



Ministry of Communications
and Information Technology



MarketMate Egypt

Frontend Development

(YAT_ALX1_SWD3_M2d)

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Introduction

The Egyptian market has experienced substantial growth in recent years, with many local brands emerging in various sectors. However, many of these brands face challenges in reaching distributors and expanding their customer base. MarketMate is designed to bridge this gap by creating a platform that facilitates easy connections between local brands and distributors, helping both parties expand their market reach and streamline the process of product distribution.

Motivation

The motivation behind MarketMate stems from the need to support local brands in Egypt by offering them an online platform to showcase their products and connect with distributors. Distributors benefit from gaining access to a wide range of high-quality products, while brands can efficiently manage their inventory and orders through the platform. MarketMate is poised to enhance business opportunities for local brands by connecting them to a network of distributors looking for new, innovative products.

Problem Statement

Local brands in Egypt often face difficulties in scaling their businesses due to limited access to distribution networks and a lack of streamlined product management tools. Similarly, distributors struggle to find a diverse selection of products from local businesses. The existing methods of product discovery, communication, and order management are fragmented and inefficient.

MarketMate aims to solve these problems by offering an intuitive platform where brands can list their products, and distributors can easily browse, select, and order from them. The platform also provides features for managing inventory, tracking orders, and improving communication between brands and distributors.

Goals of the Project

The primary goal of MarketMate is to facilitate and enhance the relationship between local brands and distributors. Specific objectives include:

- **Connecting Local Brands with Distributors:** Create a digital marketplace where distributors can discover products from various local brands.
- **Streamlining Order Management:** Allow distributors to easily place orders and manage them through an integrated system.
- **Enhancing Product Visibility:** Provide local brands with a platform to showcase their products, complete with descriptions, pricing, and images.
- **Inventory Management for Brands:** Equip brands with tools to manage their product listings and inventory efficiently.
- **User-Friendly Interface:** Ensure both distributors and brands find the platform intuitive and easy to use.

Currently Available Solutions (Applications)

- 1- Cartoona
- 2- Fatoura

Features Matrix

p.o.c.	MarketMate	Cartoona	Fatoura
System type	Web app	Android app	Android app
Customer 1	Retailers, suppliers, wholesalers	Retailers	Retailers
Customer 2	MUST be local company or brand (micro, small,	Only suppliers, wholesalers	Only suppliers, wholesalers

	medium or large)		
Orders Management	✓	✓	✓
Online Payment	✓		
Returns management	✓		
Coupons	✓	✓	✓
Reliability and quality of products	✓		
User reviews for companies	✓		
Online wallets		✓	
Notification			✓
Domains served by the App	4+	3	4
After sales service			
App Rating	-	2.8 ★	2.5 ★

Software Methodology

For the MarketMate project, we will adopt the **Agile methodology**. Agile is a flexible and iterative approach to software development, allowing for continuous improvements and adjustments based on feedback and evolving requirements.

Why Agile?

- **Customer Feedback:** MarketMate requires constant engagement with both brands and distributors to refine its features based on real-time feedback.
- **Iterative Development:** Features such as the brand dashboard, distributor ordering process, and notification system can be developed and tested in increments.
- **Rapid Deployment:** Agile allows us to release functional portions of the software in sprints, meaning that we can have a Minimum Viable Product (MVP) ready quickly and then enhance it over time.
- **Adaptability:** MarketMate operates in a dynamic market, and Agile allows us to adapt quickly to changes in the needs of users (both brands and distributors).

Phases of Agile for MarketMate:

1. **Sprint Planning:** At the start of each sprint, the team will plan the features and functionalities that will be developed, such as product management for brands or the checkout process for distributors.
2. **Daily Stand-ups:** Daily short meetings to check progress, address challenges, and adjust priorities.
3. **Sprint Development:** Developers will work on the sprint backlog items, focusing on delivering functional and testable code.
4. **Testing:** Each feature will undergo unit testing, integration testing, and user acceptance testing to ensure quality.
5. **Sprint Review:** After each sprint, the team will review the work and receive feedback from stakeholders to refine future development.
6. **Retrospective:** At the end of each sprint, the team reflects on what went well and what could be improved for the next sprint.

Surveys (operational Feasibility)

In order to get more information that can help us understand more about the system and the business, we had to conduct interviews with the retailers, wholesalers & suppliers, we've conducted these interviews as a face-to-face (F2F survey) also we needed to get the opinion of them as they are the main client in the app, and to measure the need of such software (our project).

