2024

Advanced Software Development

AN AGILE GROUP REPORT ENCOMPASSING PROJECT CYCLES

CREATED BY ASD GROUP 6.

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Strategy planning:

Group member responsibilities

Group Member	Student ID	GitHub Names	Activity
Binayam Gurung	22034258	BinayamG	Menu, Payments, Order creation, Database.
Reece Turner	22036698	xLightless	Kitchen/Orders, Non-functional requirements, User Management, Login, Database.
Anas Abueida	21062004	thatanas	Reservations, Database.
Zheng Yin	21068305	JamesFirst1	Menu, Database.
Milo Carroll	Unattended	mp2-carroll	Reports, Database.

In the initial phase of the development, we collectively decided to outline the requirements and scope of the project. The implementation involved the creation of a Graphical User Interface (GUI) in the Python language therefore it was important that all the group members were using an updated or similar version (3.10.2) to accommodate for any highest-level changes that could impact the overall flow of the software.

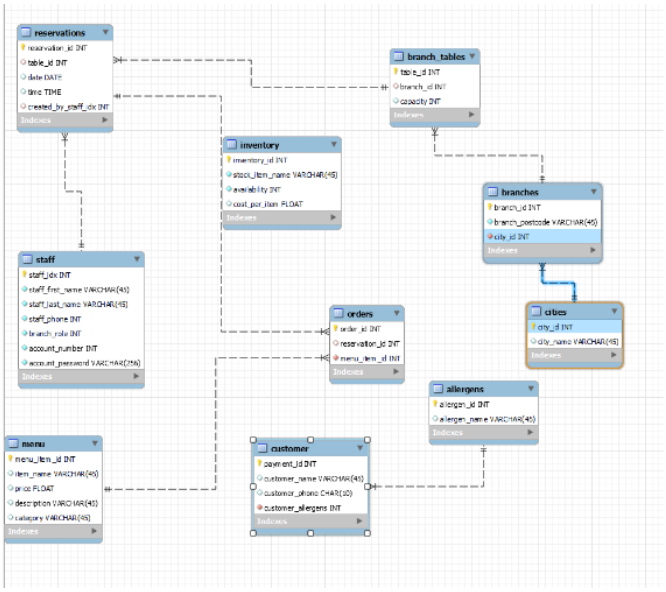
In addition, it was important to consider mapping of our designs to the implementation so that we can correctly assume our agile cycles. By attempting to meet our consensus of the UML diagrams and libraries, each person was dedicated a respective piece of implementation to help speed the over-all development process. This can be seen as a Single Responsibility Principle.

Continuous team iterations

Development of the Horizon RBDMS came in phases initiated by the planning and mapping iterative cycles. The mapping and planning were an extensive exploration of tkinter and UMLs to serve as a blueprint to finalising the envisioned system.

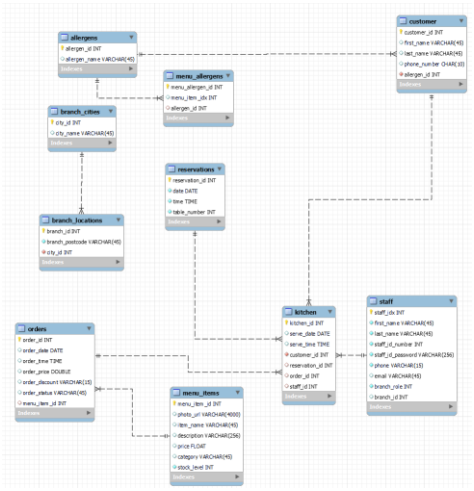
Database

Iterative version (29/12/2023, 20:15)



This Entity Relationship Diagram (ERD) above is one of the initial prototypes we created as part of implementing the database. Here you can view that we attempted third normal form to correlate tables without any liable dependencies.

