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# FLYBITE

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## Table of Contents

Preface .....	2
Project Identity .....	3
Project Name .....	3
Customer Value:.....	3
Product/Service Scope:.....	3
VRIO Analysis .....	4
Value Chain Analysis .....	5
Industry Structure (Porter's 5 Forces).....	6
PESTEL .....	7
SWOT .....	8
Value Proposition Canvas .....	9
Business Model Canvas.....	10
Business Process Model.....	11
Remodeling-Applied Digital Business Strategy (Supply Chain 4.0).....	12
Business Process Model-Revisited .....	13
Final Analysis Report.....	14
Future Decision Making .....	15
Project Milestones .....	16
MVP.....	17
Appendix .....	18
Interviews.....	18
Recorded Media.....	19
Persona .....	20
References .....	21



## Preface

This business plan introduces FlyBite, a proposed application designed to gather all campus restaurants into one centralized platform and make food ordering faster and more convenient for students and staff. The idea evolved through several stages of refinement, beginning with the need for a more efficient and organized ordering system on campus. In addition to consolidating restaurant options, FlyBite includes a special feature that uses drones to deliver food to students across all campus buildings.



## Project Identity

Project Name:

# FlyBite

Customer Value:

Our organization provides students with a fast, convenient, and reliable way to order meals on campus. By allowing users to place orders in advance and pick them up without waiting in long lines, the system helps students save valuable time during short breaks and ensures they can attend lectures on schedule. This timely service improves the overall campus experience by reducing stress, increasing efficiency, and making daily routines smoother for all users.

Product/Service Scope:

Our organization provides students, faculty, and staff with a convenient platform to browse campus food outlets, view menus, and place orders directly from their smartphones. The service includes real-time order processing, estimated preparation times, secure digital payments, and notifications when orders are ready for pickup. In addition to the customer interface, the application also includes a dedicated restaurant-side system that manages incoming orders and coordinates delivery logistics.

A key feature of the platform is its drone-based delivery service, designed specifically for the campus environment. Each restaurant is integrated with the drone system through the app, allowing drones to automatically collect prepared orders and deliver them to designated delivery booths located in every university building. When placing an order, students simply select their building and booth; the drone then transports the meal directly to that location. This setup provides a fast, contactless delivery option and reduces congestion at food outlets.

Operational procedures include the flow from menu selection to order confirmation, preparation by the food outlet, and either pickup or drone delivery to the chosen booth. The system also supports order history tracking, favorite items, and user account management to enhance the overall customer experience.



## VRIO Analysis

Items	Valuable?	Rare?	Hard to Imitate?	Result
In-house software development team	Yes, enables fast development, customization, and continuous improvement of the platform	Not rare.	Yes, requires technical skills, coordination, and experience	Sustained Competitive Advantage <i>(if well-organized)</i>
Technical support & maintenance team	Yes, ensures system stability and fast issue resolution	Not rare.	Yes, it requires technical expertise	Potential Advantage Not Fully Realized
Exclusive drone delivery system	Yes, provides unmatched delivery speed and efficiency	Yes, no other campus uses drone delivery due to high cost	Yes, protected by exclusivity agreement with MIU	Sustained Competitive Advantage (Monopoly)
Talented UX designers	Yes, improves usability, customer satisfaction, and retention	Relatively rare in student-based startups	Moderately hard to imitate due to creative skills and experience	Temporary Competitive Advantage
Motivated employees	Yes, increases productivity, innovation, and service quality	Rare among early-stage startups	Hard to imitate as motivation is culture-driven	Potential Competitive Advantage
Security team with professional background	Yes, ensures data protection, user trust, and platform reliability	Rare on campus-based platforms	Hard to imitate due to specialized training and experience	Sustained Competitive Advantage



## Organization of Quick Bite company:

Since Flybite as a company, has an in-house software development team, technical support & maintenance team, talented UX designers, professional security team, and motivated employees through all those teams, it makes the whole organization organized since we separated each specialist into teams of their own specialties not only that but having such a strong team helps make an exclusive drone delivery system a lot easier when the whole process and hierarchy is organized.

## Value Chain Analysis

### 1. Primary Activities

#### a. Inbound Logistics

Automated collection of restaurant information

**Value:** Eliminates the need to hire or pay data collectors, reducing costs while ensuring faster, more accurate, and continuously updated restaurant data.

#### b. Operations

#### **Brainstorming (Fixing a problem):**

We monitored Universities campuses and noticed the Long lines problem with all restaurants during breaks, so we brainstormed as an organization and came to the solution of FlyBite.

#### **Requirement Gathering (Automated):**

We automated the process of gathering data, and requirements from restaurant menus to user preferences by making an ai model that sends out emails to both restaurants and students with google forms to get all the information without having to spend any extra costs or labor.

#### **App Design Phase (UX/UI):**

In-house UX designers translate requirements into intuitive interfaces and user flows that enhance usability and engagement.

#### **Development Phase:**

Developers build the application based on approved designs and requirements, ensuring functionality, scalability, and system integration.

#### **Testing Phase:**

The application undergoes functional, usability, and security testing to identify and fix issues before release.

#### **Delivery Phase:**

The final application is deployed and



### c. Outbound Logistics

- Assigning drones to specific delivery routes and booths.
- Monitoring delivery progress in real-time and resolving delays.
- Moving drone batteries, spare parts, and backup drones to strategic campus locations.
- Coordinating distribution of technical devices to vendors

Outbound logistics create value by enabling fast and organized food distribution across campus through optimized drone routing, real-time delivery monitoring, and strategic equipment placement.

### d. Marketing & Sales

- Coordinating FlyBite booths during orientation & campus fairs
- Internal planning for loyalty programs and seasonal campaigns
- Creating posters, flyers, banners, or digital media for promotion.
- Managing social media channels and email campaigns targeting the campus community.

Marketing and sales create value by increasing student awareness and platform adoption, which drives higher order volumes for vendors and strengthens FlyBite's campus presence.

### e. Services

- Collecting feedback from students, vendors, and staff through surveys or reports.
- Training internal support team on new service features or operational changes.
- Creating action plans to improve service reliability.
- Implementing fixes and tracking improvements over time.

Marketing and sales create value by increasing student awareness and platform adoption, which drives higher order volumes for vendors and strengthens FlyBite's campus presence.

## 2. Support activities

### a. Firm Infrastructure

- quality control policies for vendors and delivery performance
- Legal compliance management (drone regulations, food safety rules)
- Forecasting operational costs for drones, support teams, and system administrators.

Firm infrastructure creates value by ensuring legal compliance, quality control, and cost forecasting, which support stable and sustainable campus operations.

### b. Human Resource Management

- Hiring Drone Technicians and supervisors, Data analysts and Customer service representatives
- Internship programs with the university (marketing, IT, drones)



- Managing contracts, working hours, salaries, and benefits in compliance with national labor regulations.

Human resource management creates value by providing skilled technical, operational, and support staff required to maintain drone safety, system reliability, and service quality.

c. Technology Development

- Developing analytics tools for cost forecasting, delivery efficiency, and resource usage.
- **Creating automated maintenance schedules** for drones and hardware.
- **Implementing dashboards** for employee performance, payroll systems, and workflow management.
- Automating **notifications** for staff about shifts or drone issues.

