

## **CSC 300 - Week 1 Project Deliverable**

### **High-End Smart Refrigerator System**

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#### **Computer Science**

Requirements (with Priority Weights in parentheses; 1 = highest; 10 = lowest priority):

##### **System Requirements**

R1 (3) The system shall have WiFi connectivity.

R2 (3) The system shall be able to communicate with a smartphone app for remote monitoring.

R3 (7) The system shall track date and time.

R4 (8) The system shall be able to display alerts, such as when a door is left open too long or an item is near expiration.

R5 (6) The system shall include a touchscreen display panel. The display shall activate when touched.

##### **Temperature Control**

R6 (1) The system shall maintain multiple temperature zones (e.g., refrigerator and freezer).

R7 (2) The user shall be able to manually adjust temperature and humidity settings for each zone via the touchscreen interface.

R8 (2) The system shall display real-time temperature and status for each compartment.

R9 (6) The system shall track and display temperature in both Celsius and Fahrenheit based on user preference.

##### **Inventory Management**

R10 (4) The system shall utilize a camera for food item tracking using barcode scanning or image recognition.

R11 (4) The system shall provide a manual entry option for food products without barcodes or when the system does not recognize a product, including fields for item name, quantity, and expiration date.

R12 (5) The display shall provide easy access to a menu that includes Inventory Management.

R13 (5) The system shall highlight items approaching expiration (e.g., within 3 days).

##### **Meal Planning**

R14 (5) The system shall analyze inventory and suggest recipes based on ingredients available.

R15 (8) The system shall be connected to a recipe database.

R16 (9) The system shall provide functionality for a user to send a selected recipe to their email address or phone number.

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R17 (9) The system shall include a function to store a user's email address and/or phone number in user settings.