# Cloud Computing Workshop with AWS

## Detailed Project / Product Document

### Project Information

Project Name:  
PrepPal  
  
Student Names:  
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This document will fully describe the project content (10-30 pages).

Submission date: Feb 1, 2025.

The below are mandatory details to the document. Feel free to add any additional information as you like.

### 1. Introduction

The grocery shopping experience has remained relatively unchanged for decades, requiring individuals to either visit a supermarket physically or manually search for and select items on online platforms. Both options can be time-consuming and inefficient. For individuals with disabilities, mobility challenges, or those with busy lifestyles, this process becomes even more daunting. Advances in AI and digital services now offer an opportunity to revolutionize grocery shopping by integrating intelligent conversational interfaces with seamless delivery mechanisms. Our project leverages these technologies to create an inclusive, user-friendly platform that simplifies the entire process, from product selection to grocery delivery, ensuring convenience for all users.

Traditional grocery shopping and even online grocery platforms require users to manually select individual items, which can be tedious and time-consuming. Additionally, there is often no integration between meal planning and item selection, leaving users to calculate the ingredients needed for recipes on their own. For individuals with disabilities, the elderly, or those unfamiliar with online systems, these processes can be particularly difficult. Current solutions lack a streamlined, intuitive system that combines product planning, selection, and grocery delivery in a single conversational interface.

Our proposed solution is a conversational, AI-driven grocery shopping platform. Users can engage in a simple chat to specify their meal preferences or shopping needs, and the system will provide tailored product suggestions based on the user's input, generate a complete shopping list of required items, automatically select a nearby supermarket based on the user's location, and enable a seamless order process through an integrated delivery service like Wolt. The platform combines AI, using the ChatGPT API for natural language processing,

and inventory integration from multiple supermarkets to ensure availability and accuracy of items. This creates a more accessible, intuitive, and efficient way to shop for groceries.

Existing grocery platforms primarily focus on traditional online shopping, where users must manually search for products and add them to their cart. Recipe platforms, on the other hand, provide suggestions but do not integrate with grocery delivery services. Some alternative approaches include platforms like Shufersal Online, which allow online grocery shopping but lack product planning integration, and recipe-focused websites such as Foody, which provide recipe suggestions but lack the option for direct grocery ordering. Our solution stands out by integrating these functionalities into a single, seamless conversational interface, specifically catering to accessibility needs and convenience.

The platform introduces several key innovations: conversational shopping, where users interact with the platform in natural language to generate shopping lists and place orders without manual browsing; enhanced accessibility, with features designed to assist individuals with disabilities or limited tech knowledge; seamless integration, combining product planning, selection, and delivery into one streamlined process; and personalization, providing tailored recommendations based on user preferences and dietary needs.

This solution caters to a wide target audience, including individuals with disabilities who require a more accessible shopping experience, busy families or professionals who seek quick and efficient grocery solutions, cooking enthusiasts looking for inspiration and easy ingredient ordering, and elderly individuals who may find traditional shopping platforms overwhelming. By addressing the challenges of traditional and online grocery shopping methods, this project aims to create a truly inclusive, innovative solution that redefines convenience and accessibility in grocery shopping.

### 2. System Main components

Describe the system’s main components comprehensively. This section should offer a detailed overview of the primary components constituting your system. Utilize diagrams such as squares and arrows to depict their relationships. Various tools like Lucidchart or Draw.io can aid in creating these diagrams.

תמונה שמכילה תרשים, קו, טקסט, מלבן

התיאור נוצר באופן אוטומטי

### 3. System Architecture including AWS modules used per module

Illustrate the system architecture encompassing servers, databases, storage, network, etc. Focus on each component's AWS module utilized in the project, elucidating the rationale behind the chosen modules. Additionally, discuss any third-party tools besides AWS and justify their selection. A diagram summarizing this architecture should be included.

### 4. Data Base

Explain the chosen database, rationale behind its selection, and provide a diagram showcasing tables, columns, and their relationships.

### 5. Flow charts

Present flow charts depicting the main operational flows of the system. Utilize diagrams for clarity and understanding.

### 6. Screen mockups

Create screen mockups for all primary screens of the system. Tools like PowerPoint, Canva, Photoshop, or Figma are suitable for this task.

### 7. Development tools

Detail the development tools employed throughout the project, including Integrated Development Environments (IDEs), tools like GPT/CoPilot, etc.

Programming languages:

* Java Script
* C#
* Python

Frameworks:

* React
* ASP.Net
* Entity framework

IDEs:

* Visual Studio
* VS code
* WebStorm

APIs:

* AWS
* OpenAI
* Wolt
* Bit

Database:

Tools:

* GPT
* CoPilot

### 8. Submission Details

Include the GitHub link for the project repository.

### 9. Additional Notes

Feel free to add any supplementary information deemed relevant to the project.