Technology development creates value by improving delivery efficiency, system reliability, and internal decision-making through analytics, automation, and performance dashboard

d. Procurement

- Buying **computers, tablets, and office hardware** for staff use.
- Procuring **maintenance tools and spare parts** for drones and other equipment.
- Ordering **marketing materials** like banners, posters, and promotional items for campus events.

Procurement creates value by securing the hardware, drone components, and marketing materials needed to support uninterrupted operations and consistent campus branding.





## Industry Structure (Porter's 5 Forces)

Force	Level	Explanation
<b>Threat of New Entrants</b>	Low	We made a contract with the university making us the only delivery system on campus which will eliminate any chance for new entrants.
<b>Bargaining Power of Suppliers (Vendors)</b>	Moderate	Limited number of campus vendors gives them some power, but FlyBite controls traffic, analytics, and drone access. Potential <b>vendor dissatisfaction</b> or withdrawal due to commission or operational constraints.
<b>Bargaining Power of Buyers (Students &amp; Staff)</b>	Moderate	Students can switch to direct ordering or bring their own food. They are price-sensitive and demand fast, reliable service. But according to our survey majority of the students were thrilled by the drone delivery idea and claimed they would be referral and loyal customers.
<b>Threat of Substitutes</b>	Low	We made a contract with the university making us the only delivery system on campus which in turn won't allow any substitutes.
<b>Competitive Rivalry</b>	Low	Low on campus due to exclusivity, but high in the general market (Talabat, Elmenus). FlyBite remains unique with drones + campus-specific features.



## PESTEL

### 1. Political

-No political problems would affect our organization since it's an Egyptian company nationally and only provides Egyptian universities with delivery systems.

### 2. Economic

- Students are price-sensitive; inflation affects food prices.
- Vendors may raise prices, affecting demand.
- FlyBite must manage operational costs (drone maintenance, app hosting, staffing).
- Economic downturns can reduce discretionary spending on food delivery.

### 3. Social

- Students value convenience, speed, and saving time between classes.
- Growing acceptance of mobile ordering and digital payments.
- Demand for contactless delivery post-COVID trends.
- Modern lifestyle preferences encourage app-based services on campus.

### 4. Technological

- Smartphones and campus Wi-Fi enable app usage.
- Opportunity to expand AI-driven recommendations and analytics.
- Drone technology is a core differentiator but requires continuous upgrades and maintenance.

### 5. Environmental

- Drones are more environmentally friendly since they are fully electric.
- Campus congestion decreases due to digital ordering and faster pickups.
- Drone noise and battery waste must be managed.
- Sustainability focus is increasing in universities (alignment with green initiatives).

### 6. Legal

- Data privacy for student information and secure payment compliance are necessary.
- Food safety and vendor agreements must follow regulations.
- Drone laws and aviation regulations (flight zones, height limits, licensing).
- Abidance by all the university policies and laws.



## SWOT

Category	Key Findings
<b>STRENGTHS</b> (Internal)	<ul style="list-style-type: none"> <li>• Exclusive contract with the university making FlyBite the only food ordering and delivery system on campus</li> <li>• Drone-based delivery system providing fast, contactless, and efficient campus-wide delivery</li> <li>• In-house software development team enabling fast customization, scalability, and continuous improvement</li> <li>• Dedicated technical support &amp; maintenance team ensuring system stability and fast issue resolution</li> <li>• Talented UX/UI designers improving usability, satisfaction, and retention</li> <li>• Professional security team ensuring data protection, secure payments, and user trust</li> <li>• Motivated employees and strong organizational structure with specialized teams</li> <li>• Automated requirement gathering and data collection reducing labor costs</li> </ul>
<b>WEAKNESSES</b> (Internal)	<ul style="list-style-type: none"> <li>• High initial and ongoing costs (drone procurement, maintenance, batteries, spare parts, hosting, staffing)</li> <li>• Heavy dependence on drone technology (weather, technical failures, battery limitations)</li> <li>• Requires continuous technical upgrades (drones, app, analytics, security systems)</li> <li>• Limited market scope (currently focused on individual university campuses)</li> <li>• Students are price-sensitive, limiting flexibility in service fees</li> <li>• Reliance on campus vendors, who may raise prices or have limited capacity during peak times</li> </ul>



Category	Key Findings
	<ul style="list-style-type: none"> <li>• Operational complexity in managing drones, booths, vendors, and logistics simultaneously</li> <li>• Regulatory dependence on university policies and drone laws</li> </ul>
<b>OPPORTUNITIES</b> (External)	<ul style="list-style-type: none"> <li>• Growing demand for convenience, speed, and mobile ordering among students</li> <li>• High student enthusiasm for drone delivery, leading to strong loyalty and referrals</li> <li>• Expansion to other Egyptian universities using the same model</li> <li>• Integration of AI-driven recommendations, analytics, and forecasting tools</li> <li>• Alignment with environmental sustainability initiatives (electric drones, reduced congestion)</li> <li>• Increased acceptance of digital payments and contactless delivery post-COVID</li> <li>• Internship programs and partnerships with universities to strengthen talent pipeline</li> </ul>
<b>THREATS</b> (External)	<ul style="list-style-type: none"> <li>• Economic instability and inflation increasing food and operational costs</li> <li>• Changes in drone regulations or aviation laws that may restrict operations</li> <li>• Potential vendor dissatisfaction or withdrawal due to commission or operational constraints</li> <li>• Technical risks such as system downtime, drone malfunctions, or cybersecurity threats</li> <li>• Noise, safety, or environmental concerns related to drones affecting public perception</li> <li>• Long-term competition from large delivery platforms if exclusivity ends</li> </ul>