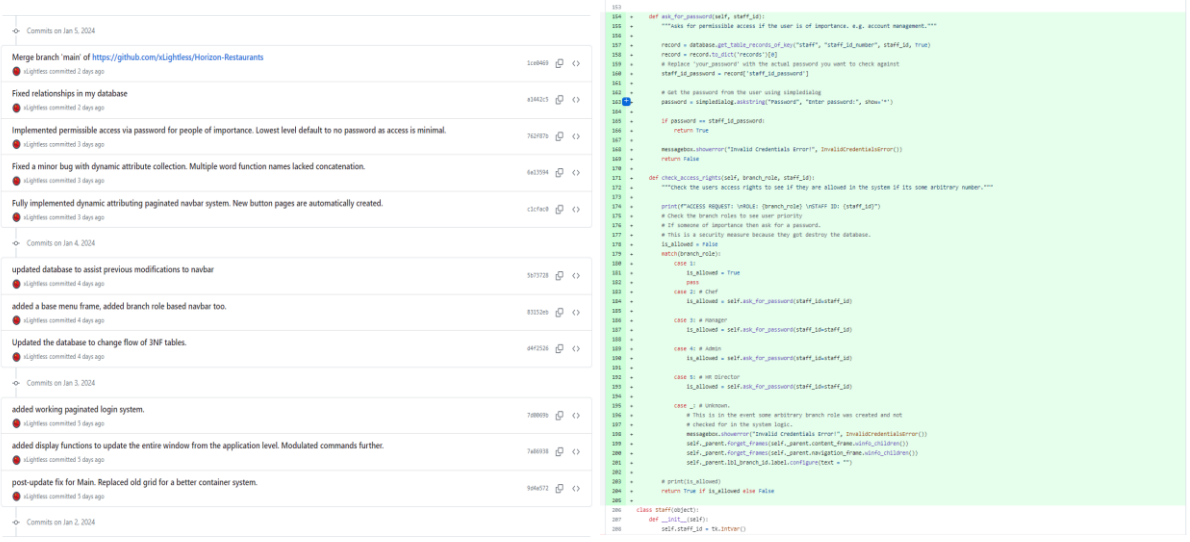
Final version (~05/01/2024)



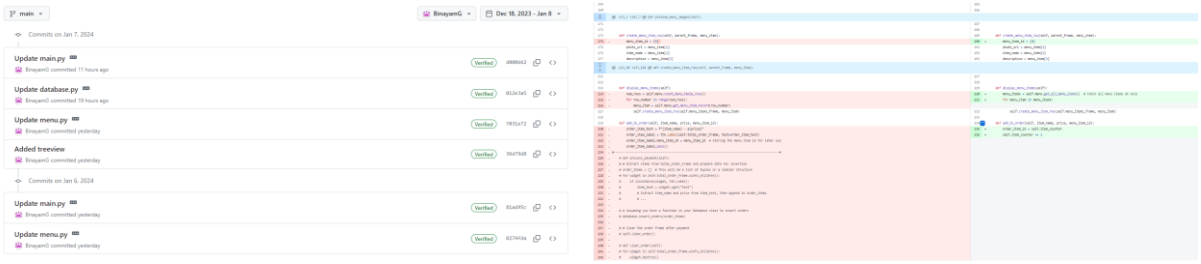
This version was our final database ERD. Through many iterations we concluded this was the most optimal solution for our system. In hindsight, there are a lot of 'rough patches' that could be fixed if we were to integrate the remainder of the requirements.

GitHub branch posting

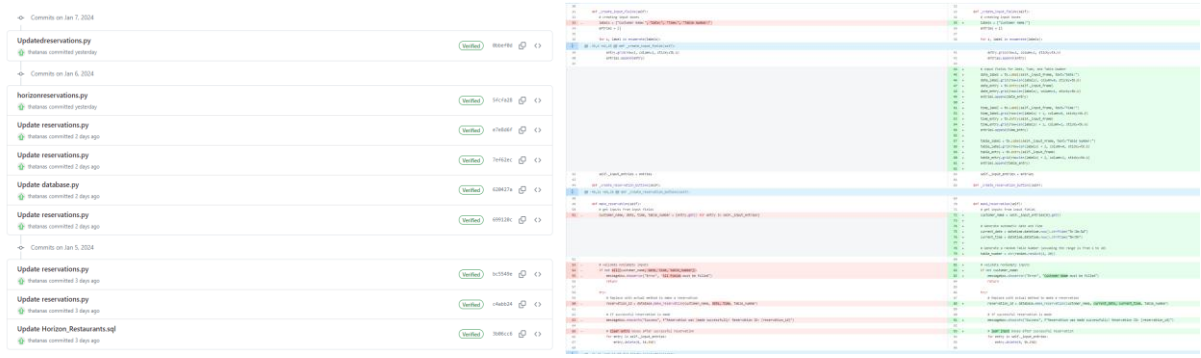
Reece Turner:



