LOW FIDELITY PROTOTYPE PROJECT

BUSINESS MODEL WITH AUGMENTED REALITY

Start Now ➜

LEW CHIN HONG

NG KAI ZHENG

YEO CHUN TECK

LAI KAI CHIAN

# Introduction

On 7 November 2021, we sent a lot of emails to our potential customers to promote our service of developing a new system that suits their company's operation. As an outcome, we managed to receive a reply from one of them, which is the LYLN Home Decor Company. This company was established in the year 2020. From their reply, we know that they wish to have an enhancement on their existing online business platform.

There are three weaknesses in their current platform which are unable to handle a massive amount of data, low level of platform security, and lastly, it does not provide on-demand service. Furthermore, due to the COVID-19 pandemic, the turnover of this company's physical store is affected critically, so they expect to concentrate their business via an online platform. To address these issues, we suggest a few of the fourth industrial revolution technologies, such as the Internet of Things (IoT).

LYLN
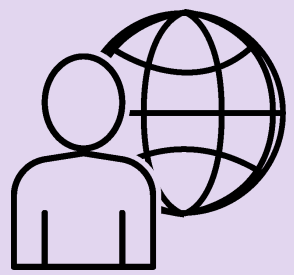
Problem

Due to the COVID-19 pandemic, the company met some challenges, which are reduced passenger flow and management on their on-premises data centre.

This is because on-premises data centre upfront charge necessary for additions and modifications, plus the time required to install, and physical space restrictions that can cap growth.
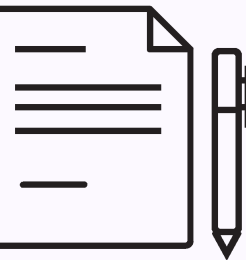
The company also has the responsibility for provisioning, troubleshooting, and managing data centre infrastructure by themselves, which would consume a lot of operational costs and time.
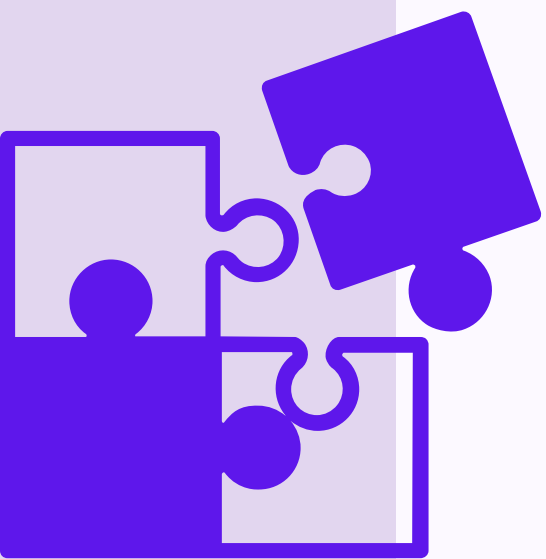
Solution

- We decided to build an application by using the Cloud Computing service provided by AWS.

- This application implements some kinds of 4th IR technologies: Artificial Intelligence, Augmented Reality, Cloud Computing, 5G, and Internet of Things.

- The management staff can upload the information of the furniture efficiently by using the app. The information of the furniture could be stored more securely and handled easily, since most of the infrastructure is managed by the AWS service providers.

- The customers can know the information and other details of the furniture by pointing to their mobile devices to scan the product.