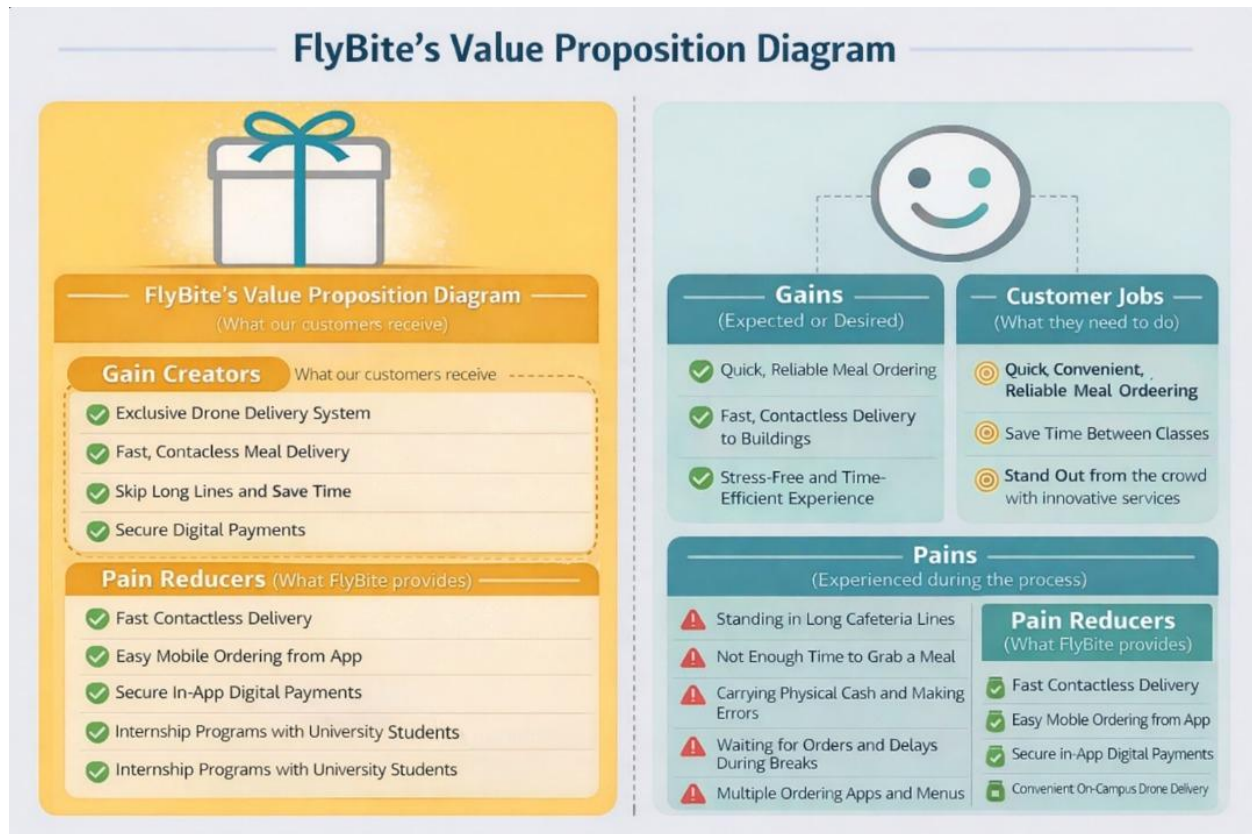
Category	Key Findings
	<ul style="list-style-type: none"><li>• Legal risks related to data privacy, food safety, and compliance violations</li></ul>

### Company Position Explanation

FlyBite holds a strong strategic position within the campus food delivery market due to its exclusivity agreement with the university and its innovative drone-based delivery system, which together create a near-monopoly and a sustained competitive advantage. Its internal capabilities, such as in-house development, UX design, security, and technical support, enable operational efficiency, reliability, and high-quality user experience. However, FlyBite must carefully manage its weaknesses, particularly high operational costs, technical complexity, and price-sensitive customers. Externally, growing student demand for convenience, sustainability, and contactless services presents significant growth opportunities, especially across other universities. At the same time, regulatory constraints, economic pressures, and technological risks remain key threats that require proactive management. Overall, FlyBite is well-positioned for controlled expansion and long-term success if it balances innovation with cost control and compliance.

