

A WEB-BASED SYSTEM FOR PREDICTING PASTRY PRODUCTION USING INGREDIENT SUPPLY AND INVENTORY MANAGEMENT OF RHL BAKERY

Website Development Process

Gantt Chart

Time Line	September				October				November				December			
	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14	Week 15	Week 16
Login & Sign-up																
Inventory Management																
Expiration Alerts																
Production Prediction																
Exportable Inventory Reports																
Final Deployment, Documentation & Maintenance																

Sprint 1 - Login & Sign-up

Backend Development: User database, Authentication API

Frontend Development: Login & sign-up forms, input validation

Security Integration: Password hashing, session management

Testing: Unit test for auth API, functional tests for login flow, regression testing.

Sprint 2 - Inventory Management

Backend Development: Ingredients database, full CRUD API for ingredients

Frontend Development: Data table UI, add/edit modal forms

Integration: Connect frontend to inventory CRUD APIs

Testing: Unit test for all CRUD operations, functional testing of the entire inventory features, regression testing.

Sprint 3 - Expiration Alerts

Backend Development: Logic to scan database and flag items nearing expiration

Frontend Development: Dashboard UI for displaying alerts

Integration: Connect alert system to the main dashboard and inventory data

Testing: Validate alert accuracy and timing, functional testing.

Sprint 4- Production Prediction

Backend Development: Algorithm implementation (Linear Regression)

Frontend Development: Prediction dashboard UI

Integration: Connect prediction model to the dashboard and relevant data streams

Testing: Algorithm validation with sample data, usability and functional testing.

Sprints 5 - Exportable Inventory Reports

Backend Development: Report generation API (CSV/PDF)

Frontend Development: UI for report configuration and download

Integration: Connect report functionality to the existing inventory data.

Testing: Data integrity check in reports, usability testing

Sprints 6: Final Deployment, Documentation & Maintenance

Deployment: Setup of production web-server, domain configuration and deployment

Documentation: User manual and technical system documentation

Maintenance Plan: Outline for future updates, bug reporting and support

Final Testing: User Acceptance Testing (UAT)

SOFTWARE DEVELOPMENT LIFE CYCLE

We chose to implement Agile methodology as our SDLC model for developing the web-based system for predicting pastry production using ingredient supply and inventory management of RHL Bakery. This is primarily driven by Agile's approach that emphasizes flexibility, collaboration, and customer feedback. Since there may be changes during the development of the system from the client/customer, we believe this methodology is the most appropriate as it allows us to make necessary adjustments throughout the project lifecycle. Furthermore, Agile also allows breaking the project into smaller parts which would be helpful to us in testing and delivering features incrementally. Lastly, we will also implement Scrum as the framework for the methodology.