MyDesign

An app for design clothes with a personal design

Software Design Document

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1. INTRODUCTION

1.1 The purpose of this software design document (SDD) is to describe the architecture and design of our app that allows users to customize base garments, such as t-shirts, sweatshirts, and hats, with a variety of options such as color, fabric and graphics. The app will also allow users to save and share their designs with friends, and place orders for their creations to be produced and shipped to them. This SDD is intended for the development team responsible for building the app.

- **1.2 Scope**
- The app will allow users to share their own designs and order items that suit their own beliefs and personality by selecting from a range of base garments and customize them with a variety of options, including:
- Colors: Users will be able to select from a predefined list of colors for their garment.
- Fabric: Users will be able to select from a predefined list of fabrics for their garment.
- Graphics: Users will be able to upload their own graphics or select from a predefined graphic to be printed on their garment.
- Once the users have completed customizing their garment, they will be able to save the design, share it with friends, place an order for it to be produced and shipped to them.

1.3 Overview

This SDD is organized into the following sections:

- Introduction: Provides an overview of the purpose and scope of the app.
- System Overview: Gives a general description of the functionality, context and design of the project.
- System Architecture: Describes the overall structure of the app, including the major subsystems and data repositories and their interconnections.
- Data Design: Describes the data structures and database design used in the app.
- Human Interface Design: Describes the design of the user interface, including screen images, screen objects and actions, and user flow.