- This could help to reduce the need to task more staff to provide guidance and information, and reduce the physical contact between the customer and the staff.
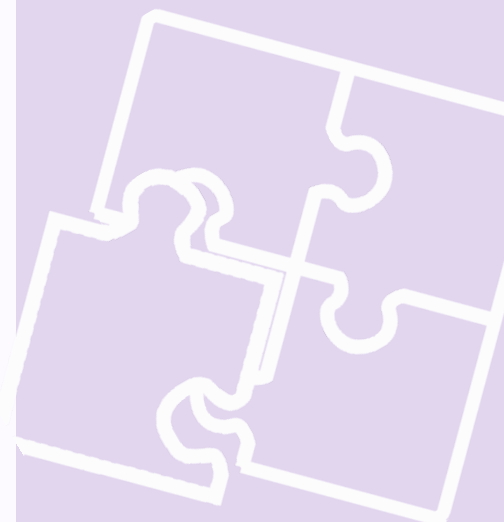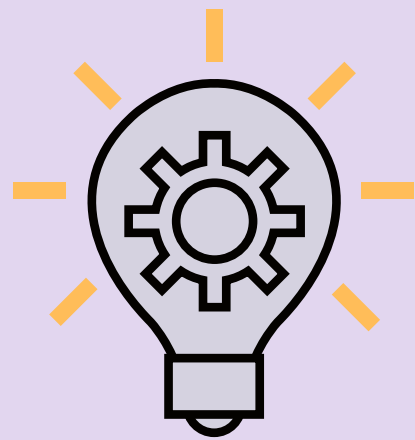
Team working

Determined the direction of the project

- We discussed together the ideas and directions of the project.
- Everyone did some research on the Internet to find valuable informations and brainstorm our ideas in the discussion

Designed the low fidelity prototype

- We discussed together to ensure the workflow of our low fidelity prototype so that it could achieve the purpose of the project
- We spent our time to learn how to use Adobe XD and share our reviews about the weakness of our design and fixed these weakness together by providing different alternatives
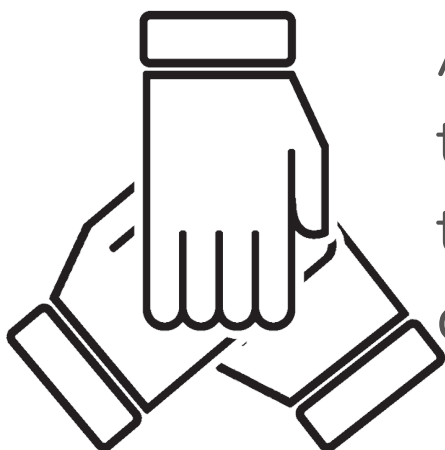
Designed the cloud computing architecture

- We spent our time to learn AWS services together through AWS modules.
- We also did some research and shared our opinions about these services
- Since our cloud computing architecture involved a wide range of 4th IR technologies, we decided to do investigation on other cloud computing architectures based on related technology respectively
- Then we integrated these technologies into our cloud computing architecture for the project

Cloud Computing Architecture

AR Product Displayingwith AI scanning feature

is used to display AR 3D model of the furniture which are scanned or searched by customers.