Survey for retailers, wholesalers and suppliers

- 1- ازای شرکت محلیه "مش کبیره" بتوصلکم منتج جدید او مش مشهور وایه الی ممکن یجذبک فی شرکت مش مشهوره او کبیره ؟
- 2- قناة التوزیع ماشیه ازای ؟
- 3- بالنسبة للمنتج المحلي هل تفضل السعر على الجودة ام العكس ؟
- 4- لو بدعم واساعد شرکت مش مشهوره فی انها تظهر بشكل افضل لیکم وللناس هل تتوقع هیکون فی دعم واقبال علیها منك ؟
- 5- وهل ده هيساعد فی حل ای مشاكل بخصوص المنتج المحلي فی السوق ؟
- 6- ابرز المشاكل الی بتقابلک وانت بتتعامل مع شرکت محلیه ؟
- 7- هل بتتعامل مع شرکت بشكل مباشر ولا بتفضل تتعامل مع موزع او مورد , وهل الوسيط بيقدم ميزة مش بتقدمها شرکت ؟
- 8- هل ممکن یكون فی شرکتات صغیره او متوسطه بتواجه مشاكل فی شحن ونقل البضایع ؟ مثل قلة سيارات النقل والعمالة
- 9- بالنسبة للمرتجعات ممکن نعرف ازای بترجع للشرکت ؟
- 10- عندک استعداد تستخدم التطبيق الخاص بینا (بعد ذکر ابرز الخدمات الی بيقدمها)

General Information about our sample

Scope of our research:

الإسكندرية (حی وسط و شرق بشكل أساسي)

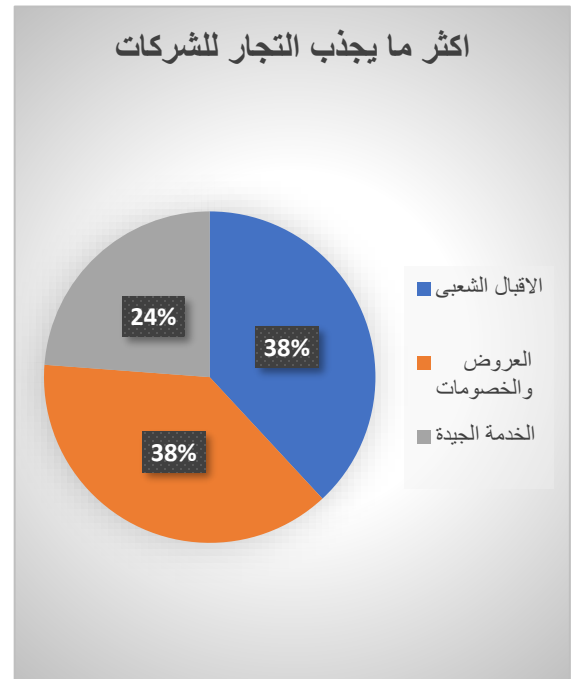
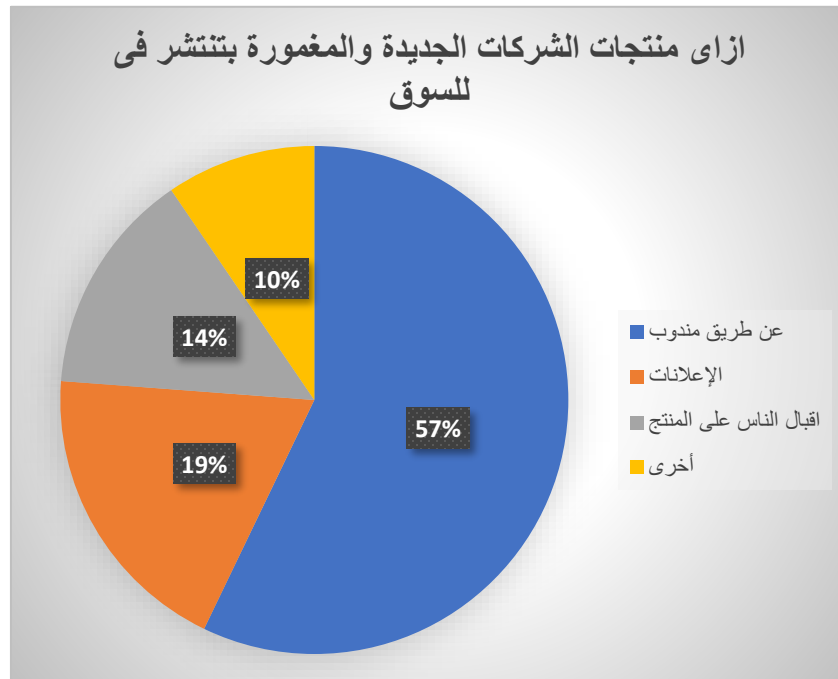
الأقصر (مركز إسنا)