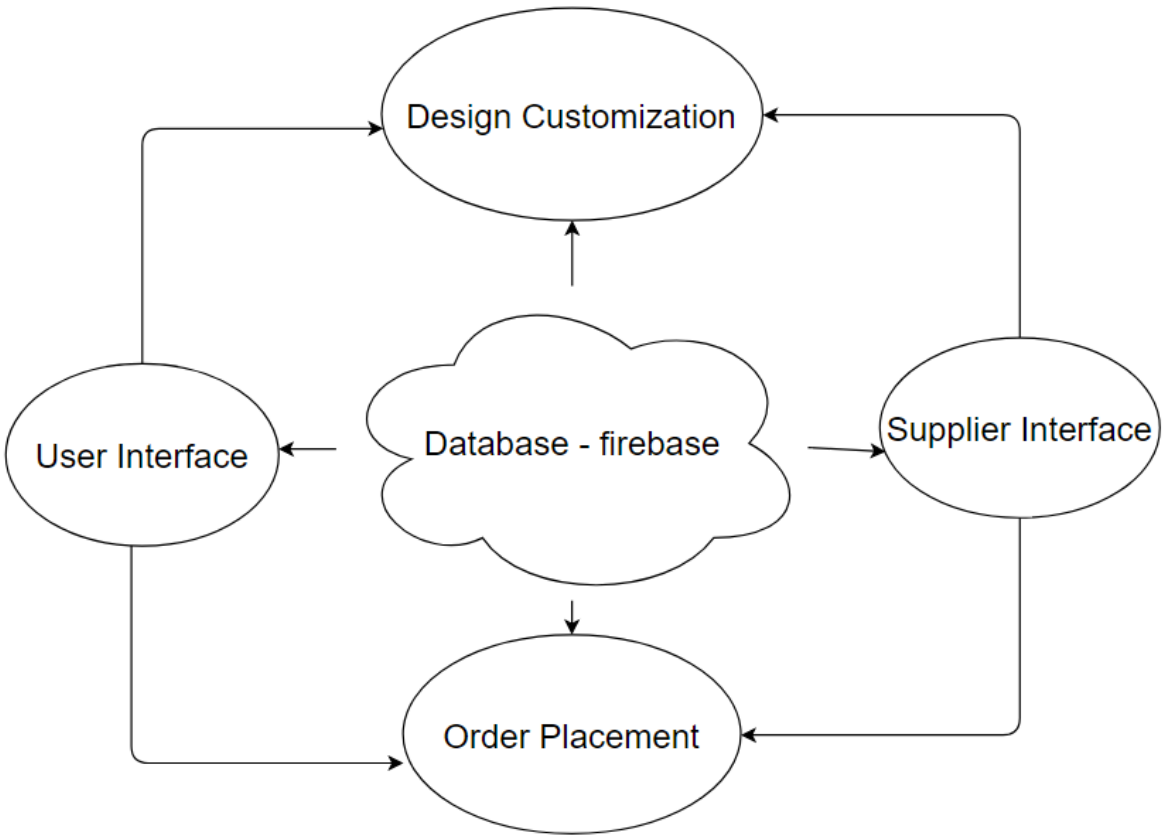
2. SYSTEM OVERVIEW

The app will be an android application that allows users to customize a variety of base garments with different colors, fabrics and graphics. Users will be able to save and share their designs, and place orders for their creations to be produced and shipped to them by a variety of suppliers that will take the user's orders.

SYSTEM ARCHITECTURE

3.1 Architectural Design

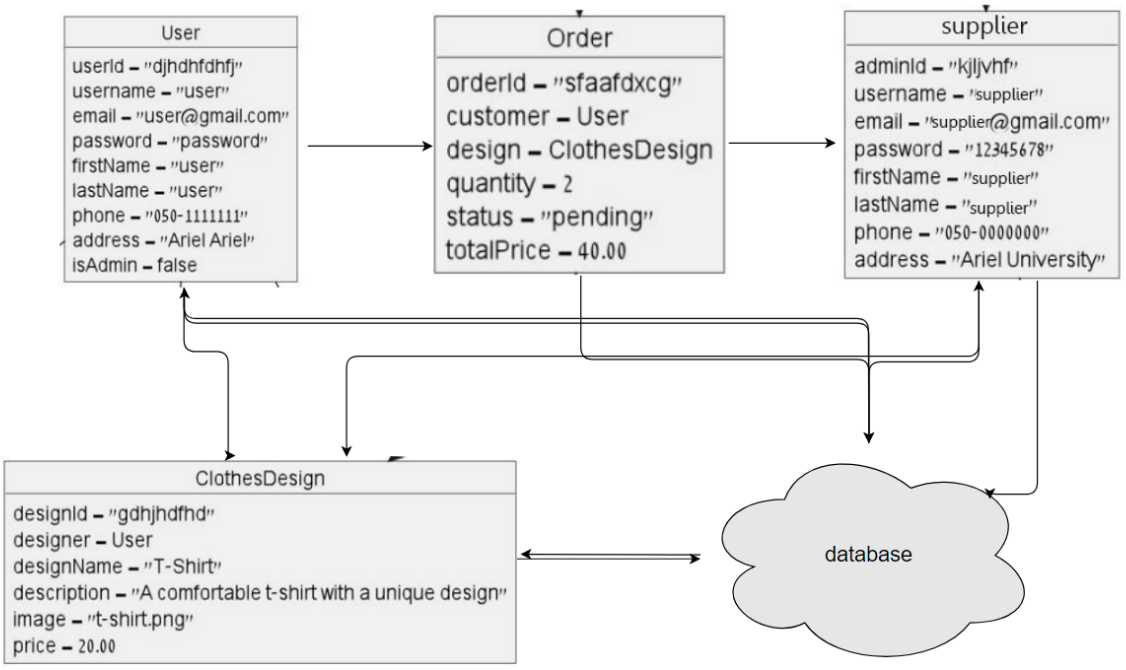
In general our system works this way: the user can design cloth or either order a predefined design cloth, the supplier can design a cloth or accept an order that the user designed and all of this happening through the database.



