Software Design Document

ALL GOOD's E-Commerce Application

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1. Introduction

1.1 Purpose

The Software Design Document describes the architecture and system design for All Good's,
an e-commerce platform. It is designed to enable people to shop at their convenience.
This document is intended for Project Managers, Software Engineers, and anyone else who will
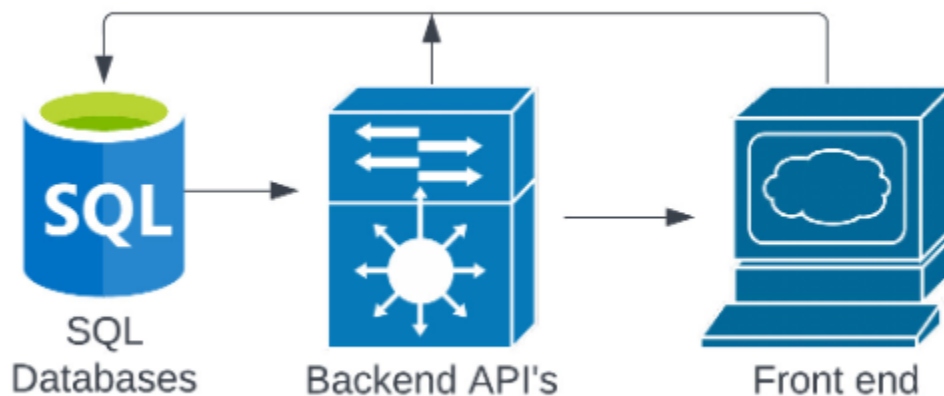be involved in the implementation of the system.

1.2 Scope

This document describes the implementation details of the All Good's platform.
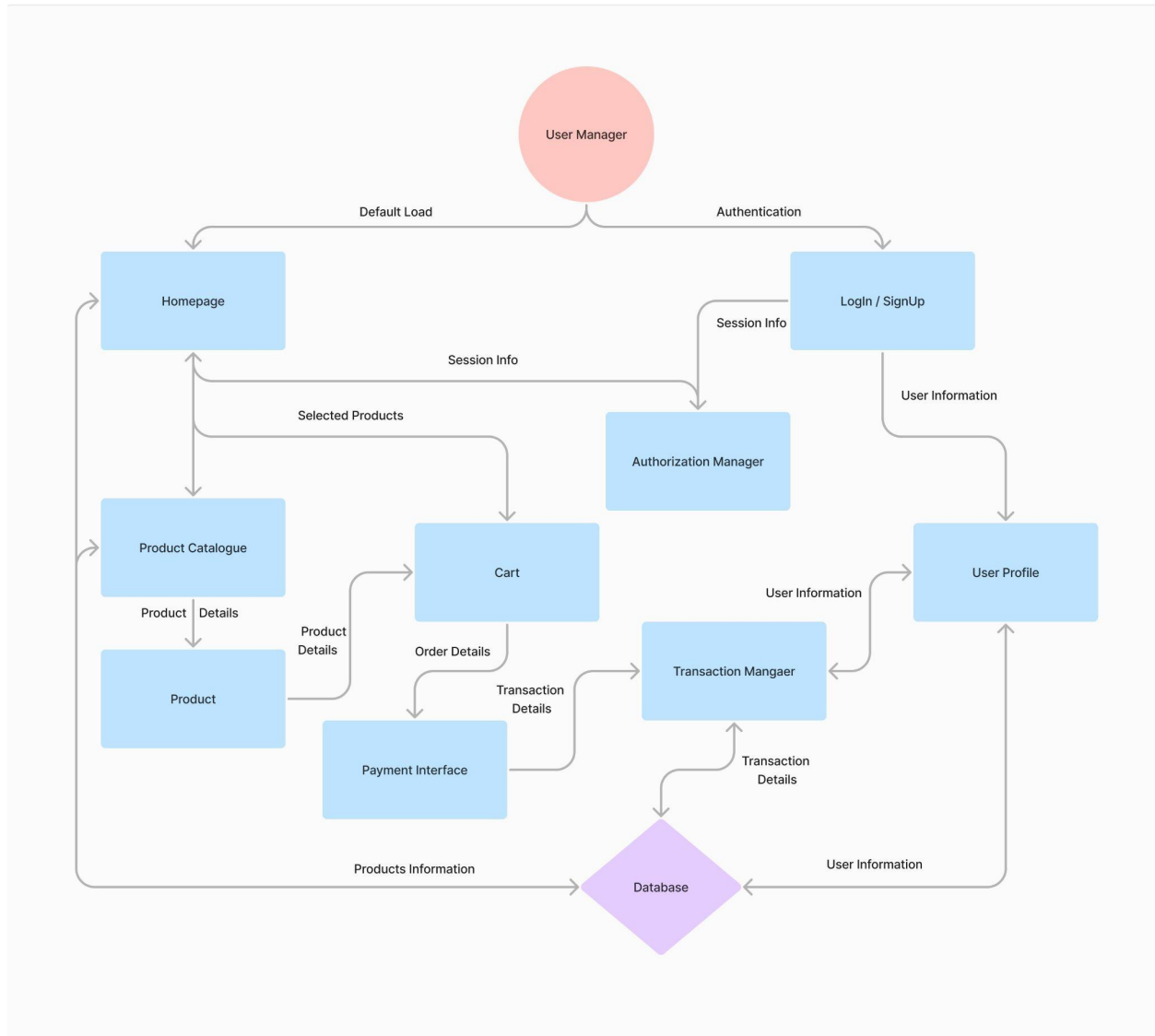The platform has 4 major components, namely, Homepage, Product, Cart and User Profile.
It also consists of other components that help the major components.