1. The videos or photos from user phone app will be stored in S3 Bucket
2. The Lambda will execute its function to identify the product by using the Rekognition API
3. Lambda transmits the result about the information of product to Amazon Sumerican
4. Amazon Lambda also verifies user inputs and retrieves relevant content from Amazon Dynamo DB
5. Sumerican editor will show the AR interface on the user 's mobile device as a response to user
6. The content will be transmitted to Lex as a response to user queries
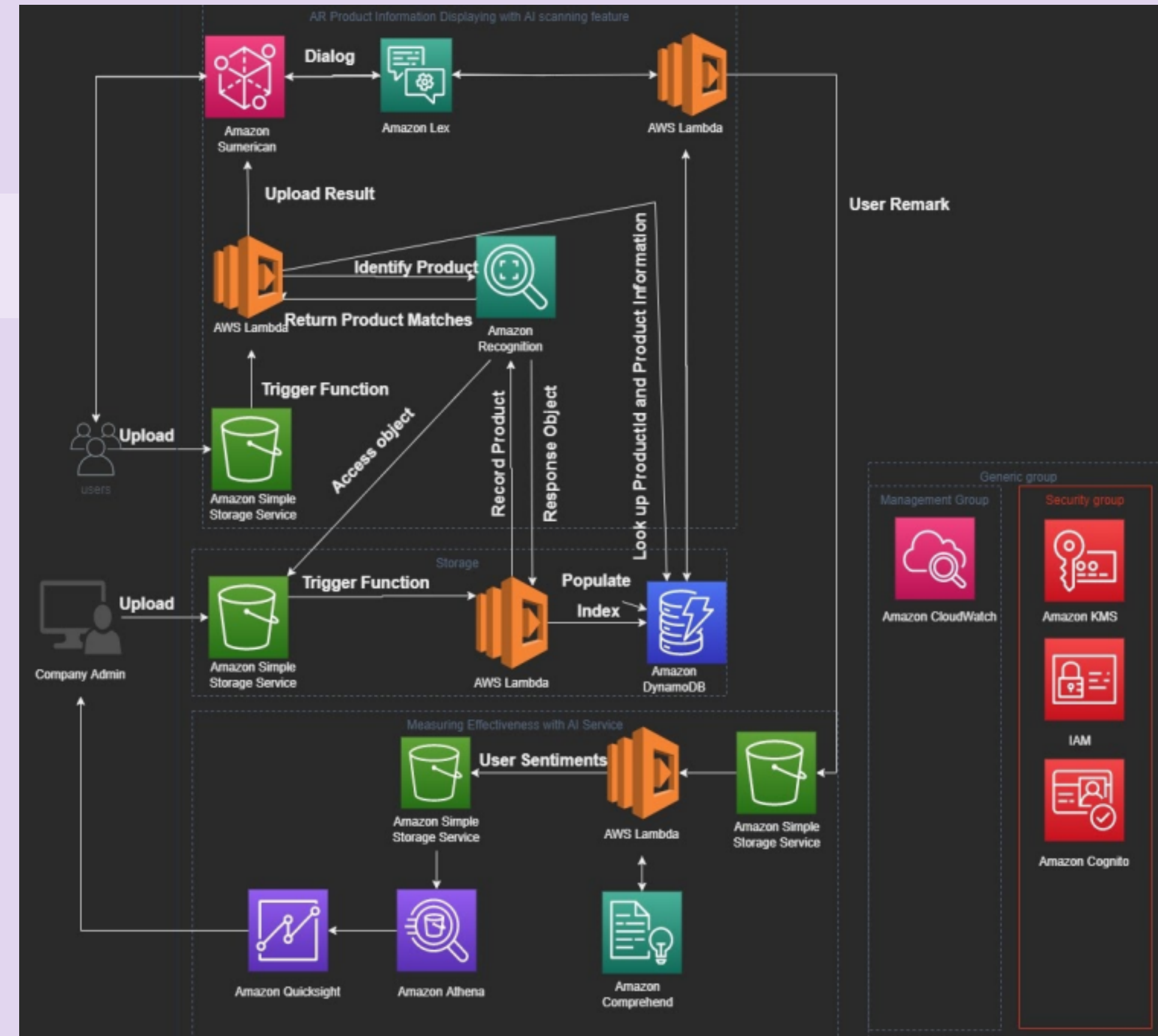
Cloud Computing Architecture