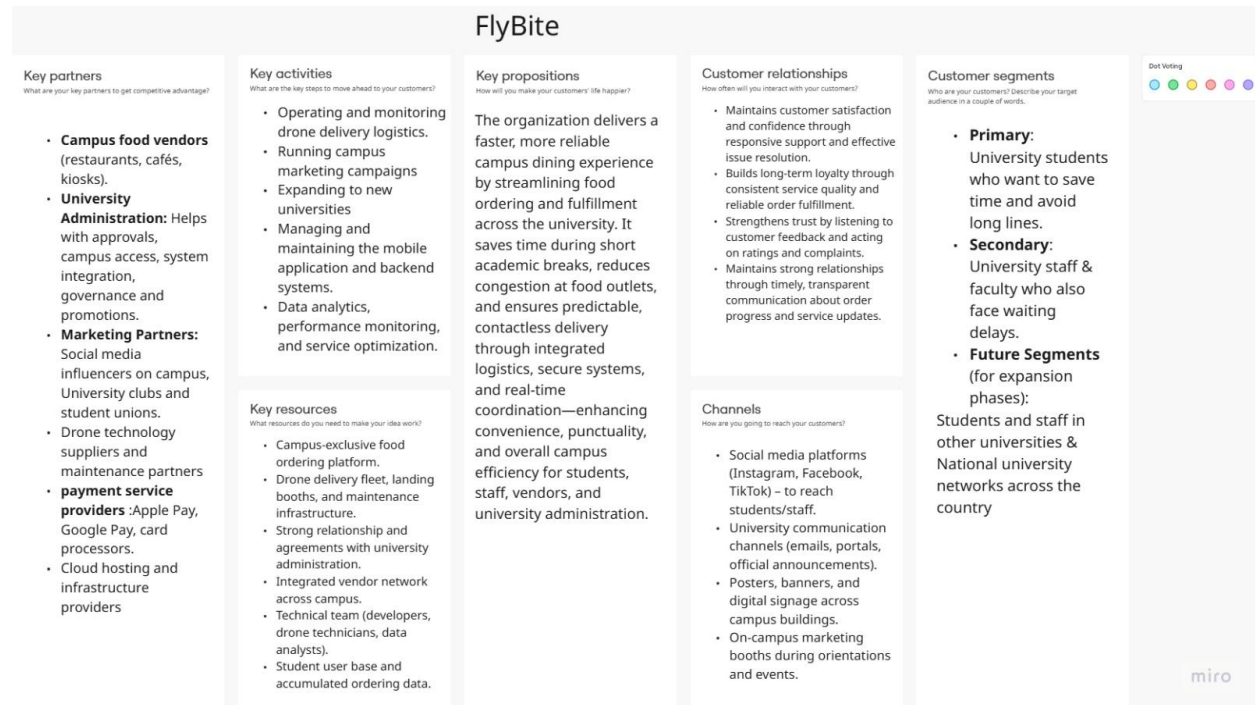


## Value Proposition Canvas

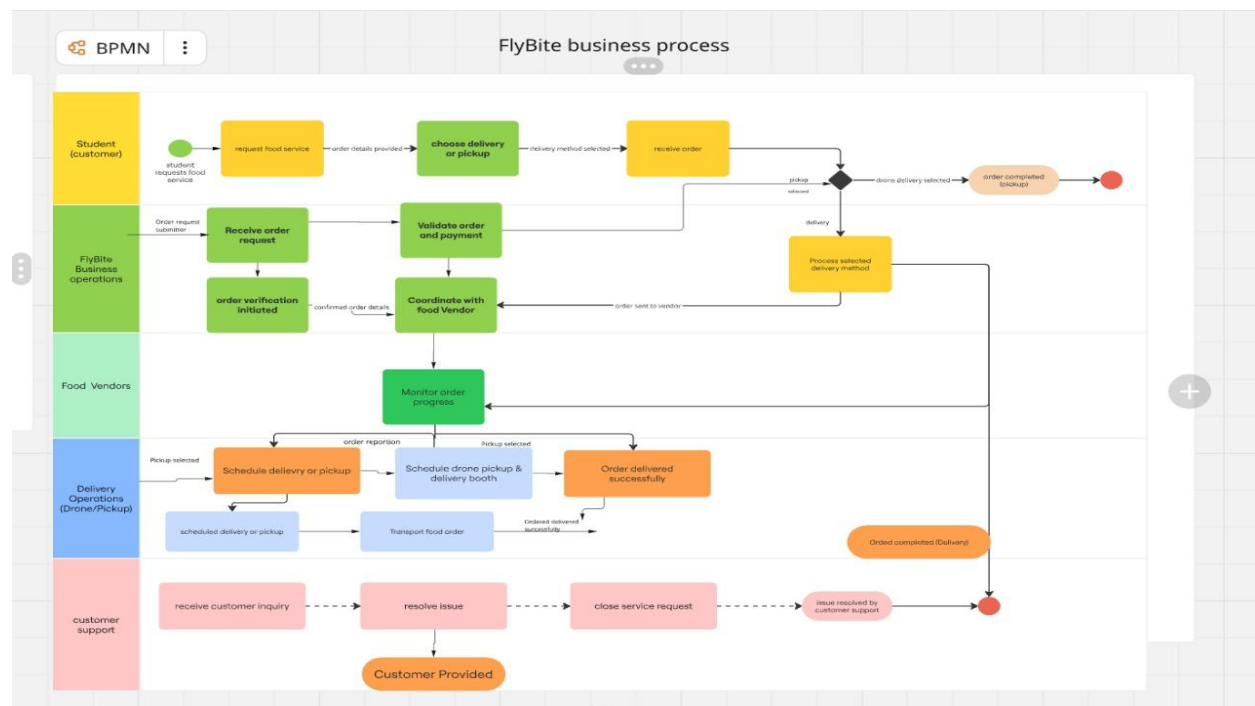




## Business Model Canvas



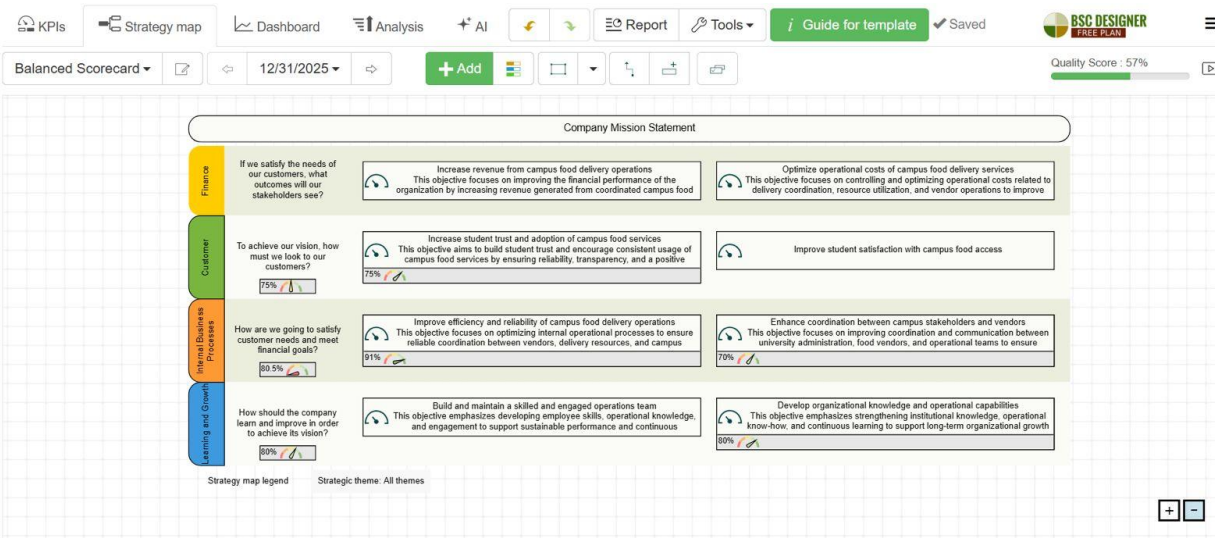
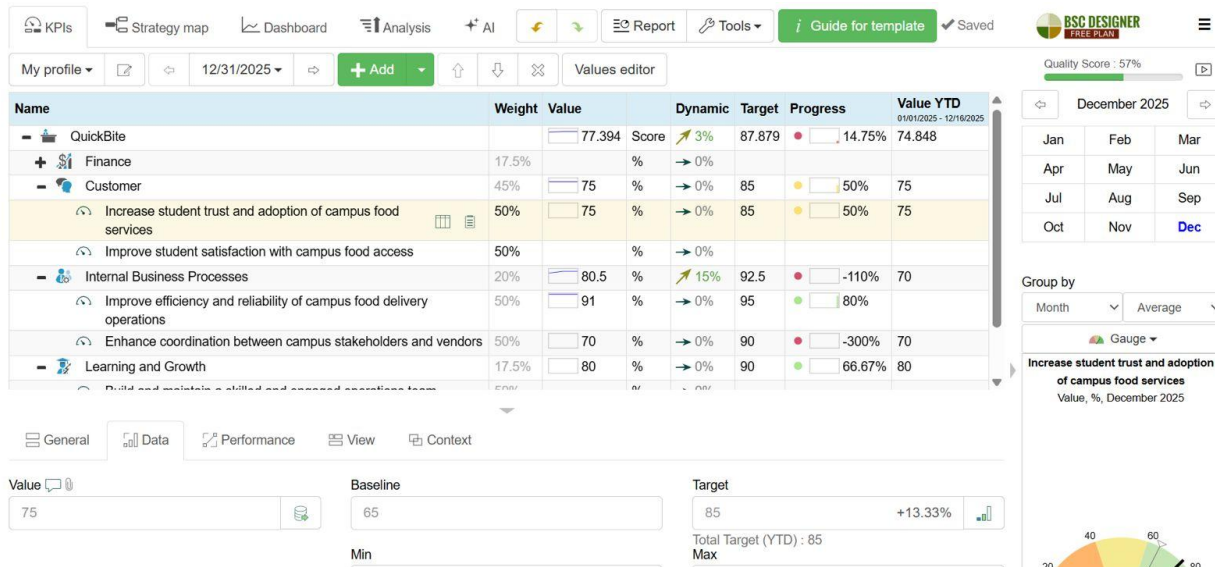
## BPM