2. System Overview

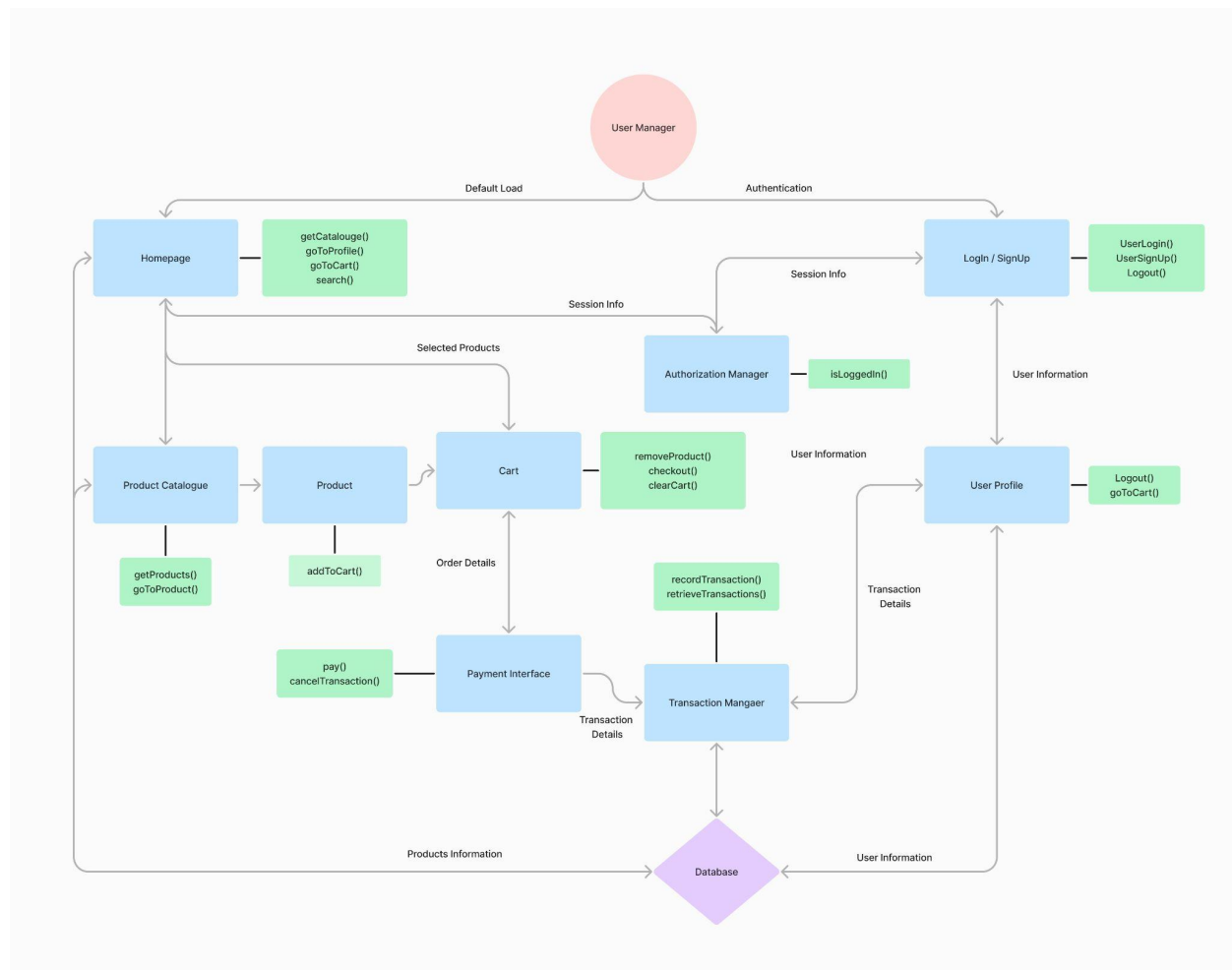SQL Databases → Backend API's → Front end

