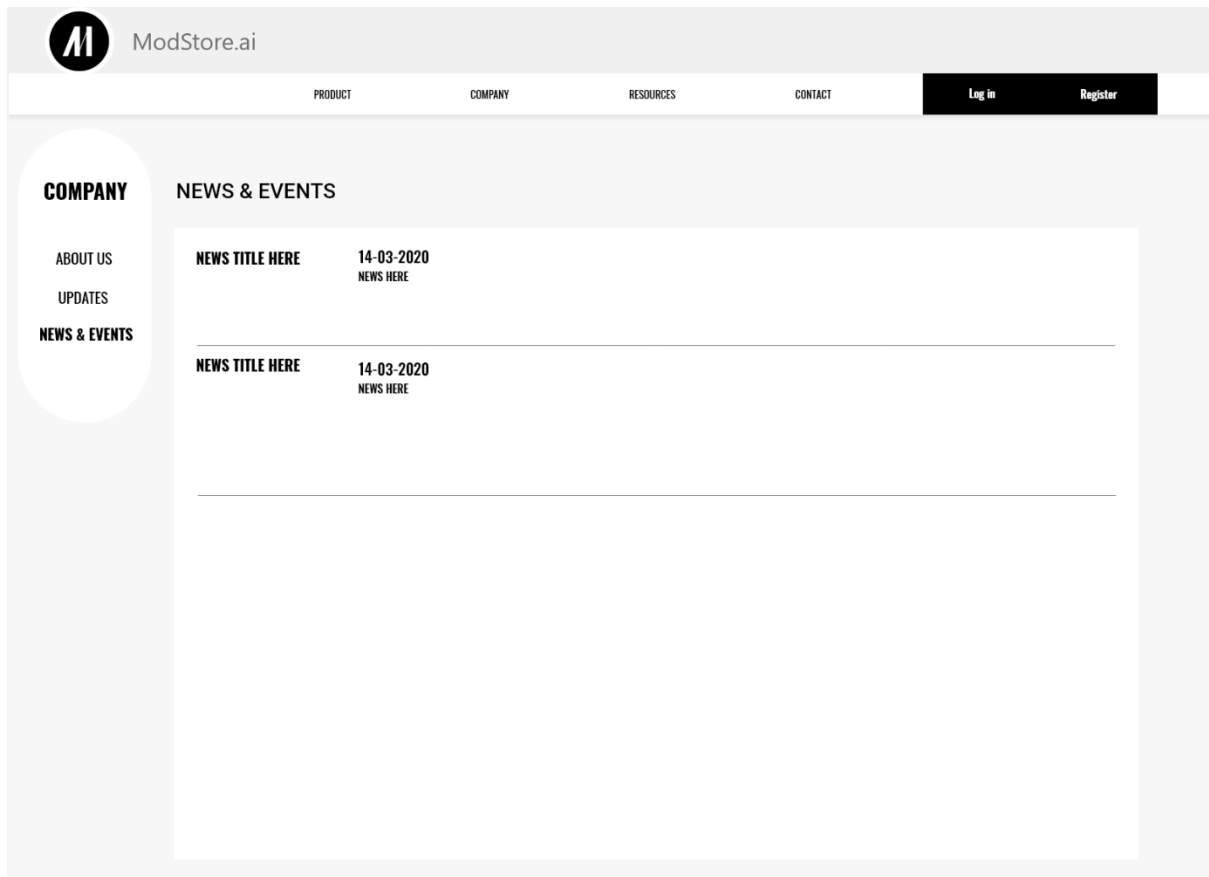


Figure 7.3 Wireframe of news and events page in the website

## 8. Implementation

### 8.1 Test Case

Test Case	Test Area	Test Type	Test Steps	Expected Results	Actual results	Pass/Fail
MS01	Drop dow menu function	Functional test	1. move the pointer to the menu bar 2. Check the drop down menu comes down	Drop down menu is displayed	Drop down menu didn't displayed	Fail
MS02	Drop down menu connecting to other pages	Functional test	1. move the pointer to the menu bar 2. Check the drop down menu comes down 3. press the content in the drop down menu	Link into wanted page	Linked in to each other pages well	Pass
MS03	Check all the buttons work	Functional test	1. Press all the buttons which has been created	Link in to direct pages	Linked into direct pages	Pass
MS04	Register functions	Functional test	1. Fill in the register form 2. Check the registered information is correctly inserted in database	User register complete	Couldn't register	Fail
MS05	Login functions	Functional test	1. Fill in the login form 2. Check the login is successfully done by status	User login complete	Could't log in to the website	Fail
MS06	Contact us function	Functional test	1. Fill in the contact us form in website 2. Check the e-mail has sent to the Mod-Store's email	Receive an E-mail	Couldn't receive an e-mail	Fail

Figure 8.1 Test case

## **8.2 Feedback by Testers**

I have asked 2 persons to test the prototype and received some feedbacks.

### **Tester1: Ricardo Sirota**

Objective : To test the dropdown menu works well in other device and browser

Feedback : The dropdown menu works well in any other browsers, but in Mac, the font seems different from the Windows.

### **Tester2 : Gao Fei**

Objective : To test the satisfactory of the website

Feedback : It needs more improvement. The backend is not fully developed and doesn't work well.

## **8.3 Summary of Test Case**

During the testing session, some of the functions remained fail. The functions such as log-in, log-out, register, and contact admin was remained fail. However, functions for the front-end were passed.

## **9. Conclusion**

### **9.1 Review of Every Chapter**

#### **Chapter 1 : Introduction**

The first chapter was the introduction of the project. In this part, the proposal of entire project has been inserted such as project background, project aim, project objective, problem statement, problem solution, plan of entire project, and hardware and software requirements.