Number of our sample

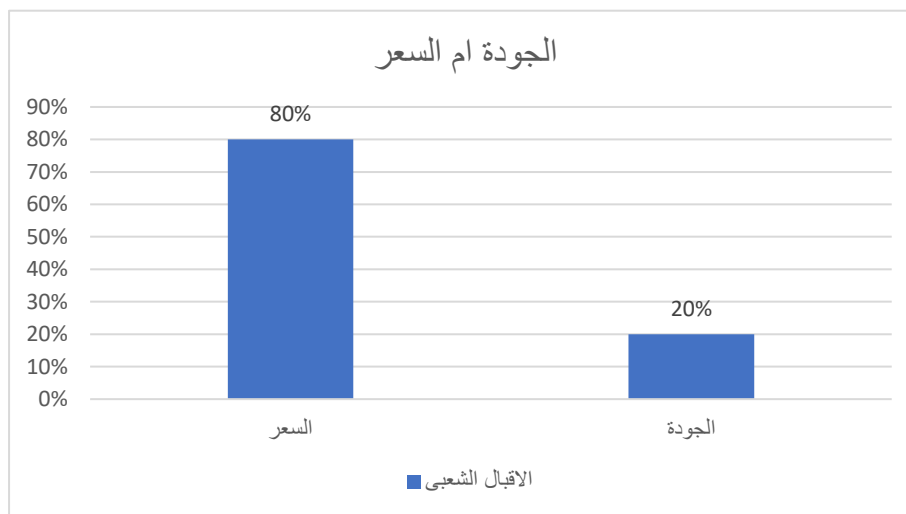
35 interviewee

Results of the survey

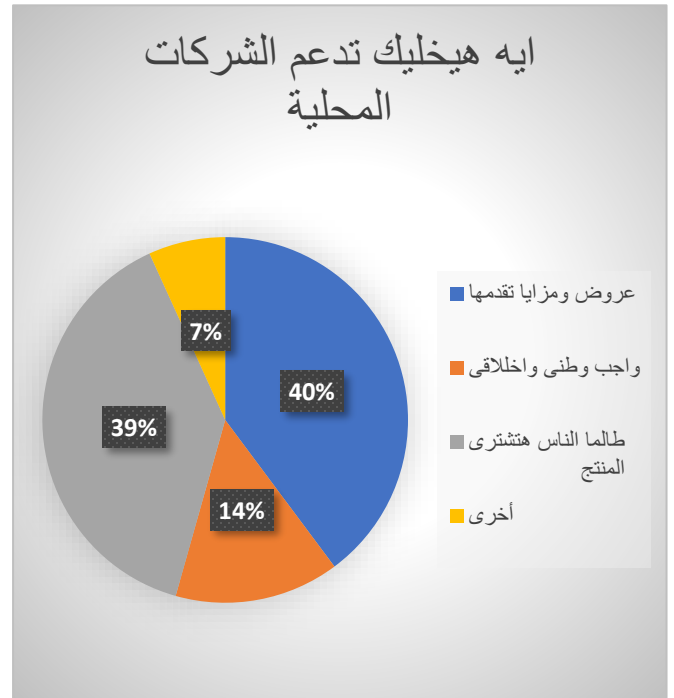
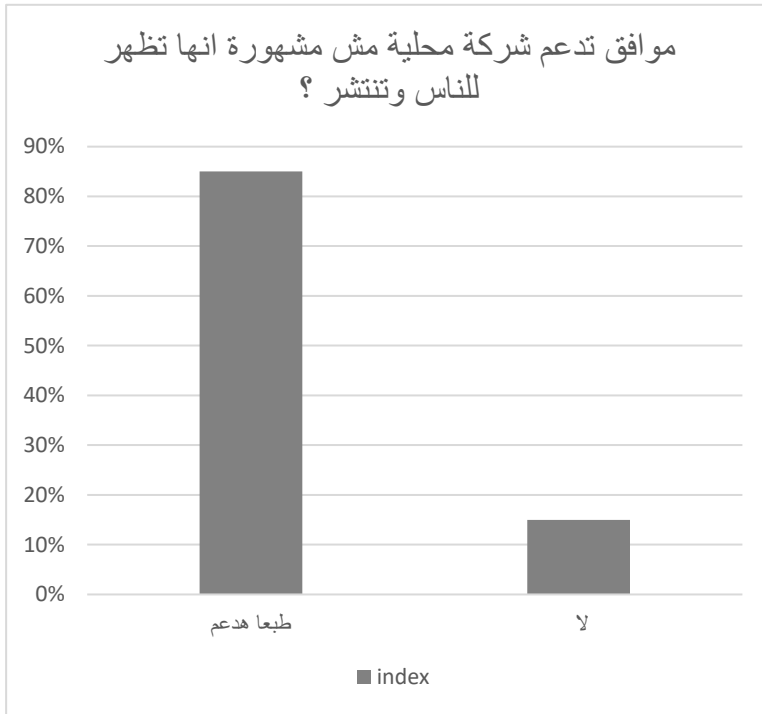
Q1



