

MET CS 682 ASSSIGNMENT 1

The purpose of this exercise is to think through information system types and gain an understanding of the beginnings of the system analysis process for a company called HealthyEats .



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The purpose of this exercise is for you to think through information system types and gain an understanding of the beginnings of the system analysis process.

1. USE THIS TEMPLATE: Please respond by using this Word template, leaving the headings and the gray text unchanged—but exclude the *hints* section (at the end) from your solution.
2. OBSERVE LIMITS: Observe the page and paragraph limitations; however, you may include as many appendices—additional to the required Appendix 1—as you wish. All appendices should be referred to in the main text.
3. USE chatGPT: **But ONLY on question 1.1.** We would like you to answer this question using chatGPT because we feel that this is the way such writing will be created going forward. We want you to practice good use of AI generation, including your verification, re-prompting, editing, and improvement.
4. You are required to document your chatGPT interaction as in Appendix 1 question 1.1. You are also encouraged to do outside research to support your response but use the *References* section as indicated and observe plagiarism rules carefully, including the citation of sources, the use of quotes, and acknowledgement of modifications of external sources.
5. NAME YOUR FILE: Include your last name in the file name of the assignment. (Example: SmithMichael\_CS682Assignment1.docx)

You will be evaluated on your value added to existing and AI-generated material. Hints are provided at the end of this document. We will provide feedback comments and will use our best judgement in terms of the evaluation criteria listed.

**The Scenario for this assignment is as follows:** Our company, *HealthyEats* specializes in providing healthy nutrition and food delivery for corporations, specifically targeting small businesses and startups.

Select two of the system types below which HealthyEatsmight use for the benefit of employees (i.e., not as a customer-facing product). (1) MIS, (2) DSS, (3) Office Automation, (4) Customer Relationship Management (CRM) or (5) Expert Systems. (Again, there are hints at the end of this document.) You are free to interpret the given scenario in any manner consistent with the sentence provided above.

# MIS (Management Information System)

## 1.1 Purpose of the selected system

## The MIS for HealthyEats will be designed to focus on fundamental tasks essential for day-to-day operations. It serves as a central hub to gather and present key information to the leadership team. This includes managing data related to order processing, inventory levels, supplier interactions, and customer details. The system ensures that the leadership team has immediate access to crucial operational insights without the complexity of in-depth analytics. By simplifying information retrieval and presentation, the MIS streamlines decision-making processes, allowing the leadership team to stay well-informed about ongoing operations. The main goal of this system is to present day to day essential business-related data to the leadership team, not to analyze the data and make decisions on behalf of them.

## 1.2 Typical user(s) of the system and their means of interaction with it

Typical user(s) of the MIS for HealthyEats would be the members of the leadership team. This could include general manager, and department heads. "An MIS can be developed to collect nearly any type of information managers require." (Ingram). The system is tailored to provide essential company operations related data to the decision makers of the company. For instance, the operation manager could use the system to monitor order processing and inventory levels, while the marketing manager might track customer engagement metrics. MIS is there to make sure all these information is readily available to the user in a quick and easy to understand format.

The means of interaction would likely involve a user-friendly interface with navigation, allowing users to access relevant information effortlessly. The system could offer customizable dashboards tailored to each user's role, displaying key performance indicator. Additionally, the MIS might incorporate features such as data filters and search functionalities to enable users to pinpoint specific information quickly. The system could be made available in desktop or web-based platform allowing users to have access to the system from any device. Overall, the system aims to provide a straightforward and efficient means for key stakeholders to stay informed about HealthyEats operations.

## 1.3 Type of Input Data Used by the System

* Employee information and performance metric
* Customer order details and processing status
* Customer profiles, preferences, and feedback
* Operational details (delivery times, order accuracy)
* Financial data (revenue, sales)
* Marketing metrics
* Supplier information and order history (for inventory)
* System logs and user interactions (security and access)
* Employee data (work hours, delivery efficiency, and customer service performance).
* Order information (real-time details, processing status, and customization specifics).
* Customer preferences (dietary choices, profiles, and real-time feedback).
* Operational details (delivery time metrics, order accuracy, and real-time operational data).
* Financial data (revenue breakdown, sales trends, and financial performance).
* Marketing metrics (effectiveness of campaigns, customer engagement, and conversion rates).
* Supplier information (performance metrics, inventory turnover, and order history).
* System logs (security logs, user access patterns, and security threat alerts)

## 1.4 Type of Output Data Used by the System

* Cost of goods sold and profit margins.
* Daily summaries of order processing and fulfillment.
* Inventory status and stock levels.
* Revenue and sales reports.
* Feedback and reviews from customers.
* Order fulfillment and delivery performance.
* Reports on operational efficiency and employee contributions.
* Work schedules and task completion rates.
* Security and access control reports.
* Trends in customer orders and preferences.