#### **Chapter 2 : Literature Review**

In the literature review, there is a summary of documents I have used and read for this project. It reviews the sources about what is AI and Machine Learning, about the programs I use for this project's implementation and the legal guidelines to take care.

#### **Chapter 3 : Research Methodology**

In the research methodology, there is the question and results that I have interviewed to improve the prototype. I have interviewed web designer, programmer and users and received the answers of it.

#### **Chapter 4 : Software Development Methodology**

In the chapter of software development methodology, I have written about the methodology I used in this project. I have used RAD methodology for planning and working on this entire project.

#### **Chapter 5 : Analysis**

In the Analysis part, I have written about all of the data I have collected such as the answers of Interview and the questionnaire.

#### **Chapter 6 : Design**

In design part, I have reviewed the use-case diagram and website structure I have created. Also, the wireframe for the website has inserted to show how it is going to be look like.

#### **Chapter 7 : Implementation**

In this part, I have inserted the test case to show what I have failed and achieved in the development process.



## **9.2 Review of objectives**

### **Objective 1 : Create wireframe for the website**

The first objective was to create the wireframe of the website. The wireframe has been fully created in the correct time that I have planned in Gantt-chart. So the objective 1 has been achieved.

### **Objective 2 : Create front-end by using React.js**

The second objective was to create the front-end by using the React.js. This one has fully created by using the React.js.

### **Objective 3 : Create back-end by using Django**

The third objective was to create the back-end by using the Django. According to the test cases, the created back-end's result came out fail so it's not fully succeed.

### **Objective 4 : Create database by using MySQL**

The last objective was to create the database by MySQL. However, the time line was not enough for me, so I have failed to achieve this.

## **9.3 Future Enhancement**

In the future, if I'm doing this project again, I'm going to plan the project more in detail, and take more time in the development phase. As the time has taken too much in the literature reviews and the designing phase, the prototype was not fully developed and couldn't achieve all of the objectives I have set.

Also, the hard coding by using React, Django was too tough for me to do, I'm going to try Wordpress in development phase, and try to make the prototype more easier and better.

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