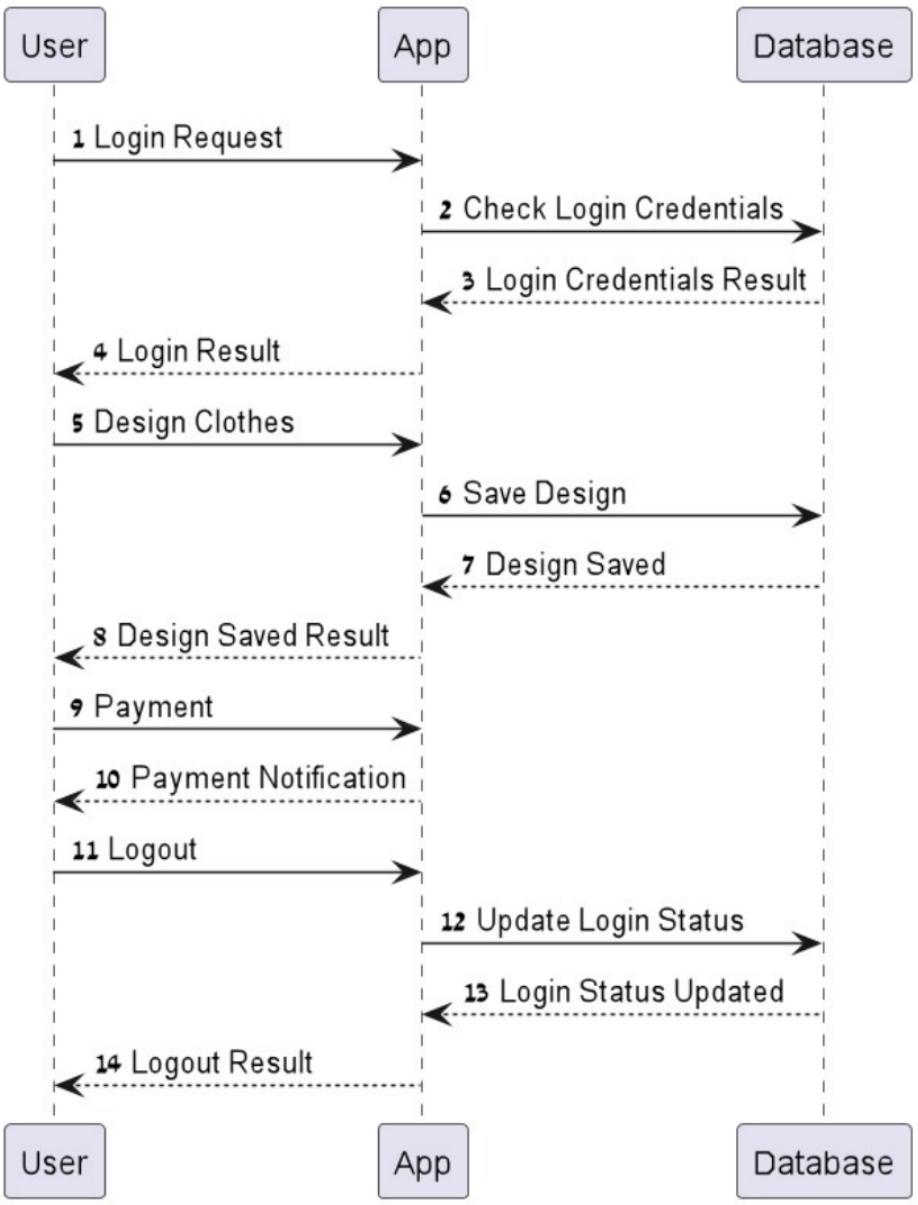
3.2 Decomposition Description

The app will be broken down into several major subsystems:

- **User interface :** This subsystem will handle the user information and will connect the user to the database and the order subsystem and allow the use of the clothesDesign subsystem.
- **Supplier interface :** This subsystem will handle the user's order information and will connect the user if the supplier wants to supply the given order.This subsystem will connect to the order,database and design subsystems.
- **ClothesDesign:** This subsystem will handle the customization of the garments, including the selection of colors, fabrics and graphics. furthermore we will keep the chosen design in the database subsystem.
- **Order Placement:** This subsystem will handle the processing of orders, including the calculation of the total cost of the order, shipping options and tracking orders
- **Database:** This subsystem will handle the storage and retrieval of data, including user designs and orders.



Sequence Diagram



This diagram reflects the flow work of the system and shows how each part of the work relates to another subsystem.

3.3 **Design Rationale**

we chose the object diagram because we wanted to display the main objects and entities who played rules in our system, we thought about choosing the class diagram and the sequence diagram but the class diagram was too detailed and we wanted to present to the development team first the high level hierarchy and then in each subsystem the team will discuss about the object class and the features of the class. The reason we didn’t choose the sequence diagram is because this diagram is too practical and we wanted to show the inside look of the system and how it should built.