Cost breakdown (for each healthy meal), profit margins, and financial performance.

Daily reports (processing times, fulfillment rates, and bottlenecks).

Inventory updates (real-time, stock levels, and low-stock alerts).

Revenue reports (segmented by meal categories, sales trends, and comparative analysis).

Customer feedback analysis (detailed feedback, trends, and improvement areas).

Order fulfillment metrics (times, accuracy, and customer satisfaction).

Efficiency reports (operational processes, employee contributions, and productivity).

Customer order trend analysis (popular choices, emerging preferences, and health-conscious options).

# Office Automation

## 2.1 Purpose of the selected system

## An Office Automation system for HealthyEats would streamline internal administrative processes, enhancing efficiency and collaboration among different departments. This system could automate routine tasks related to order processing, invoicing, and document management. According to Angela Ash, "General office tasks are tedious but crucial to a company’s bottom line. Gathering and organizing information, managing calendars, automating paperwork, and using secure billing can all be automated with software" ("How to Use Office Automation Tools"). The system might also facilitate seamless communication within the organization, automating email notifications for order updates or inventory alerts. By implementing Office Automation, HealthyEats aims to improve workflow efficiency, reduce administrative overhead, and ensure smooth internal communication, ultimately contributing to a more agile and responsive operational environment.

## 2.2 Typical user(s) of the system and their means of interaction with it

## The typical users of the Office Automation system at HealthyEats would include employees across various departments involved in administrative tasks. This could encompass order processing staff, finance personnel handling invoicing, and employees responsible for managing inventory. For instance, order processing staff can use the system which automates the generation of invoices for corporate clients, reducing manual workload and minimizing errors. Another example could include Inventory manager receiving automated notification upon arrival of new stock allowing them to focus on other tasks. Employees would engage with the system to input and retrieve data seamlessly. Automation features could include dropdown menus, checkboxes, and automated notifications. It can be easily interacted with from desktop or web. The automation system will be designed to provide individual departments with their own customized automation process and results.

## 2.3 Type of Input Data Used by the System

* Order details and specifications for automated invoicing.
* Text or content to be included in the document.
* Formatting instructions (e.g., font styles, headings).
* Inventory levels and data for automated restocking alerts.
* Customer Communication data for automated notifications (order updates).
* Billing information

## 2.4 Type of Output Data Used by the System

* Automated invoices for customers.
* Notifications for order updates and delivery schedules.
* Automated creation of a formatted document (inventory order).
* Spell-checked and grammatically correct content (invoice, inventory order).
* Document management, including organized records of orders and transactions.
* Alerts for inventory restocking based on predefined levels.
* Communication logs, tracking automated notifications and messages.

# An Example Outline of Systems Analysis

Apply the major parts of system analysis with the “basic” systems analysis methodology given in Module 1 (“Introduction to Systems Analysis Methodology” section), applied to the following task.

The Scenario: Our company, *HealthyEats* specializes in providing healthy nutrition and food delivery for corporations, specifically targeting small businesses and startups. In sections 1 and 2, we reviewed types of systems to be used internally by the employees. This section should focus on a primarily *customer-facing* product.

## 3.1 Mission Statement

HealthyEats is dedicated to delivering nutritious and wholesome food solutions tailored for corporations, with a focus on small businesses and startups. Our mission is to empower small businesses and startups by providing a platform where employees can easily access a diverse menu, customize their orders, and experience prompt and reliable food delivery services. Through a commitment to quality, efficiency, and customer satisfaction, HealthyEats aims to be the preferred provider of healthy food delivery services for corporate clients, fostering a culture of well-being and productivity in workplace environments.