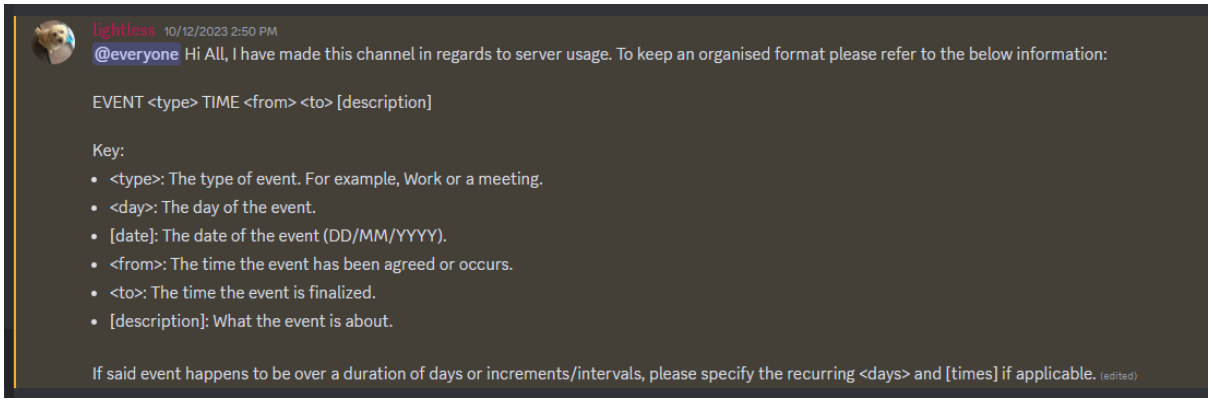
Binayam Gurung:

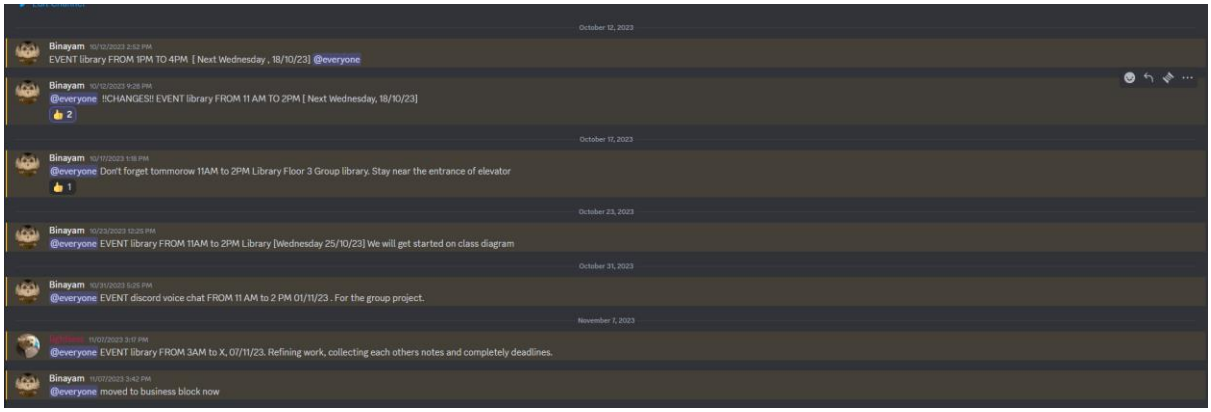


Anas Abueida:



