Project Weekly Progress Report Agile – Scrum

Semester	**W2023, SEM-2**
Course Code	**AML-2404**
Section	**Section 2**
Group Name	**D**
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Reporting Week	**11**
Team Lead for the reporting week	**Jash Vaghasiya**

1. Progress Made in Reporting Week:

This week's work concentrated on creating backend functionalities for the skincare recommendation system. One of the significant achievements was the design of a database schema and a route for displaying user-specific results.

Database Schema

The database schema was created to meet the specific requirements of our recommendation system. It is made up of three major components:

Email: This field contains each user's unique identification: their email address.

Result: This section holds the skincare recommendations the user received based on their questions and skin profile.

Question: This field holds the questions that people have asked. The questions are used to produce skincare suggestions.

Due to its versatility and scalability, the database was built with MongoDB, a prominent NoSQL database.

Route Design

This week, a new route was designed to present user-specific results. Flask, a lightweight web server gateway interface (WSGI) web application framework, was used to create this route. The route retrieves skincare recommendations from thes database for a specific user and presents them on the user's navigation page.

User Interaction Flow

- The user logs in with their email address.
- The algorithm searches the database for the user's previous questions and skincare recommendations.
- The user poses a new skincare inquiry.
- The system generates new recommendations based on the query and saves them to the user's database record.

This week's progress in designing the backend functionality of the skincare recommendation system has been tremendous. Building the database schema and creating routes for presenting user-specific results provided the groundwork for the eventual development of the front end. In the future, the emphasis will be on improving the system's recommendation algorithms and creating a user-friendly interface.

2. Difficulties Encountered in Reporting Week:

A severe issue developed during the development phase of the skincare recommendation system when connecting the application to the MongoDB clusters. The case revealed continuous connection failures, preventing users from retrieving and manipulating user data in the database. The problem remained unresolved after multiple attempts to diagnose it, including checking the connection strings and analysing the cluster specifications. This connection failure slowed work significantly because it rendered the entire backend functionality useless. The need to find the root cause and develop a solution became critical.

A thorough analysis revealed that the problem was caused by network permissions defined within the MongoDB Atlas cluster. The IP-allow listing option was discovered to be highly restrictive, preventing the application's server IP address from being accessed. The connection was successfully created by updating the IP allowlist to include the application's IP address. Furthermore, the connection string was changed to have all the required parameters, such as the proper authentication method and replica set settings. These modifications not only fixed the connection problem but also improved the security and stability of the connection to the MongoDB clusters. The lessons learned from this situation have been documented, ensuring that similar challenges in the future can be addressed more quickly.