## 3.2 Functional System Requirements (about 8-12)

* HealthyEats shall allow customers to browse the menu, select items, and place orders
* HealthyEats shall provide customers the ability to create accounts for personalized order history and preferences.
* HealthyEats shall send order confirmation notifications to customers upon successful order placement.
* HealthyEats shall display accurate delivery information, including estimated delivery times and tracking options.
* HealthyEats shall allow customers to pay for their orders
* HealthyEats shall allow customers to search for any food they would like to order
* HealthyEats shall provide the exact price of food to their customers
* HealthyEats shall provide the exact delivery charge to their customers
* HealthyEats shall allow customers to reach out to customer support
* Customers shall be allowed to view their order history in the HealthyEats system

## 3.3 A System-Level Use Case

|  |  |  |
| --- | --- | --- |
| **Actor:** | Customer (A Manager of an organization) | |
| **Context:** | Customer placing order (assuming they are logged in) | |
| **Step #** | **Actor** | **System** |
| **1** | Customer opens the HealtyEats system in the web or desktop | The system displays the menu page with search option and select option next to each food item special instructions text box |
| **2** | Customer selected some food items of choice | The system displays the menu page |
| **3** | Customer scrolled down and added custom instructions in the provided field. i.e no ketchup | The system displays the menu page with an auto closing popup window confirming the instruction is saved |
| **4** | Customer searched for an item. i.e beef Lasagne | The system shows the search result page with the appropriate result and option to select them. |
| **5** | Customer selected the desired item and hit main menu button | The system displays the menu page |
| **6** | Customer initiated the checkout process by clicking checkout button | The system displays the checkout page with delivery address and payment methods |
| **7** | Customer selected payment method | The system displays popup window with payment options |
| **8** | Customer selected existing payment method | The system closes the popup window and displays the checkout page |
| **9** | Customer selected the default address for delivery | The system shows the checkout page |
| **10** | Customer clicks finish order button | The system displays the order confirmation page |
| **Alternate Courses:** | [System Alt 11] If there are issues with payment processing, the system displays an error message.  [System Alt 12] If the customer decides to cancel the order at any point, the system prompts for confirmation. | |

## 3.4 Supporting System-Level Activity Diagram for the above use case

## A diagram of a company Description automatically generated

### Figure 1.1 Activity diagram

## 3.5 System-Level Non-functional Requirements

* HealthyEats shall ensure a response time of no more than 3 seconds for any user interaction
* HealthyEats shall implement (AES) with a 256-bit key encryption protocol for all user data, including personal information and payment details
* HealthyEats shall be compatible with major web browsers (Google Chrome, Mozilla Firefox, Safari) and mobile platforms (iOS, Android)
* Beside card payments, it shall allow users to pay by cash on delivery
* HealthyEats menu should use bold letters for food names

# Appendix 1 (Required): Interaction with chatGPT

For each of the following, show your most relevant prompt to chatGPT and the response which was most relevant to your solution.

## A1.1 Purpose of MIS

Prompt: Based on this scenario, "Our company, HealthyEats specializes in providing healthy nutrition and food delivery for corporations, specifically targeting small businesses and startups." I am thinking of building an MIS(Management information system) for the healthEats company. Could you please suggest to me the purpose of this system from Healthyeats operations perspective in a paragraph?

Response: Certainly! An MIS for HealthyEats could play a pivotal role in streamlining and optimizing various operational aspects of the company. The system would serve as a centralized hub for managing essential information related to HealthyEats' operations. This includes but is not limited to order processing, inventory management, supplier relationships, and customer data. The MIS would provide real-time insights into order volumes, popular menu items, and inventory levels, enabling the company to make data-driven decisions. It could also facilitate efficient communication and coordination between different departments, ensuring a smooth flow of information across the organization. Additionally, the MIS would generate reports and analytics, allowing HealthyEats to assess performance, identify areas for improvement, and strategically plan for future growth. Overall, the MIS would enhance operational efficiency, promote informed decision-making, and contribute to the overall success of HealthyEats in delivering healthy nutrition and food services to corporations.

## A4 (re ChatGPT overall)

My Overall observation on chatgpt responses: I think the chatgpt responses were mostly relevant to my concerns. However, it is important to note that the prompt must be precise and descriptive enough for the AI to understand the topic. Even though, it wasn’t easy to describe all the expectations at the first prompt, chatgpt is quick to understand more if you provide more information in the subsequent prompts. Although mostly the response was on track, I had to tweak some of it to be in line with my understanding. For example, the first response on MIS, I added my value to it by mentioning how this system is only there to gather and present data and not analyze the data like other system.

# References other than chatGPT

[1] Author: David Ingram Title: "What Is a Management Information System?" Website: Chron Small Business URL: <https://smallbusiness.chron.com/management-information-system-2104.html> Publication Date: Updated February 12, 2019

[2] Author: Angela Ash Title: "How to Use Office Automation Tools to Streamline Business Operations" Website: G2 Learn URL: <https://learn.g2.com/office-automation> Publication Date: February 17, 2023

# Evaluation