Measuring Effectiveness with AI service

is used to collect user feedback and visualize the insights based on analysis

1. Amazon Lex takes user feedback and store it in Amazon S3,which Amazon Comprehend analyses
2. Amazon Comprehend deciphers text for meaning and insights/sentiment
3. User feedback insights are stored in S3.
4. Amazon Athena is used to analyse the insights gained from customer comments.
5. Amazon QuickSight brings the information to be visualised
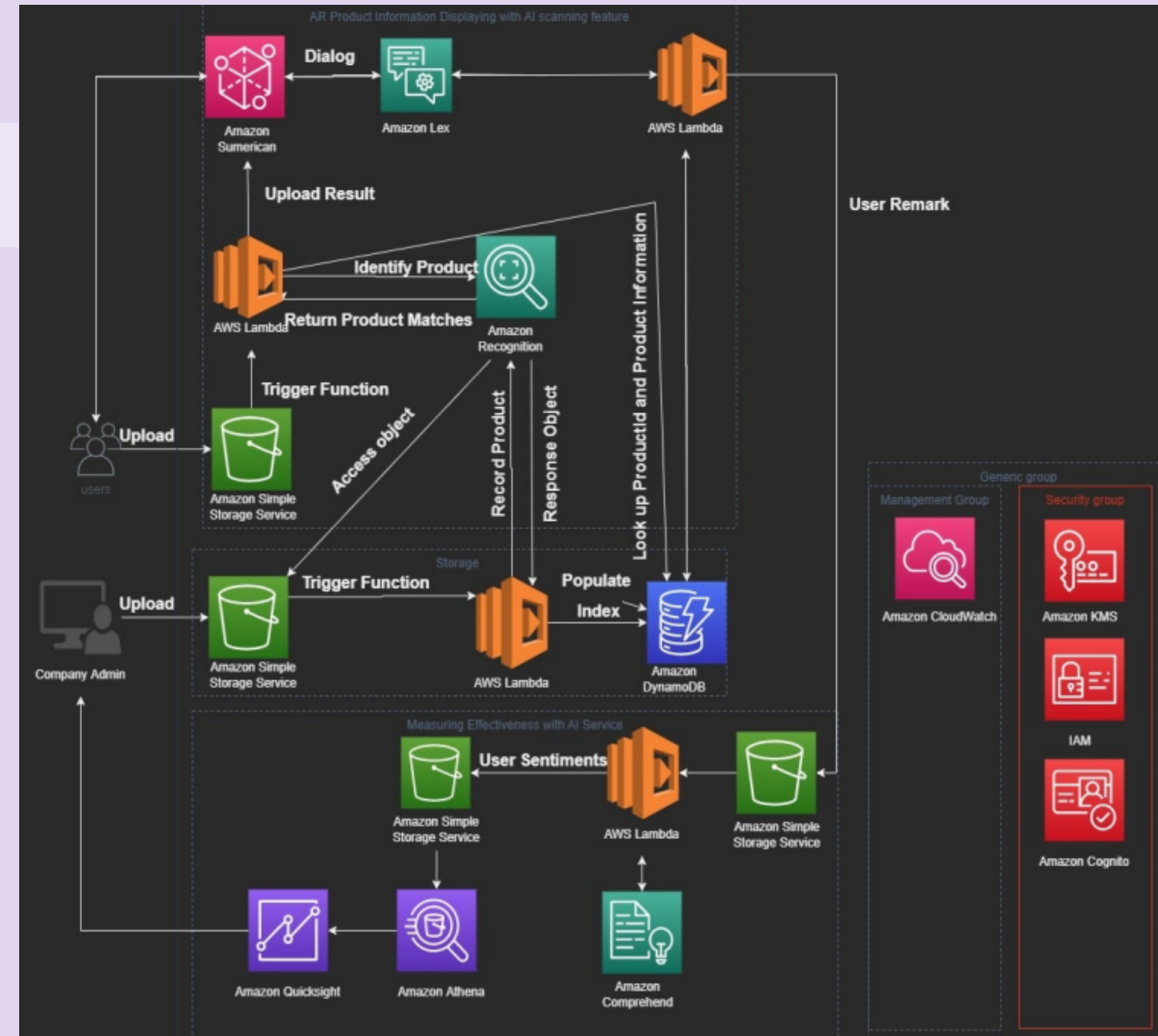
Low Fidelity Prototype

Picture 1

- This prototype is created by using Adobe XD.

- Picture 1 is the screen pop out when the user uses a mobile device to scan furniture.