4. DATA DESIGN

4.1 Data Description

The app will require the storage of several types of data:

- User information: This includes the user's name, email, and other contact information.
- Customization options: This includes the color, fabric, graphics, and text selected by the user for their garment.
- User designs: This includes the final design created by the user, including the base garment, customization options, and any other relevant information.
- Orders: This includes information about the user's order, such as the total cost, shipping information, and order status.

we used the **R**elational **D**ata**B**ase in firebase we have several entities each one contains a table that holds the information with a unique id.

the table are:

User - holde the user info

Orders - hold the different orders and connect to each user by the unique id

Supplier - holde the supplier info

Cloth Design - holde the different design info

4.2 Data Dictionary

User:

- ID: unique identifier for the user
- Name: the user's name
- Email: the user's email address
- Phone: the user's phone number
- Address: the user's shipping address

Supplier**:**

- ID: unique identifier for the user
- Name: the Supplier name
- Email: the Supplier email address
- Phone: the Supplier phone number
- Address: the Supplier address

Cloth Design:

- ID: unique identifier for the design
- User_ID: the ID of the user who created the design
- Base_garment: the base garment selected by the user
- Customization_options_ID: the ID of the customization options selected by the user

Orders:

- ID: unique identifier for the order
- User_ID: the ID of the user who placed the order
- Design_ID: the ID of the design ordered by the user
- Total_cost: the total cost of the order
- Shipping_info: the shipping information for the order
- Order_status: the current status of the order (e.g. "processing", "shipped", "delivered")

Functions that will show the structure of each object:

User:

1. select_fabric(fabric: str) - allows the user to select a fabric for their design
2. select_color(color: str) - allows the user to select a color for their design
3. save_design() - allows the user to save their current design
4. view_saved_designs() - allows the user to view all of the designs they have saved
5. submit_design() - allows the user to submit their design for review.
6. order_custom_design() - allow users to order the custom design created by them.

Supplier:

1. add_inventory(item: str, quantity: int) - allows the supplier to add new inventory to the app's catalog
2. update_inventory(item: str, quantity: int) - allows the supplier to update the quantity of a specific item in the catalog
3. view_inventory() - allows the supplier to view the current inventory in the catalog
4. remove_inventory(item: str) - allows the supplier to remove an item from the catalog
5. process_order(order_id: str) - allows the supplier to process a user's order for a custom design
6. update_order_status(order_id: str, status: str) - allows the supplier to update the status of a specific order
7. view_order_history() - allows the supplier to view a history of all orders placed through the app
8. get_order_details(order_id: str) - allow the supplier to get the details of the specific order placed by the user.
9. get_orders_details(user_id: str) - allow the supplier to get all the order’s details of a specific user.

Cloth Design:

1. add_cloth(cloth_name: str) - allows the user to add new design cloth to the app's catalog
2. update_cloth(cloth_name: str) - allows the user to update the details of a specific design cloth in the catalog
3. remove_cloth(cloth_name: str) - allows the user to remove an design cloth from the catalog
4. view_cloth() - allows the user to view the current design cloths available in the catalog
5. set_cloth_price(cloth_name:str, price:float) - allows the user to set the price of the cloth
6. get_cloth_price(cloth_name:str) - allows the user to get the price of the design cloth
7. get_cloth_details(cloth_name: str) - allows the user to get the details of the specific cloth.
8. get_cloth_image(cloth_name:str) - allows the user to get the image of the design cloth.

Orders:

1. place_order(design: hm, shipping_address: hm) - allows the user to place an order for a custom design
2. cancel_order(order_id: str) - allows the user to cancel an existing order
3. view_order_status(order_id: str) - allows the user to view the current status of a specific order
4. update_order_details(order_id: str, details: hm) - allows the user to update the details of an existing order
5. get_order_history() - allows the user to view a history of all orders placed through the app
6. get_order_invoice(order_id: str) - allows the user to get the invoice of the specific order placed by the user.
7. add_order_feedback(order_id: str, feedback:str) - allows the user to give feedback for the specific order.
8. get_order_feedback(order_id: str) - allows the user to get feedback for the specific order.
9. get_order_delivery_status(order_id: str) - allows the user to get the delivery status of the specific order.