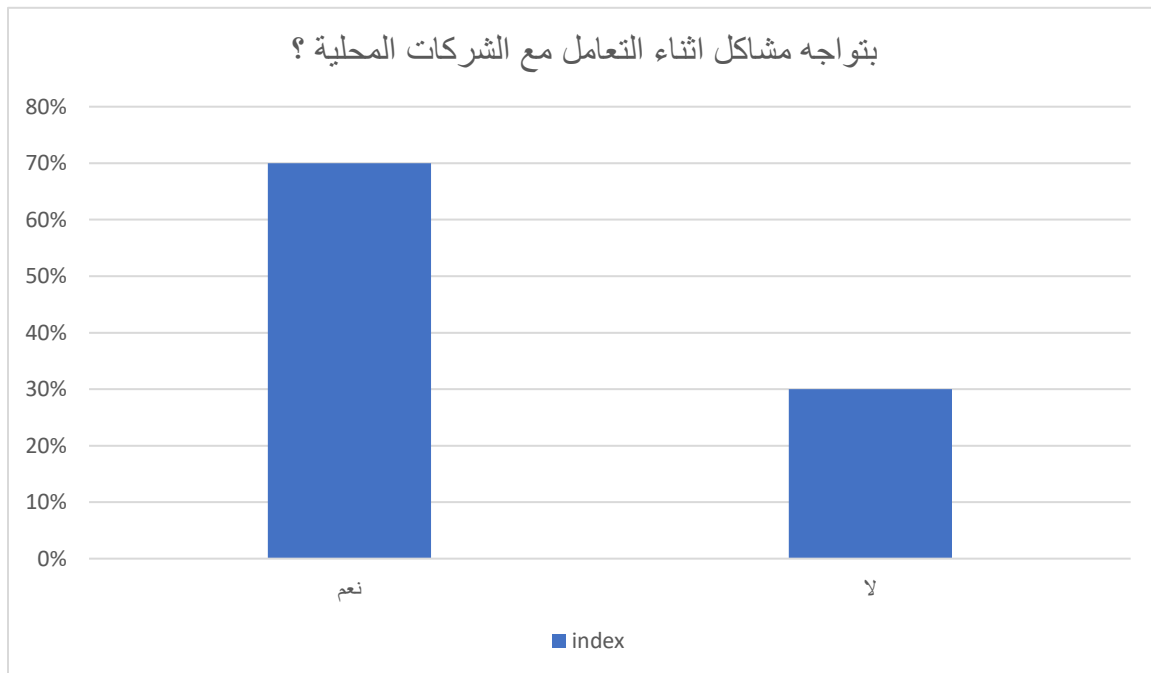
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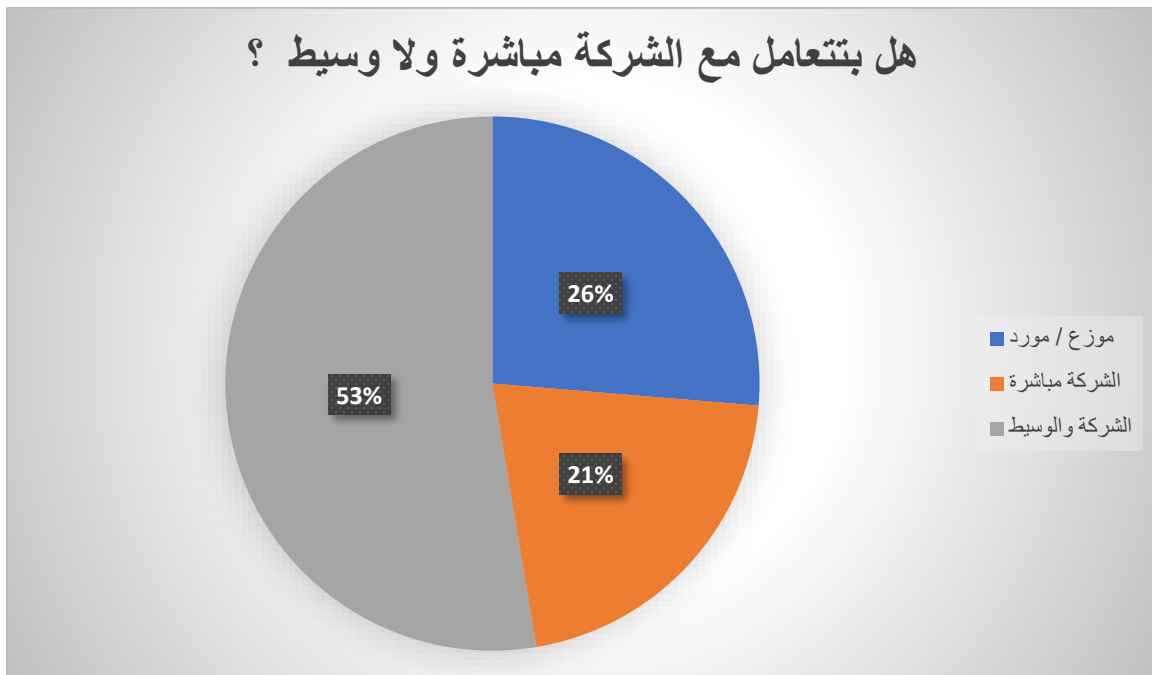