Team coordination and communication

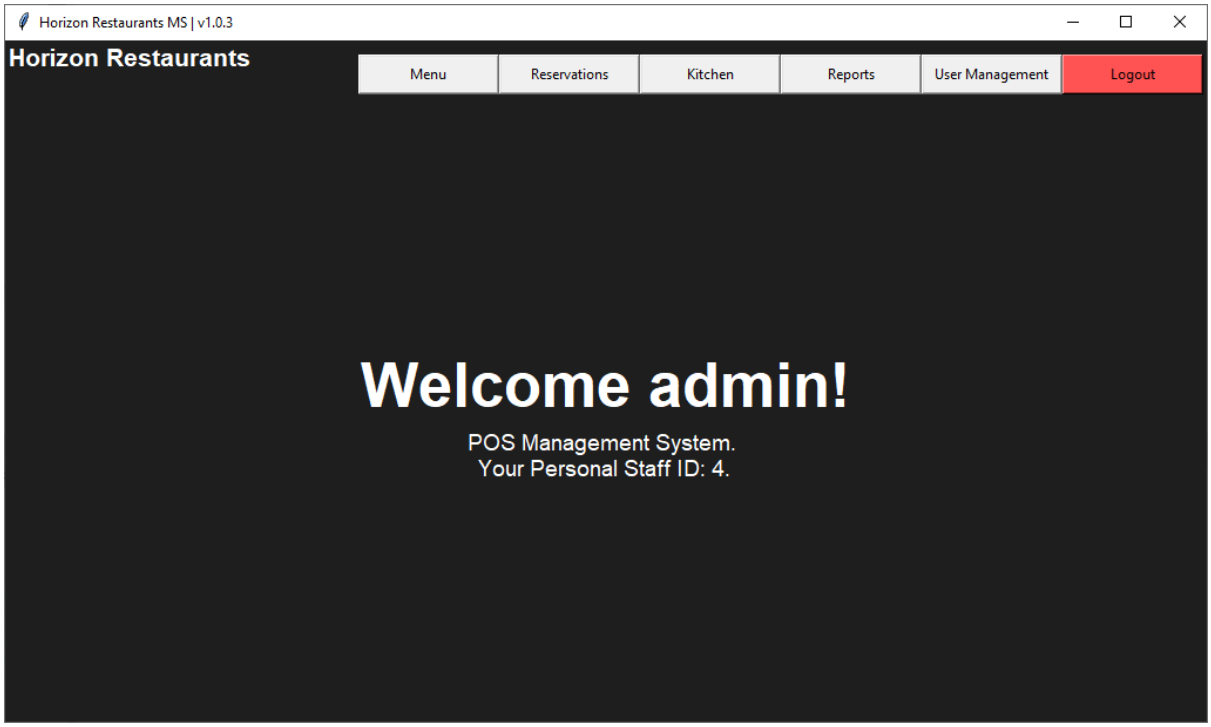




The essence of our project was the effective coordination and communication among members either through face-to-face or online conversations and video calls. We communicated in person as aforementioned however most meetings were set online to incorporate team members abroad. Everyone played their role compiled their tasks in the end which led to a relational database