6. HUMAN INTERFACE DESIGN

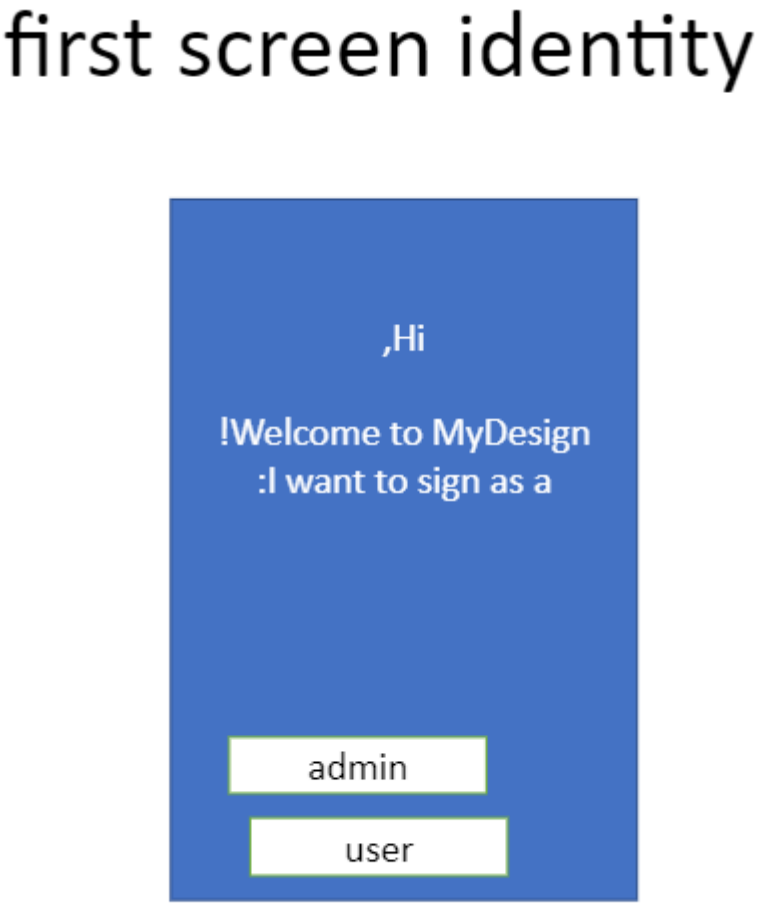
6.1 Overview of User Interface

The user interface will be designed to be easy to use, with a clean and modern design. The user will be able to navigate through the different pages of the app using a navigation menu. The app will be fully responsive and will work on a variety of devices, including desktops, tablets, and smartphones.

the user will have the ability to sign up once and then using the app easily, he'll identify himself as a customer/supplier and navigate to the relevant screen.
the customer will have an option for using an existence design or either design on his own and to make base garments to his special cloth.
the supplier will have the ability to upload his own designs or to see customer designs and make the order for them.

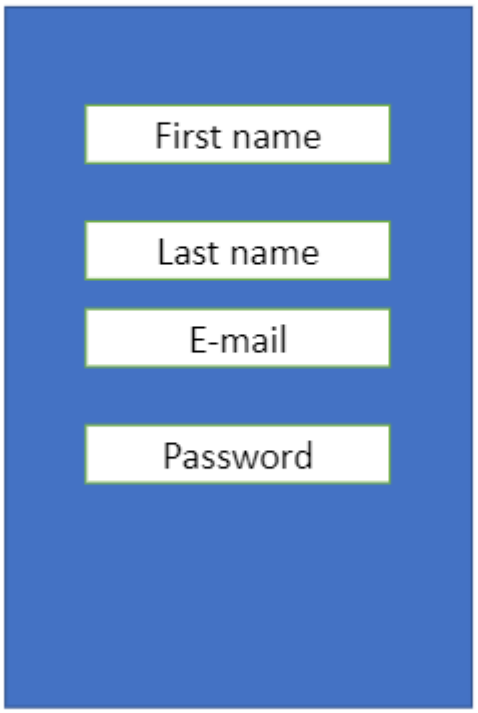
The user will be able to use our system to get all of the features above because our system works with the database that connects the customer activity to the user activity and allows them to collaborate in order to supply all of their needs. Each screen and button in our system will be connected to the database and that's how all the different actions in the app will be connected into one full activity.

