Dairy Farm Management System

Group-04 - Class of 2022
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Motivation

Pakistan is one of the largest producers and consumers of dairy products in the world. We felt that this market was largely untapped in the digital world. Dairy Farms were operating in every locality and were providing dairy products to millions of people around them without any form of organization, record keeping, or optimization.

Background

The conditions of the local dairy farms could be improved by providing them with a digital solution and allowing them to become capable of increasing their outreach and reaching more customers.

Technologies

M E R N

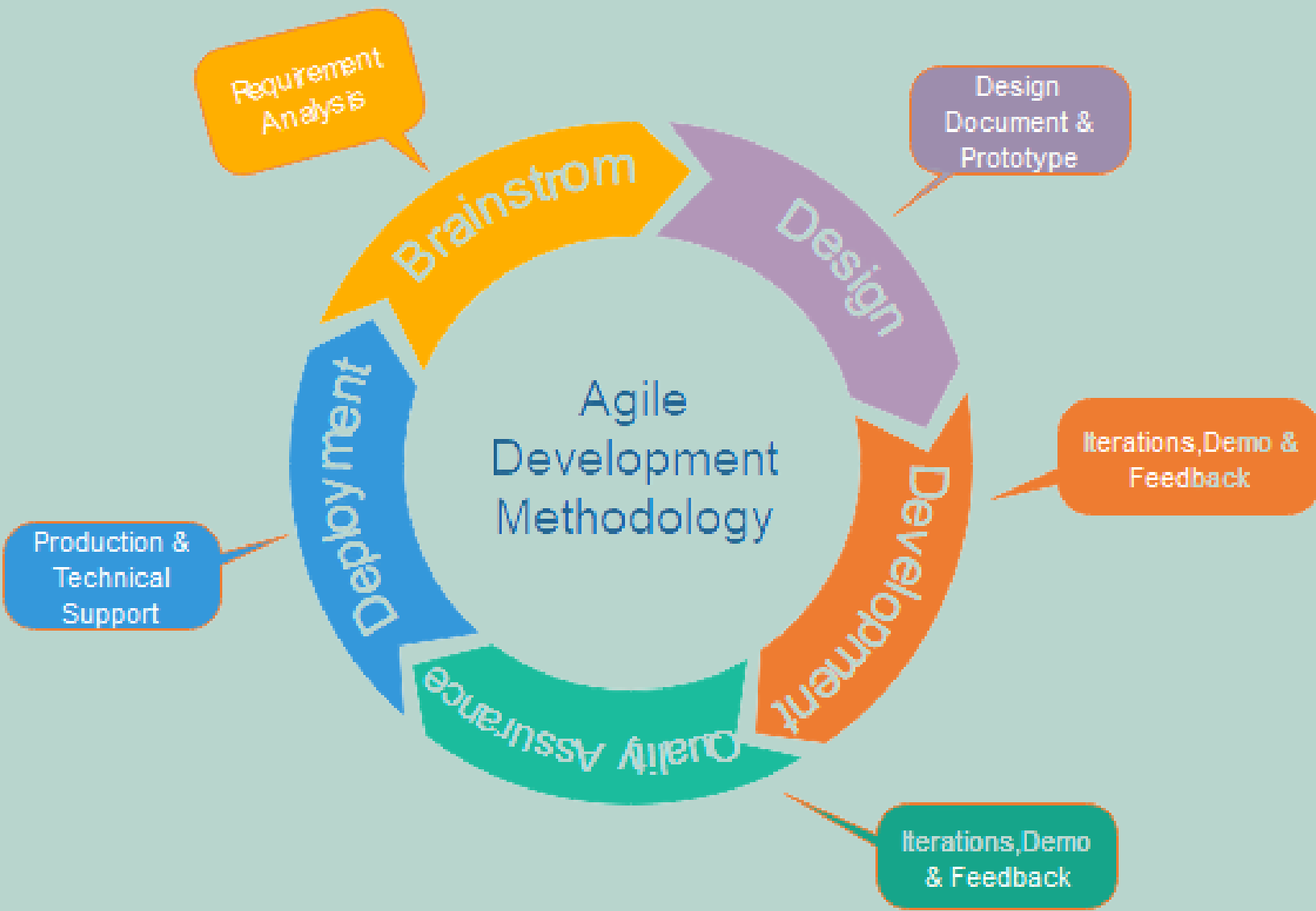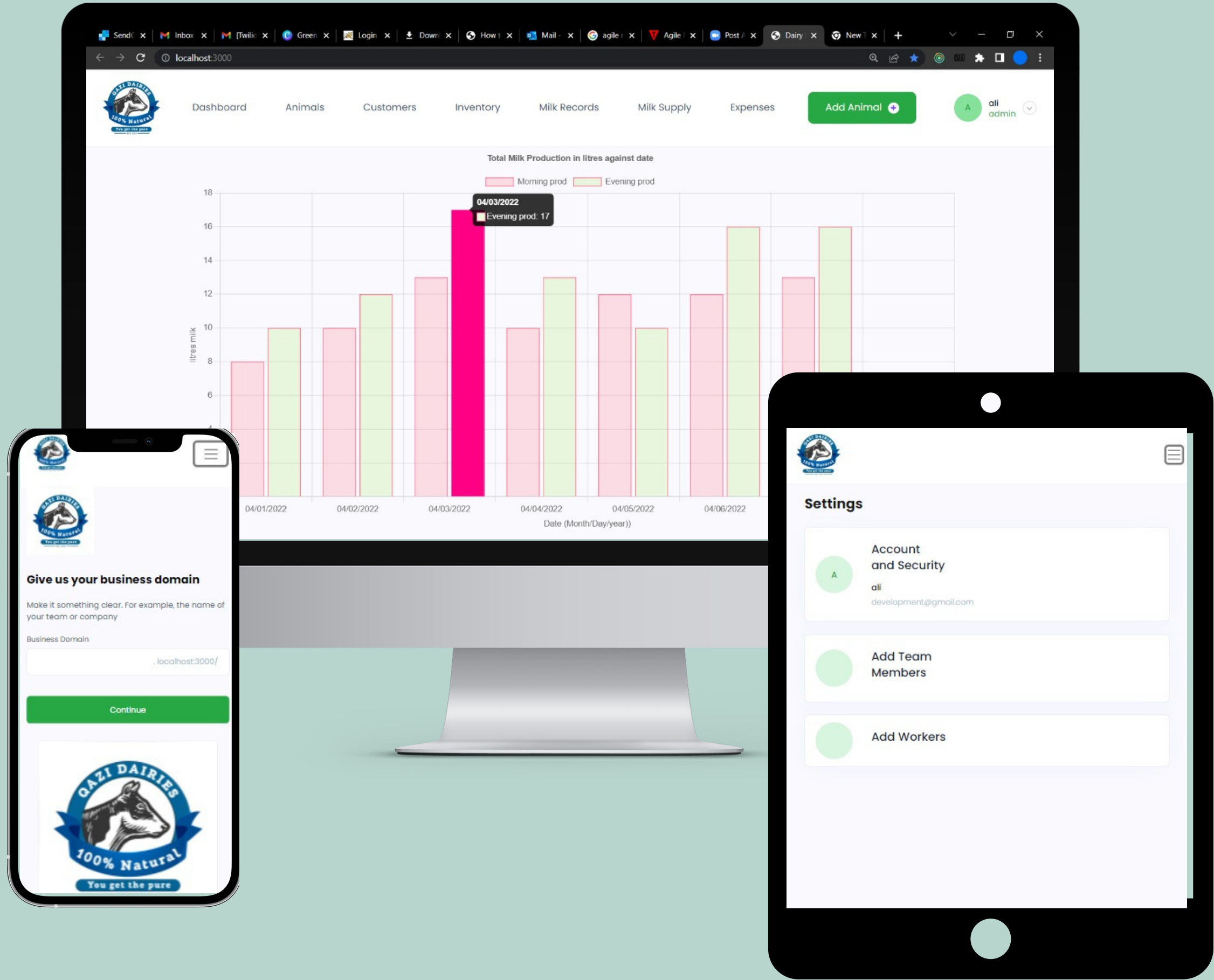## Process Methodology