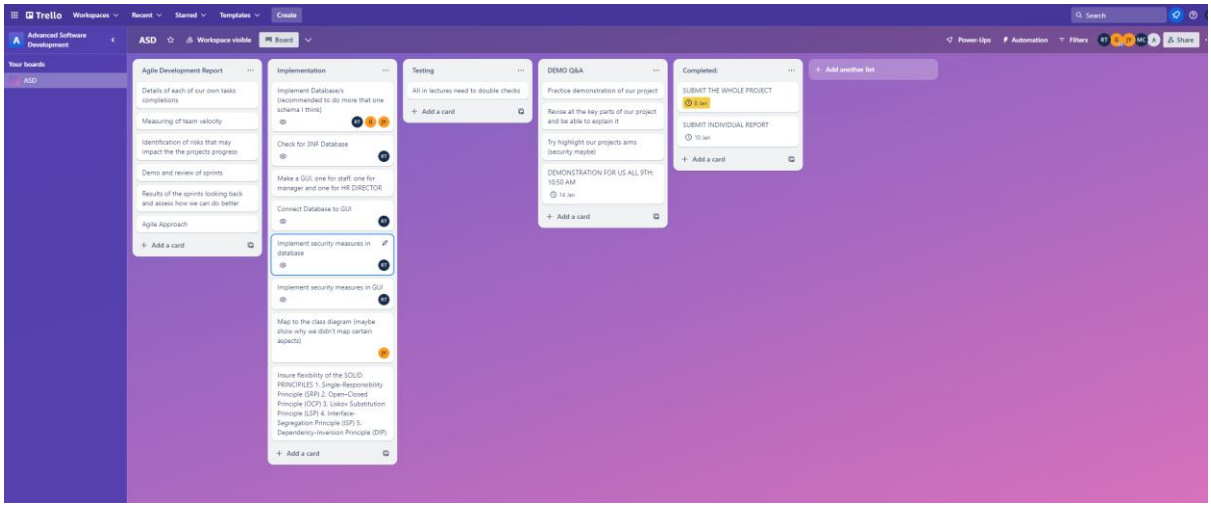
management system (RDBMS). The methodology coordination used to resolve the issues at hand in the creation of the database were effective at the start but initially started fading away group members progressively become asynchronous with their efforts leading to compromises for achieving deadlines.

Simplicity



Importance of user accessibility and comfort is vital in such intricate systems hence we have designed simplistic and uncomplicated GUI interfaces. A minimalistic approach was considered using tkinter and fundamental system architectures making the overall system and interface easy to edit and navigate.

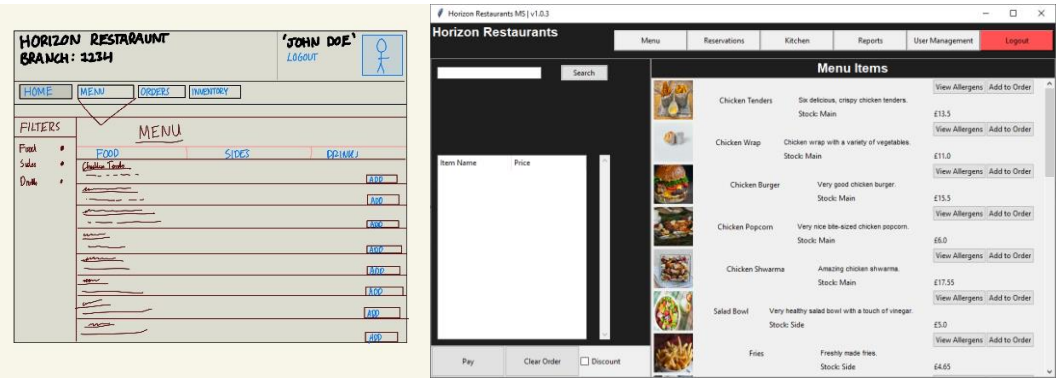
Work Plan



To gain an understanding of the project through a simpler form, Milo, Anas, and Zheng examined, recorded, and made inputs from mock-ups of the database and tkinter application. Then, with primarily Reece and Binayam's help, the Horizon database was created, and CRUD operations were carried out. The development of an interactive and fully functional graphical user interface (GUI) was

the last step, and it allowed for the successful connection and interaction with the sub-sectioned Horizon database (kitchen, login, menu, payments, reservations, reports). Reece constructed the kitchen/orders and login interfaces, while Binayam completed the menu and payments interfaces. Anas finished the reservations and allergy consideration interface. Finally, Zheng and Binayam compartmentalised the configuration of menus as it consists of different sub-systems fused to optimise user experience.

Sprint cycle:



In our latest sprint cycle over the past week our focus was mainly set on thoroughly reviewing and updating the database structure to enhance user experience and system responsiveness. To achieve this, a navigation system was implemented during the cycle to accommodate permissible user rights. In contrast to the initial sprint cycle several measures were strengthened one of them being hierarchical login security. The sprint concluded with an advanced, functional, and interactive (RDBMS) for Horizon Restaurant's which took attentive measures to advance overall performance and security characteristics of the system.