- Picture 2 shows the information of the furniture scanned or searched by the customers. The user can study the details of the furniture in terms of type of materials, colour, measurement, and so on.
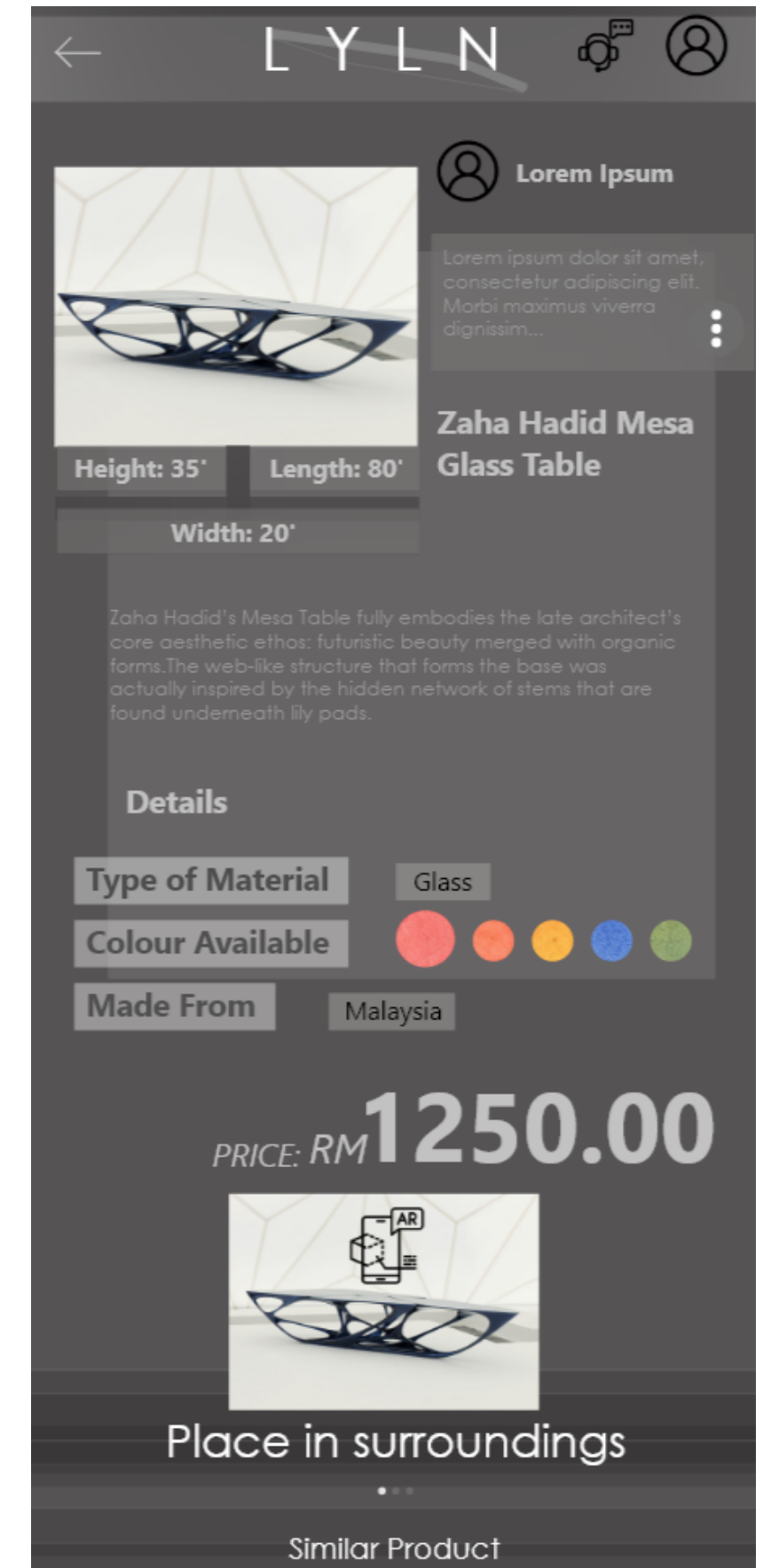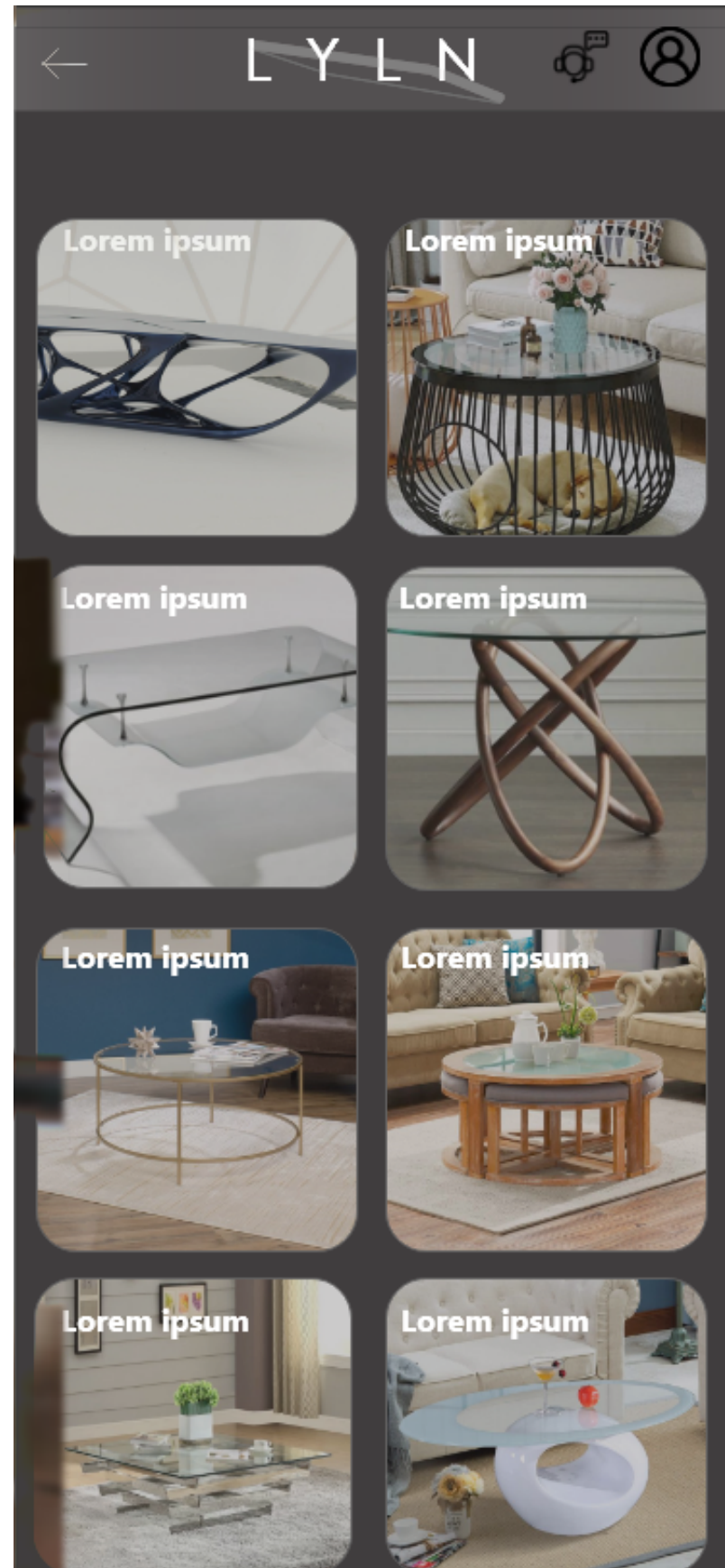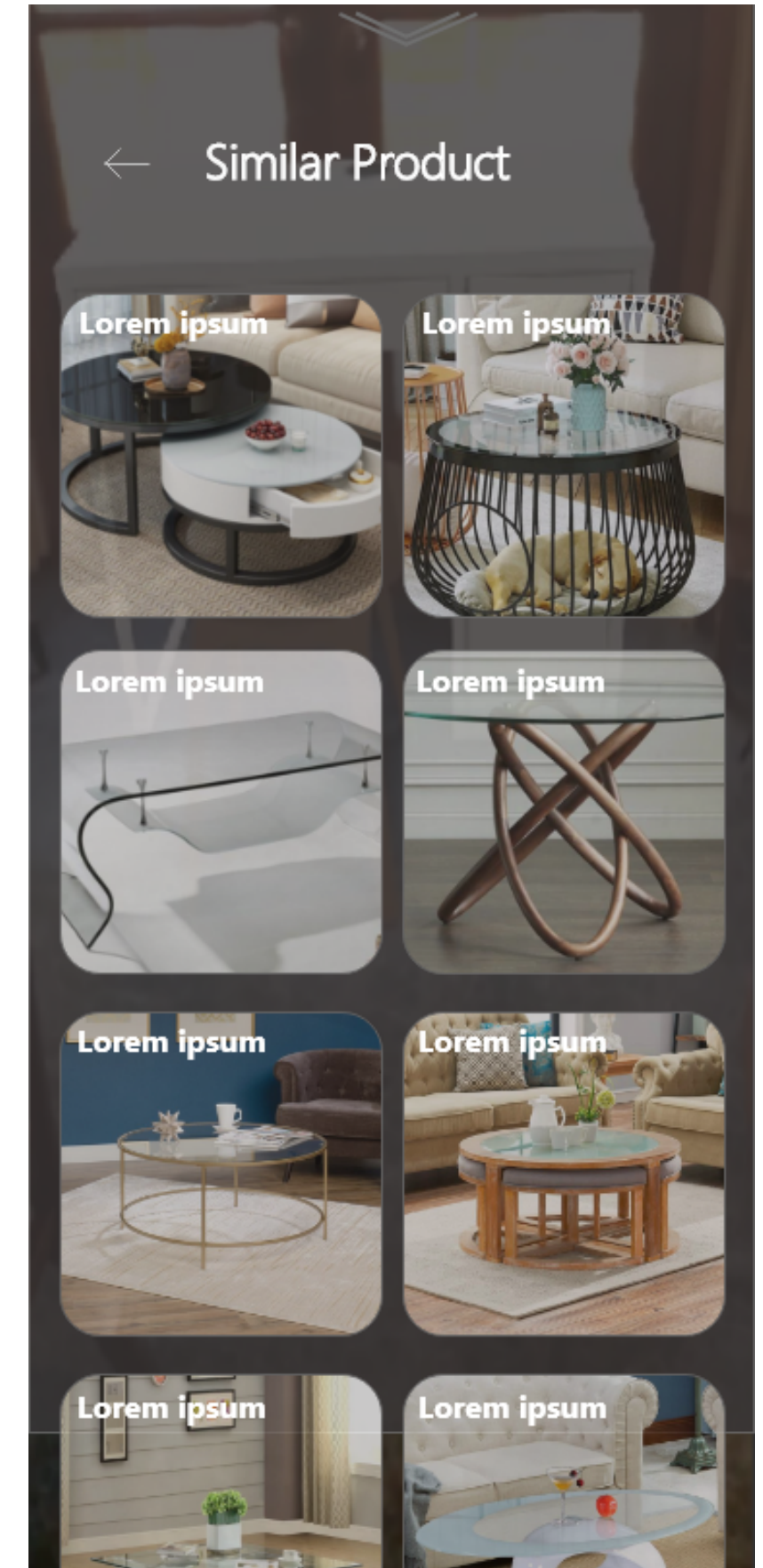