Agile Methodology

Fig. Agile Model

System Architecture

Our system is based on a layered architecture pattern which includes a presentation layer, business layer, persistence layer and a database layer. As our system is a multi-tenant system hence multiple dairy farms interact with the presentation layer. The multi-tenant system needed to be made in such a way that users have access to only their own data and their data remain safe and secure from other users. That is why a layered architecture was used so that the data is kept safe under multiple layers and all the layers have checks in place to allow only the right users access to their data.

High Level System Features

Owners

- Register their farms
- Add managers to manage the farm
- Visualize milk production data using graphs
- Compare milk production across different animals

Managers

- Add employees and edit already added employees
- Add new animals and edit their milk production
- Add invoices in order to keep track of expenses
- Add items to inventory under specific categories

Future Works

The Dairy Farm Management System has a lot of potential to be upgraded and more features can be added to this system. It is in plans to incorporate a payment method for the customers so that they can pay from the ease of their home and the farm owners do not have to worry about collecting payments from every customer's house. Currently, due to lack of time, the system does not support customer interface. The system will be upgraded and will allow the customers to place orders and choose monthly milk delivery plans from their portals. Other than this, customers will be able to track their monthly milk deliveries and get a monthly invoice stating their bill for the month. Lastly, one important feature that can be incorporated into the system is to add a marketplace for dairy farmers to purchase relevant items. This is will be a big step in facilitating dairy farmers so that they can purchase relevant materials easily. This feature is under consideration but not yet finalised.