6.2 Screen Images



sign in\up

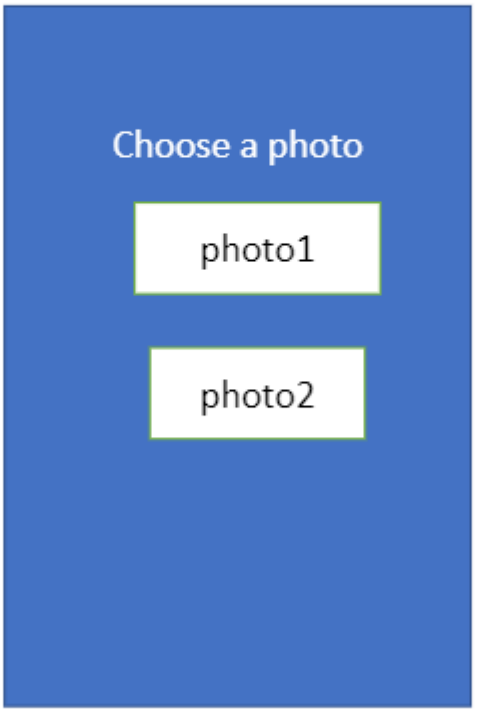
sign up screen



After user have entered to the app

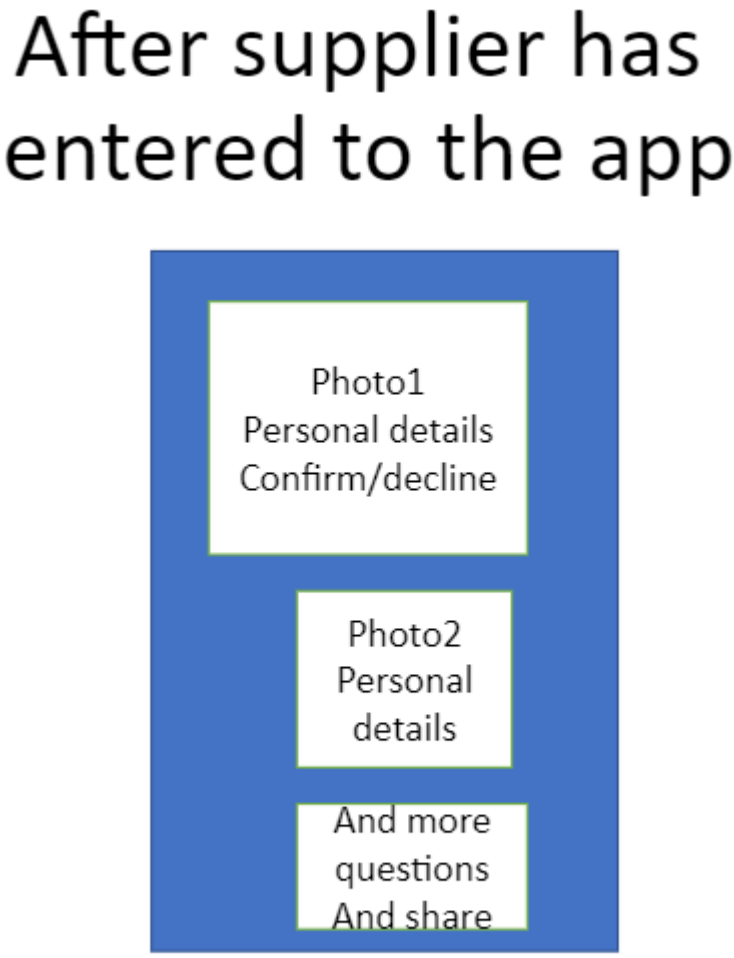
user design screen

user can see and select from existing design



supplier connection

supplier sign app screen



6.3 Screen Objects and Actions

user- the sign in/sign up screens will handle for the object data that saved in the database

supplier- the sign in/sign up screens will handle for the object data that saved in the database

clothes design- the user design screen will allow the user to upload his design and to send it to suppliers to make the order

order - the user could make an order and the supplier could see it and deliver the order