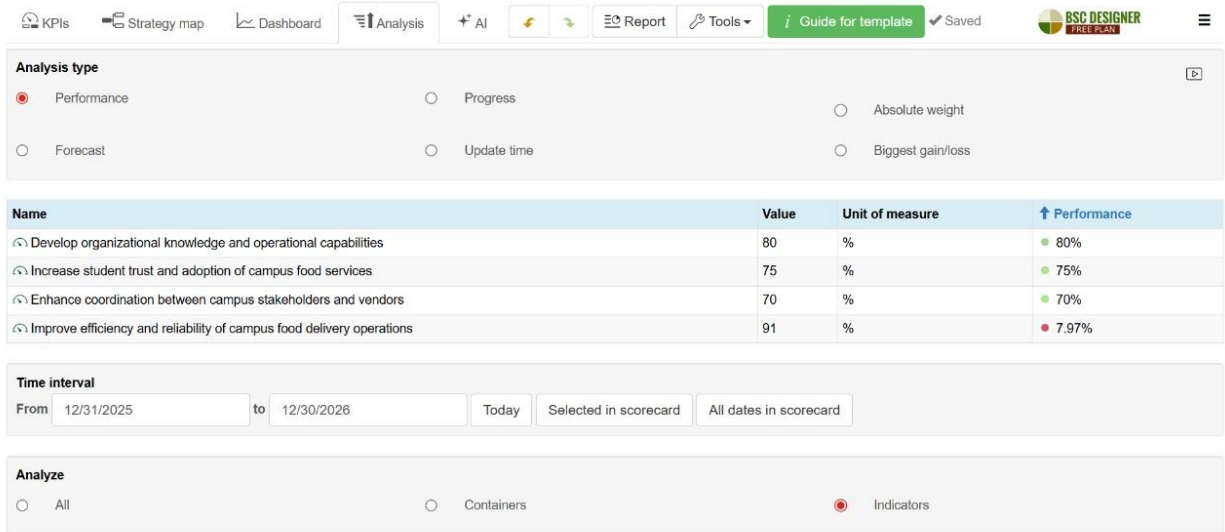
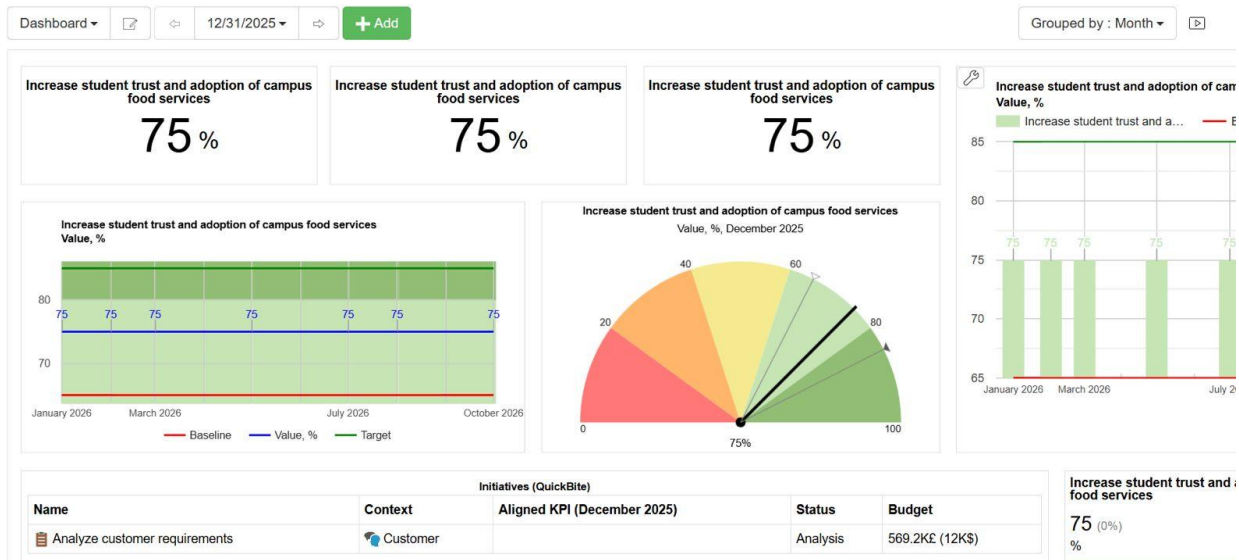




## BSC









## Remodeling-Applied Digital Business Strategy (Supply Chain 4.0)

FlyBite, as an organization, applies **Supply Chain 4.0 principles** to transform traditional campus food operations into a **smart, automated, and data-driven system**. By leveraging digital technologies, connected teams, and automated logistics, FlyBite ensures efficiency, responsiveness, and sustainability in its internal and external processes.

### Organizational Implementation of Supply Chain 4.0

#### 1. Integrated Team Structure

- FlyBite organizes its workforce into specialized teams: software development, UX/UI design, technical support, drone operations, and security.
- Each team is digitally connected via internal dashboards and project management tools to enable **real-time coordination**, faster decision-making, and seamless operational alignment.

#### 2. Automation of Core Processes

- Automated requirement gathering for menus, student preferences, and vendor updates reduces manual labor and ensures **accurate, timely information**.
- Drone delivery is coordinated through a central system, automatically assigning delivery tasks, monitoring drone status, and optimizing routes.

#### 3. IoT and Smart Resource Management

- Drones, servers, and supporting hardware are equipped with sensors to track performance, maintenance needs, and resource usage.
- Operations teams use these insights to manage logistics, preempt failures, and ensure uninterrupted service.

#### 4. Data-Driven Decision-Making

- Analytics systems track order volumes, delivery times, and campus demand patterns.
- This data informs **staff scheduling, inventory forecasting, drone deployment, and operational improvements**, enabling the organization to adapt quickly to changing needs.

#### 5. Operational Efficiency and Coordination

- Centralized dashboards allow managers to oversee all activities, from order processing to drone delivery, vendor coordination, and staff performance.
- Workflow automation reduces delays, prevents bottlenecks, and improves overall resource utilization.

#### 6. Sustainability and Compliance

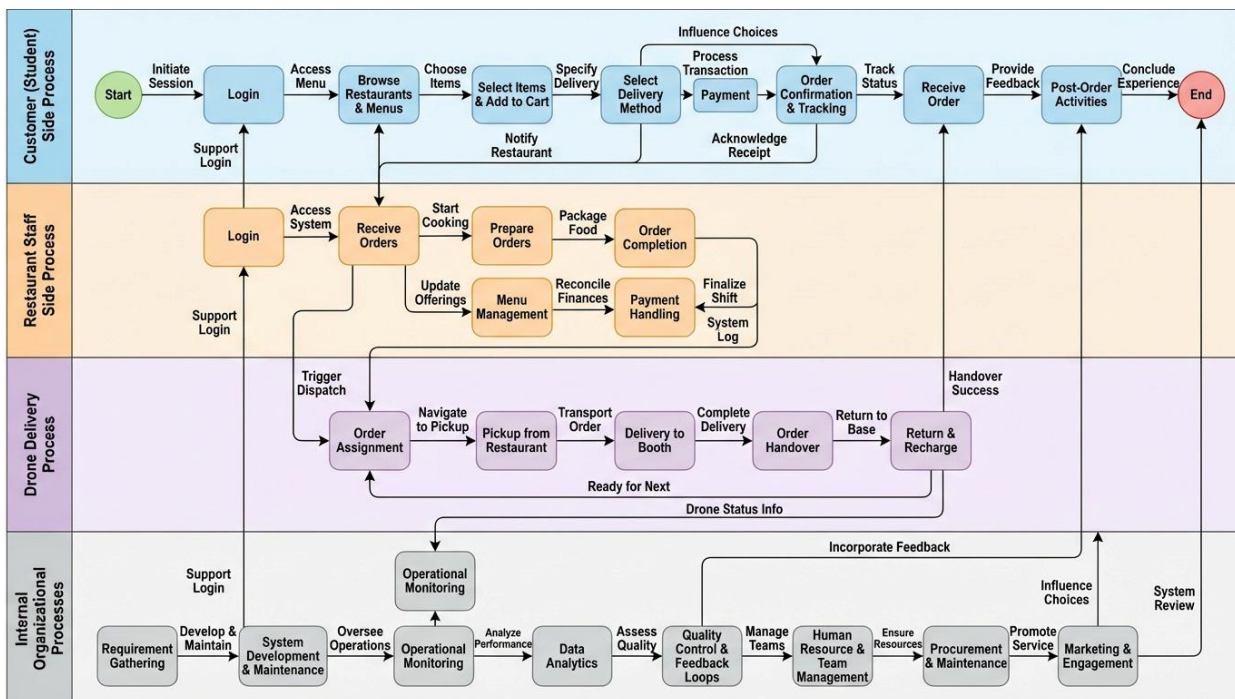


- The organization ensures compliance with campus policies, food safety regulations, and drone laws.
- Electric drones, optimized delivery routes, and digital operations minimize environmental impact, contributing to a greener campus ecosystem.

