**Restaurant Management System  
  
Identifying Stakeholders – Create a list of Stakeholders (as taught in Business Analysis Planning and Monitoring Knowledge Area)**

**Stakeholders for Restaurant Management System**

1. James Oliver (CEO and Owner)
   * Role: Oversees overall operations and strategic direction of The Grill House chain.
   * Interest: Effective management system for enhancing customer experience and operational efficiency.
2. Managers (Restaurant Managers)
   * Role: Responsible for daily restaurant operations, including menu management, staff coordination, and customer service.
   * Interest: Need for efficient tools to manage menus, reservations, and generate reports for business insights.
3. Waiters
   * Role: Front-line staff responsible for taking orders, serving customers, and generating bills.
   * Interest: Access to a user-friendly system for efficient order taking, bill generation, and table management.
4. Customers
   * Role: Dine-in and home delivery patrons of The Grill House restaurants.
   * Interest: Seamless service, accurate billing, and a positive dining experience.
5. IT Department
   * Role: Responsible for system maintenance, updates, and technical support.
   * Interest: Ensuring the stability, security, and usability of the restaurant management system.
6. Marketing Department
   * Role: Promotes The Grill House restaurants, manages customer feedback, and analyses customer preferences.
   * Interest: Access to customer feedback and sales data to refine marketing strategies and improve customer engagement.
7. Finance Department
   * Role: Manages financial transactions, budgeting, and financial reporting.
   * Interest: Accurate sales data for financial planning and performance analysis.
8. Operations Staff
   * Role: Supports daily restaurant operations, including table setup, cleanliness, and customer service.
   * Interest: Smooth integration of the management system into daily routines to enhance operational efficiency.
9. Regulatory Compliance Officer
   * Role: Ensures adherence to legal and regulatory requirements related to restaurant operations.
   * Interest: System features that support compliance with food safety, labor laws, and customer data protection regulations.
10. External Suppliers
    * Role: Provides food, beverages, and other supplies to The Grill House restaurants.
    * Interest: Reliable sales data to forecast demand and manage inventory effectively.
11. Software Development Team
    * Role: Designs, develops, and implements the restaurant management system.
    * Interest: Meeting functional and non-functional requirements outlined by stakeholders, ensuring robustness and scalability of the system.
12. Customer Support
    * Role: Handles customer inquiries, feedback, and support requests related to the management system.
    * Interest: User-friendly interface and efficient system operation to provide timely support to restaurant staff.

**Create As-Is and Future Process map (using flowcharts). You can use any of the popular tools in the market like Microsoft Visio, Lucidchart, Creately, Pidoco, or Balsamiq**

A diagram of a flowchart

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A diagram of a restaurant management system

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**As a Business Analyst working on this project, find out the scope of the Restaurant Management Software. Write down the main features that need to be developed.**

Designing a Restaurant Management Software involves integrating several essential features to streamline operations and enhance customer experience. Here are the main features that typically need to be developed:

1. Table Management:
   * Table reservation system
   * Table assignment and seating management
   * Real-time status updates (occupied, available, reserved)
2. Menu Management:
   * Menu item categorization (appetizers, mains, desserts, etc.)
   * Item descriptions, prices, and availability
   * Support for multiple menus (e.g., lunch, dinner)
3. Order Management:
   * Order taking (manually or via handheld devices)
   * Order modification and customization (special requests)
   * Splitting and merging of orders
   * Integration with kitchen display systems (KDS)
4. Billing and Payment:
   * Integration with POS (Point of Sale) systems
   * Splitting bills among multiple diners
   * Acceptance of multiple payment methods (cash, credit cards, mobile payments)
5. Inventory Management:
   * Ingredient tracking and stock management
   * Automated alerts for low stock levels
   * Supplier management and ordering
6. Staff Management:
   * Shift scheduling
   * Performance tracking and analytics
   * Role-based access control (manager, waiter, chef, etc.)
7. Customer Relationship Management (CRM):
   * Customer database and profiles
   * Loyalty programs and rewards management
   * Feedback collection and management
8. Analytics and Reporting:
   * Sales reports (daily, weekly, monthly)
   * Inventory usage and cost analysis
   * Customer analytics (preferences, frequency)
9. Integration and Scalability:
   * Compatibility with third-party services (reservation platforms, delivery services)
   * Scalability to accommodate growth and additional functionalities
10. Security and Compliance:
    * Data security (PCI-DSS compliance for payment data)
    * Compliance with local regulations (taxation, health codes)
11. Mobile-Friendly and Cloud-Based:
    * Accessibility from mobile devices (for order taking, management)
    * Cloud storage for data backup and accessibility
12. Online Ordering and Delivery Management (Optional but increasingly relevant):
    * Integration with online ordering platforms
    * Delivery logistics management

These features collectively aim to optimize restaurant operations, improve efficiency, enhance customer satisfaction, and provide actionable insights to restaurant management. The specific requirements may vary based on the size and type of restaurant, but these are foundational aspects to consider when scoping out a Restaurant Management Software project.