3. System Components

3.1 Decomposition Description

The above figure shows the components and how they are connected. The Homepage component is what will be called and rendered by default. From here, the authentication manager can be called to validate a user and log them in to the platform. The product catalogue component supplies the homepage with products that are relevant to the user. The product component shows details about a product and it can be added to the user's cart from here.

The cart component shows the products the user has added to cart. From here, an order can be placed by making a payment. The transaction will be validated by the transaction manager and saved to the database.

3.2 Dependency Description

The above figure shows us the functional dependency of each component on another.

- Imagine a user wants to buy a product from an online store. The user first needs to create an account and log in. This process is handled by the User Manager and

Authentication objects. The User Manager object is responsible for managing users and their permissions. The Authentication object is responsible for authenticating users.

- Once the user is logged in, they can browse the catalog of products. The GetCatalog() function is responsible for retrieving the catalog of products. The user can then search for products using the Search() function. The results of the search are displayed to the user.
- The user can then select the products they want to buy and add them to their cart. The Selected Products object contains the list of products that the user has selected. The user can then proceed to checkout.
- At checkout, the user will need to provide their shipping and billing information. The GetProducts() function is responsible for retrieving the list of products that the user has selected. The GoToProduct() function is responsible for redirecting the user to the product page. The AddToCart() function is responsible for adding a product to the user's cart.
- The user will then need to pay for their order. The Pay() function is responsible for processing the user's payment. If the payment is successful, the user will be redirected to a confirmation page. If the payment is not successful, the user will be redirected to an error page.
- The Order Details object contains the details of the user's order. The RecordTransaction() function is responsible for recording the user's transaction. The RetrieveTransactions() function is responsible for retrieving the user's transactions.
- The Payment Interface object is responsible for processing payments. The Transaction Details object contains the details of a transaction. The Transaction Manager object is responsible for managing transactions.
- The Products Information object contains information about the products. The User Information object contains information about the user. The Database object is the database that stores all of the data for the system.
- The UserLogin() function is responsible for logging in users. The UserSignup() function is responsible for signing up new users. The Logout() function is responsible for logging out users. The Login/Signup object contains the login and signup pages.
- The Session Information object contains information about the user's current session. The User object represents a user. The Cart object contains the user's cart. The User Profile object contains the user's profile information.
- The Logout() function is responsible for logging out users. The GoToCart() function is responsible for redirecting the user to their cart. The Transaction Details object contains the details of a transaction.
- All of these objects and functions work together to create a seamless shopping experience for the user.