## 7. Continuous Improvement

- FlyBite applies **feedback loops** from students, staff, and vendors to refine operational processes.
- Cross-team collaboration and digital tools support **innovation in logistics, service quality, and technology upgrades**, maintaining a competitive advantage.

## Business Process Model-Revisited





## Final Analysis Report

This final analysis summarizes how the FlyBite idea was developed, evaluated, and improved through a structured decision-making process. The focus of the analysis is not only on the application itself, but on FlyBite as an organizational solution designed to improve campus food services.

### Problem Identification and Validation

The project started by identifying a common problem faced by students on campus, which is the difficulty of accessing food efficiently during the academic day. Students often experience long waiting lines, slow preparation times, and the inconvenience of walking long distances between buildings, especially during short breaks between lectures.

To ensure that this problem was real and not based on assumptions, a survey was conducted targeting university students from different faculties. The survey results clearly showed that a large percentage of students suffer from these issues and are interested in faster and more convenient alternatives. The strong positive response to online ordering and organized pickup or delivery validated the problem definition and confirmed that there is a real need for improvement.

### Solution Development and Enhancement

Based on the validated problem, FlyBite was developed as an organizational platform that coordinates campus vendors, delivery operations, and university infrastructure. The idea evolved beyond a simple ordering application into a system that focuses on reducing waiting time, improving coordination, and enhancing the overall student experience.

Feedback collected from the survey played an important role in enhancing the idea. Customer preferences helped shape the solution and guided decisions related to service design, automation, and operational flow. By aligning the solution with student needs, FlyBite became more practical and relevant to the campus environment.

### Process Automation and Business Process Revisited

To support the improved solution, a Business Process Model was created to illustrate how FlyBite operates from the moment a student places an order until the order is completed. The model shows the interaction between students, FlyBite operations, food vendors, delivery units, and customer support.

After introducing automation and digital coordination, the business process was revisited to reflect these improvements. Automation helped reduce manual steps, improve response time, and allow better monitoring of orders and operations. Revisiting the process ensured that the workflow remained efficient, realistic, and scalable.

### Decision-Making Approach

Throughout the project, decisions were made using a **semi-structured decision-making approach**. This means that decisions were supported by data, such as survey results and performance indicators, while also relying on managerial judgment to interpret the data and choose the most suitable actions.



This approach was applied when defining the problem, selecting the solution, enhancing the idea based on feedback, introducing automation, and redesigning the business process. By combining analysis with judgment, FlyBite was developed in a flexible yet informed manner.

### **Conclusion**

In conclusion, FlyBite represents a well-thought-out organizational solution that addresses a real campus problem. Through problem validation, customer feedback, process improvement, and data-supported decision-making, the project demonstrates how thoughtful analysis can lead to an effective and sustainable business model. The use of a semi-structured decision-making style ensured that FlyBite remained practical, adaptable, and aligned with both organizational goals and customer needs.

## **Future Decision Making**

Based on survey data collected from 187 university students, FlyBite was selected as the optimum solution to improve campus food access. The results showed that long waiting lines (88.2%), preparation time (51.3%), and walking distance (44.4%) are the most critical challenges faced by students. As well, 87.2% of respondents rated an online ordering and pickup application with the highest score, signifying strong acceptance. FlyBite directly addresses these problems through digital ordering, online payments, and improved pickup, making it a data-driven and effective solution. The decision to implement

FlyBite is considered a semi-structured decision, as it combines quantitative survey data with managerial judgment.



## Project Milestones

Activity	Start Date	End Date	Time Spent (Optional)



## MVP

i need you to build a mobile app for ordering food on a university campus (MIU).

It has two sides:

Student (Customer) Side

Restaurant Staff Side

Restaurants included:

R To Go, Farghali, My Corner, Croissant, Conitta, Gyro, Batates & Zalabya, Cinnabon

Each restaurant has a menu.

Student (Customer) Side Features

must login with university account like (salma2300364@miuegypt.edu.eg)

Browse restaurants and view menus.

Add items to a cart.

Place an order.

Choose how to receive the order:

Drone Delivery

Student selects one of these buildings:

Main, Pharmacy, S, N, R, K

Then selects a booth.

Each booth name same as the building name

(Example: Main → Main Booth, S → S Booth, ....)

Pickup from the restaurant

Pay directly inside the app

See preparation and delivery/pickup time.

Track order status.

View order history.

Manage account/profile.

Drone Delivery System

How It Works



Each restaurant is connected to the drone system.

When the restaurant finishes preparing an order:

A drone automatically picks it up.

The drone delivers the order to the selected building's booth.

Students collect their order from the booth.

#### Restaurant Staff Side Features

Staff login using:

username: restaurant

password: restaurant

View all incoming orders.

See order status (Pending / Finished).

Mark orders as Finished when ready.

Add new meals to the menu.

Remove or edit existing meals.

See delivery method for each order (Drone or Pickup).

#### Payment Page

Takes username and phone number.

Has two delivery methods:

Drone delivery or pickup

And then input their payment details.

Here is a short scenario to make everything clear:

Student selects restaurant and menu items.

Student chooses Drone Delivery (building + booth) or Pickup.

Student pays inside the app.

Restaurant prepares the order.

Drone delivers to booth or student picks up from restaurant.

Student tracks order status.