**Write the in-scope and out-of-scope items for this software.**

**In-Scope Items:**

1. Table Management:
   * Table reservation system
   * Real-time table status updates
   * Table assignment and seating management
2. Menu Management:
   * Item categorization (appetizers, mains, desserts, etc.)
   * Item descriptions, prices, and availability
   * Support for multiple menus (e.g., lunch, dinner)
3. Order Management:
   * Order taking and modification
   * Order status tracking
   * Integration with kitchen display systems (KDS)
4. Billing and Payment:
   * Integration with POS systems
   * Splitting bills among diners
   * Acceptance of multiple payment methods
5. Inventory Management:
   * Ingredient tracking and stock management
   * Low stock alerts
   * Supplier management and ordering
6. Staff Management:
   * Shift scheduling
   * Role-based access control
   * Performance tracking
7. Customer Relationship Management (CRM):
   * Customer database and profiles
   * Loyalty programs management
   * Feedback collection
8. Analytics and Reporting:
   * Sales reports
   * Inventory usage and cost analysis
   * Customer analytics
9. Integration and Scalability:
   * Compatibility with third-party services (reservation platforms, delivery services)
   * Scalability for additional functionalities
10. Security and Compliance:
    * Data security measures
    * Compliance with local regulations (taxation, health codes)
11. Mobile-Friendly and Cloud-Based:
    * Access from mobile devices
    * Cloud storage for data backup and accessibility

**Out-of-Scope Items:**

1. Complex Financial Accounting:
   * Detailed financial accounting beyond basic sales reporting.
2. Full HR Management:
   * Comprehensive HR functions like payroll management, benefits administration.
3. Advanced Customer Analytics:
   * Deep data mining and predictive analytics beyond basic customer preferences.
4. Specialized Legal Compliance:
   * Compliance with highly specialized legal requirements not directly related to restaurant operations.
5. Extensive Inventory Forecasting:
   * Advanced forecasting algorithms for inventory beyond basic low-stock alerts.
6. Full-Fledged Online Ordering Platform:
   * Development of a standalone, comprehensive online ordering and delivery platform.
7. Hardware Provisioning:
   * Supplying hardware devices (e.g., POS terminals, tablets) as part of the software package.
8. Custom Menu Design Services:
   * Design and creation of custom menu layouts or graphic design services.
9. Restaurant Design and Layout Services:
   * Architectural or interior design services for restaurant layout.
10. Customer Service Outsourcing:
    * Outsourcing of customer service functions or call center operations.

**Write out the business requirements, both functional and nonfunctional requirements.  
  
Functional Requirements:**

1. Table Management:
   * FR1: Manage table reservations and provide real-time status updates (occupied, available, reserved).
   * FR2: Assign tables based on availability and customer preferences.
2. Menu Management:
   * FR3: Create, edit, and categorize menu items (e.g., appetizers, mains, desserts).
   * FR4: Manage multiple menus (e.g., lunch, dinner) separately.
3. Order Management:
   * FR5: Take orders manually or via handheld devices and allow modifications (e.g., special requests).
   * FR6: Integrate with Kitchen Display Systems (KDS) for efficient order processing.
4. Billing and Payment:
   * FR7: Integrate with Point of Sale (POS) systems for accurate billing.
   * FR8: Support bill splitting and accept various payment methods (cash, credit cards, mobile payments).
5. Inventory Management:
   * FR9: Track ingredient usage, manage stock levels, and generate alerts for low stock.
   * FR10: Facilitate supplier management and automate ordering processes.
6. Staff Management:
   * FR11: Schedule shifts for staff and provide role-based access control.
   * FR12: Monitor staff performance and provide analytics for productivity.
7. Customer Relationship Management (CRM):
   * FR13: Maintain customer profiles and preferences.
   * FR14: Manage loyalty programs, rewards, and collect customer feedback.
8. Analytics and Reporting:
   * FR15: Generate sales reports and analyze inventory usage and costs.
   * FR16: Provide insights into customer behavior and preferences for targeted marketing.
9. Integration and Scalability:
   * FR17: Integrate with third-party services (reservation platforms, delivery services).
   * FR18: Scale the system to accommodate growth and additional functionalities.

**Nonfunctional Requirements:**

1. Performance:
   * NFR1: Respond to user interactions within 2 seconds.
   * NFR2: Handle peak loads during busy hours without performance degradation.
2. Reliability:
   * NFR3: Operate 24/7 with at least 99% uptime.
   * NFR4: Implement backup and recovery mechanisms for data integrity.
3. Security:
   * NFR5: Comply with PCI-DSS standards for payment data security.
   * NFR6: Encrypt sensitive data such as customer information and transactions.
4. Usability:
   * NFR7: Provide an intuitive interface requiring minimal training for restaurant staff.
   * NFR8: Support accessibility features for users with disabilities.
5. Scalability:
   * NFR9: Scale the system to handle increasing numbers of restaurants and users.
6. Integration:
   * NFR10: Integrate seamlessly with existing IT infrastructure (POS systems, accounting software).
7. Compliance:
   * NFR11: Adhere to local regulations and standards related to restaurant operations and data privacy.
8. Maintainability:
   * NFR12: Modularize and document the system for ease of maintenance and updates.