Picture 2

Low Fidelity Prototype

- Picture 3 shows the page where the user can browse through other products made by the same creator from the page of the product information which customer searched for

- Picture 4 shows the information of the similar furniture scanned or searched by the customers.
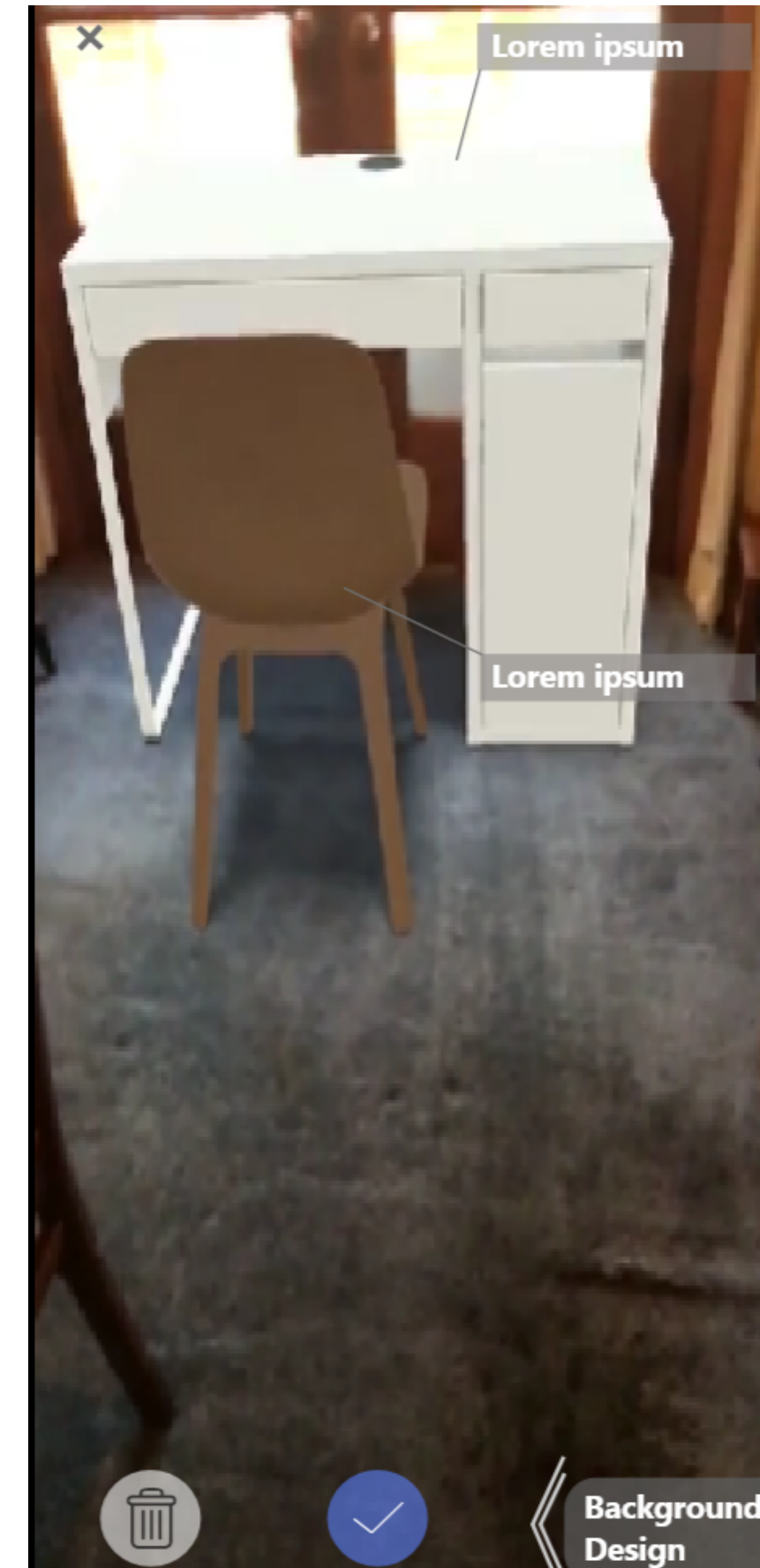
Picture 3

Similar Product

Picture 4

Low Fidelity Prototype

- Picture 5 shows the page where the user can view the product from different angles by using the 3D model of the furniture.

- In picture 6, the virtual furniture is projected onto the real environment, and the user can interact with the furniture virtually through devices. The user can place the furniture in different background and test for its suitability.

Click and hold to rotate

Picture 5

Lorem ipsum

Lorem ipsum

Background Design

Picture 6

Thank you