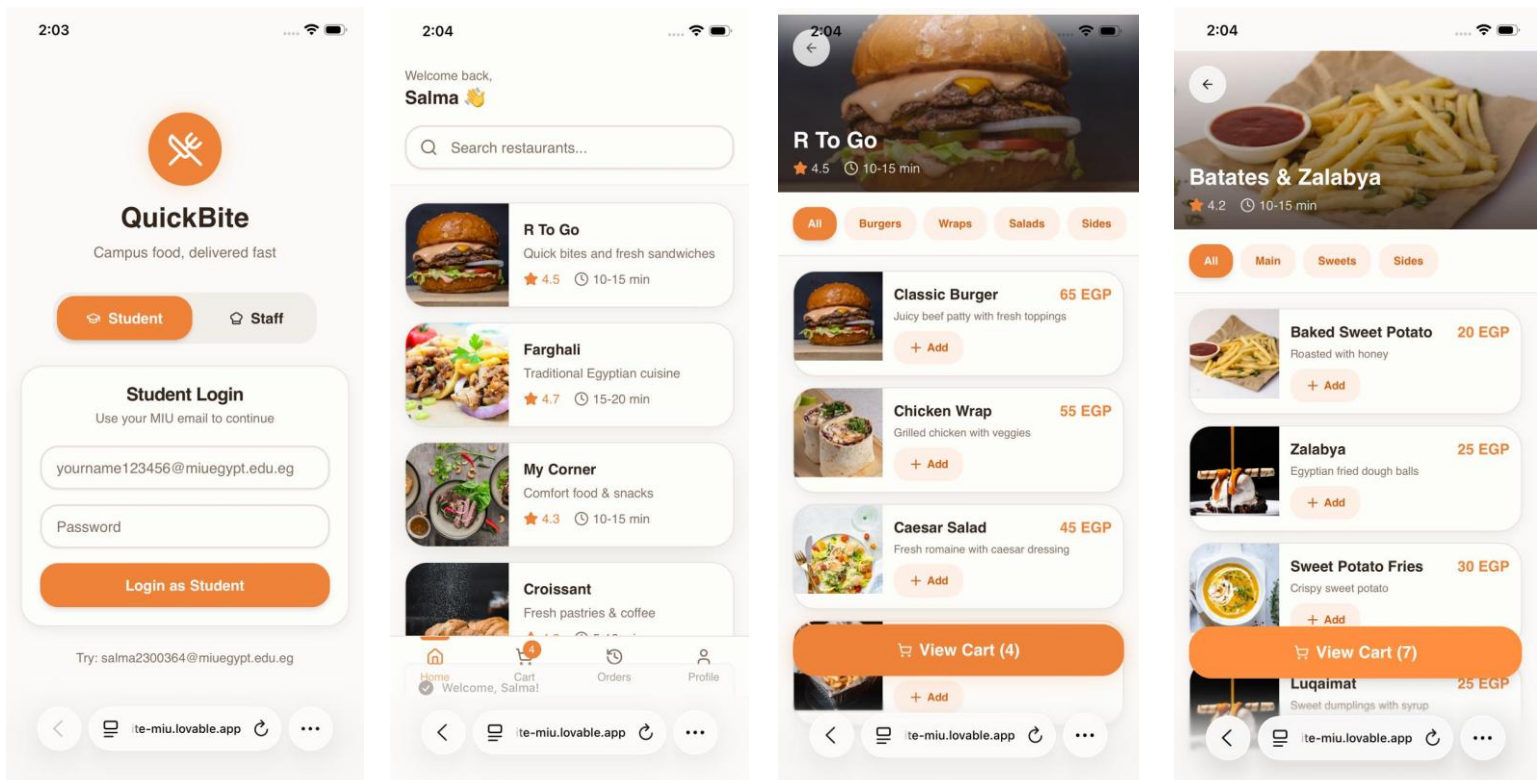
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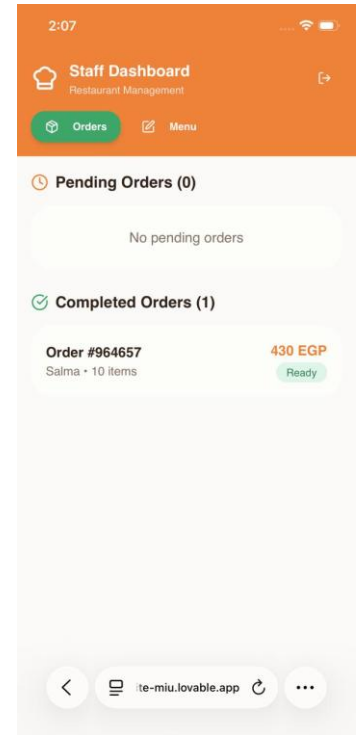
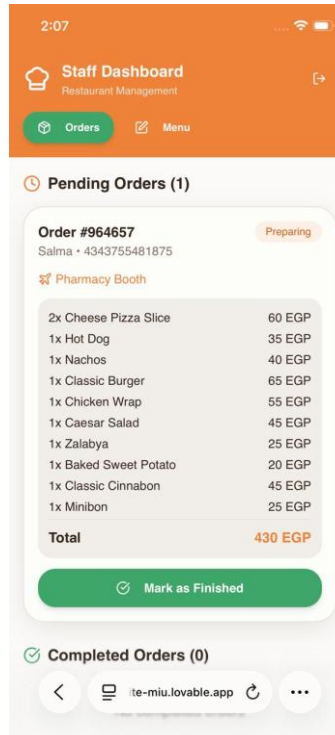
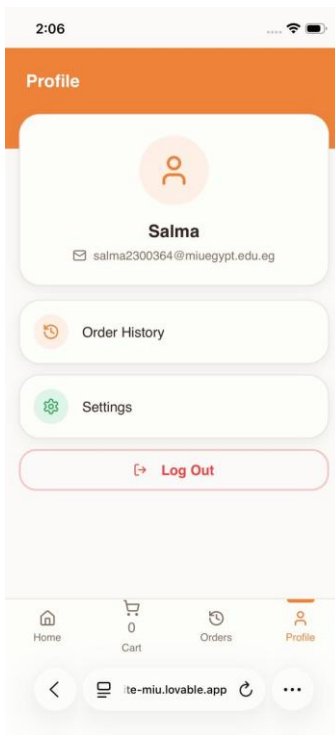
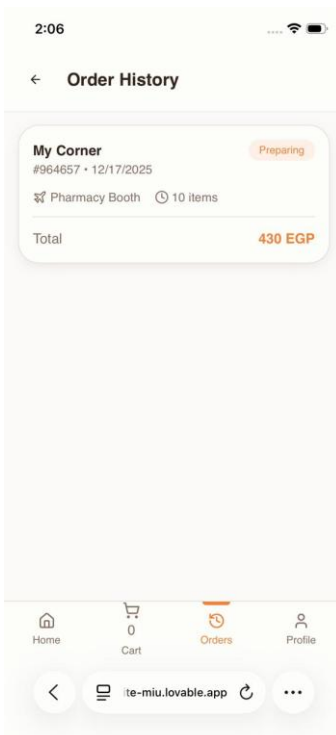
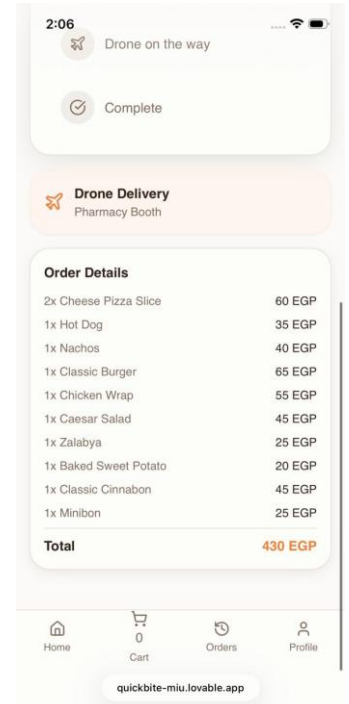
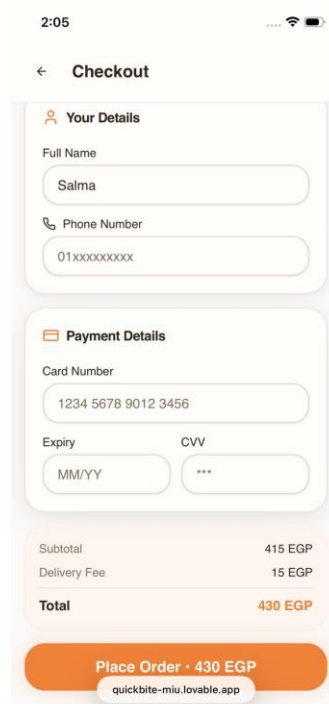
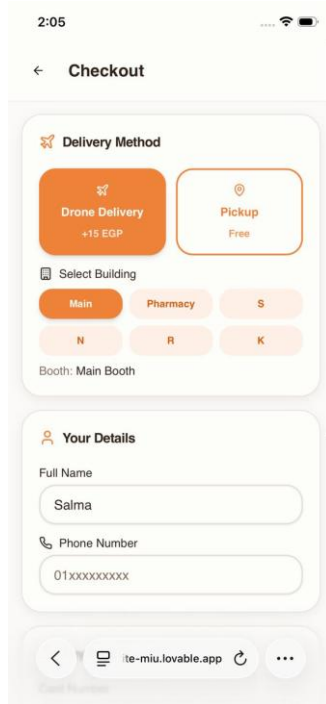
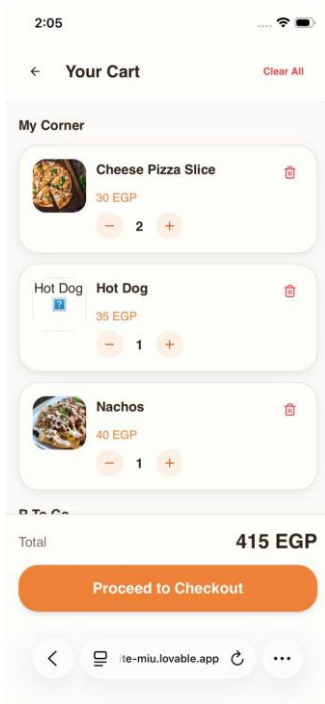