**Draw wireframes or mock screens for two of the features namely menu creation and table reservation. Use the technique prototyping or wireframing that is taught in the training. You can use any of the wireframing tools like Microsoft PowerPoint, Microsoft Word, Balsamiq, Sketch, Adobe XD, Adobe ILLustrator, Figma, UXPin, InVision Studio, Invision Freehand, or Moqups.**

**A screenshot of a restaurant menu

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**Make a product backlog of user stories for the given case study. User Stories should be in the format of as a <type of user>, I want <goal> so that <reason>**

**For each story, write the acceptance criteria.**Product Backlog:

1. User Story 1: As a restaurant manager, I want to manage table reservations so that I can efficiently allocate seating to customers.
   * Acceptance Criteria:
     + The system allows managers to view current reservations.
     + Managers can add, modify, or cancel reservations.
     + Reservation status (confirmed, pending, cancelled) is updated in real-time.
2. User Story 2: As a restaurant host/hostess, I want to assign tables based on availability and customer preferences so that guests have a pleasant dining experience.
   * Acceptance Criteria:
     + Hosts can view a list of available tables and their capacities.
     + Tables are assigned according to customer preferences (e.g., window seat, quiet area).
     + Assigned tables are marked as occupied and displayed on the floor plan.
3. User Story 3: As a chef, I want to receive and manage orders from the kitchen display system so that I can prepare meals efficiently.
   * Acceptance Criteria:
     + Orders are displayed on the kitchen screen with clear details (items, modifications).
     + Orders can be marked as in-progress or completed.
     + Integration ensures orders are synchronized between front-end and kitchen systems.
4. User Story 4: As a waiter/waitress, I want to take orders digitally on a handheld device so that I can provide faster and more accurate service to customers.
   * Acceptance Criteria:
     + Waitstaff can access the menu on a handheld device.
     + Orders include options for special requests or modifications.
     + Orders are sent to the kitchen immediately upon confirmation by the customer.
5. User Story 5: As a customer, I want to be able to split the bill among multiple diners so that I can easily manage payments with my group.
   * Acceptance Criteria:
     + Customers can request to split the bill.
     + The system calculates and displays individual amounts for each diner.
     + Payment options include splitting amounts across different payment methods if required.
6. User Story 6: As a restaurant manager, I want to track inventory levels and automate supplier orders so that I can efficiently manage stock and reduce wastage.
   * Acceptance Criteria:
     + Inventory levels are updated in real-time based on usage.
     + Low stock alerts are generated and sent to designated personnel.
     + Automatic purchase orders are generated for items below minimum stock thresholds.
7. User Story 7: As a restaurant manager, I want to analyse sales data and customer feedback so that I can make informed decisions for business growth.
   * Acceptance Criteria:
     + Sales reports are generated daily, weekly, and monthly.
     + Customer feedback is collected and categorized (service, food quality, ambiance).
     + Reports include trends and insights for improving customer satisfaction and operational efficiency.
8. User Story 8: As a restaurant owner, I want the software to comply with PCI-DSS standards for payment security so that I can ensure customer payment data is protected.
   * Acceptance Criteria:
     + The system encrypts credit card information during transactions.
     + Access to payment data is restricted to authorized personnel only.
     + Regular security audits are conducted to maintain compliance with PCI-DSS.
9. User Story 9: As a customer, I want the restaurant's loyalty program integrated into the software so that I can earn rewards based on my visits and spending.
   * Acceptance Criteria:
     + Customers can enroll in the loyalty program through the software.
     + Points are awarded automatically based on purchases.
     + Customers can redeem rewards directly from the software during checkout.
10. User Story 10: As a restaurant manager, I want the software to support integration with third-party services like delivery platforms so that we can offer delivery services efficiently.
    * Acceptance Criteria:
      + Orders from third-party delivery platforms are synchronized with the restaurant's order system.
      + Delivery status (accepted, in-progress, delivered) is updated in real-time.
      + Delivery fees and customer information are accurately transferred between systems.

**Create a dashboard for senior management to view sales of restaurants for the last six months. Make assumptions as appropriate and create the dashboard using your own mock data.  
  
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**Create a dashboard to show which zone (Zone 1, 2, 3, or 4) has highest sales. Make assumptions as appropriate and create the dashboard using your own mock data.**

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**Create a bar graph for San Jose, Madison, and New York showing the sales. Label the chart drawn correctly so that senior management gets a clear report of sales.**

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**Arrange the data above in excel in an ascending and descending order for each city.**

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**In the above chart for restaurant ID 1200789, find the sales for the month of June**

**In the above chart for restaurant ID 1200739, find the sales for the month of April**

**In the above chart for restaurant ID 1200352, find the sales for the month of January**

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