make it foodish and minimal using light colours

The mobile application will be built using **React Native** so it can work on both Android and iOS. The database will be **MySQL using XAMPP** to store user and order data. To keep the system secure, the code will be written in a way that prevents **SQL injection attacks** by using prepared statements. Also, all user data will be **validated and verified** to make sure the information entered is correct and to protect the system from invalid or harmful inputs.







2:07

**Staff Dashboard**  
Restaurant Management

Orders Menu

**Select Restaurant**

R To Go Farghalli My Corner  
Croissant Conitta Gyro  
Batates & Zalabya Cinnabon

**+ Add New Menu Item**

Item name  
Description  
Price (EGP) Category

**+ Add Item**

ite-miu.lovable.app

2:07

**Staff Dashboard**  
Restaurant Management

Orders Menu

Price (EGP) Category

**+ Add Item**

**Current Menu**

Classic Burger  
Burgers • 65 EGP

Chicken Wrap  
Wraps • 55 EGP

Caesar Salad  
Salads • 45 EGP

French Fries  
Sides • 25 EGP

ite-miu.lovable.app

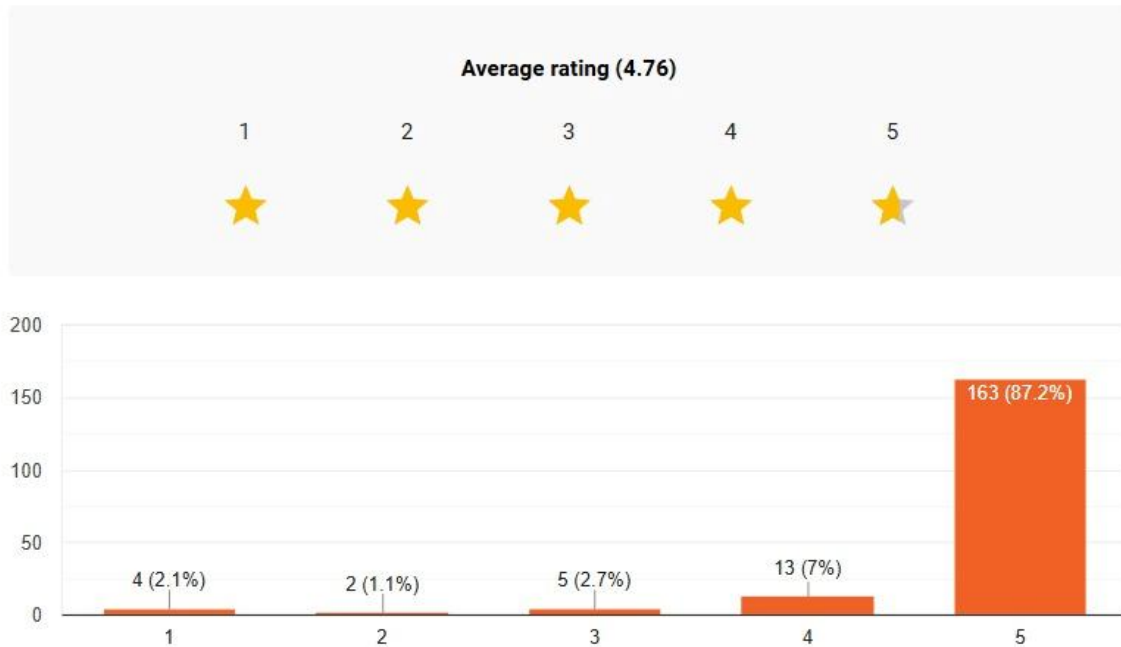


## Reference

Would you benefit from an online ordering/pickup app for all restaurants in our university

 Copy chart

187 responses

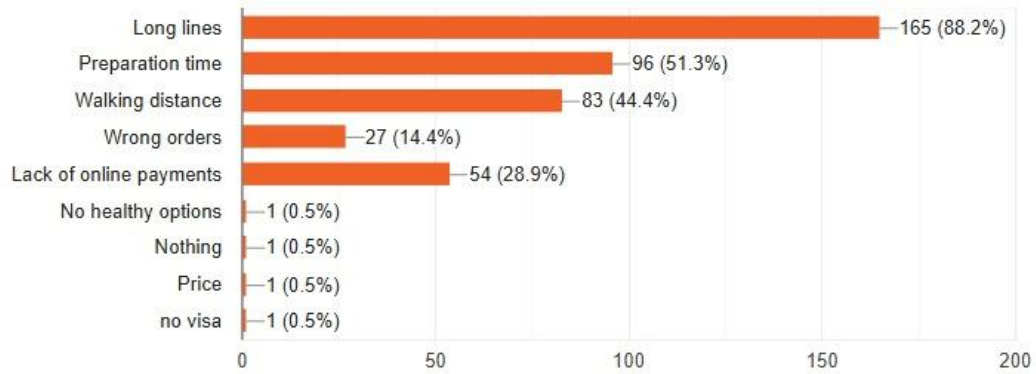




### What's the biggest challenge you face when getting food from uni

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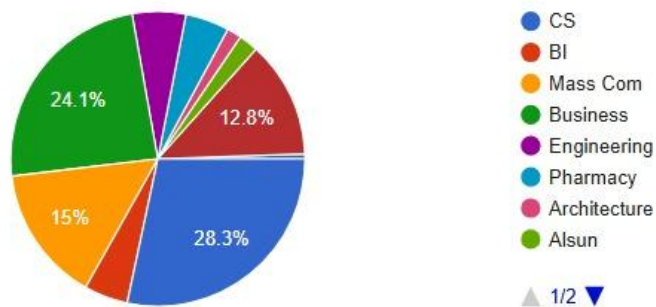
187 responses



### Faculty?

Copy chart

187 responses





## Age?

187 responses

 Copy chart