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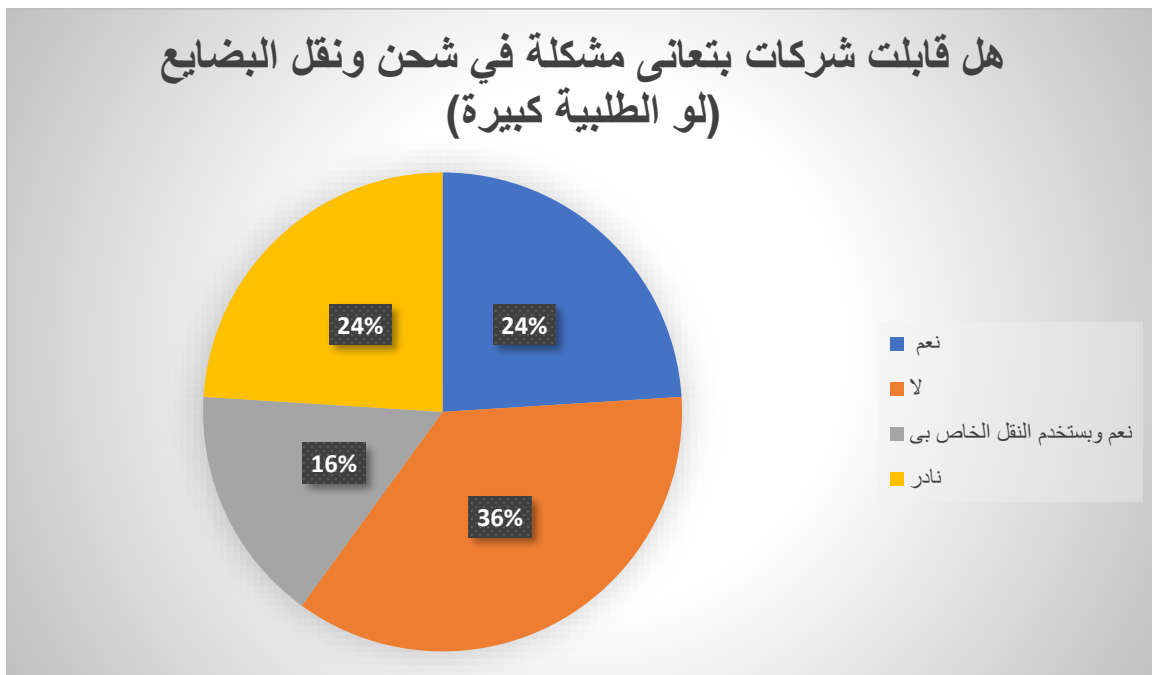
Q6



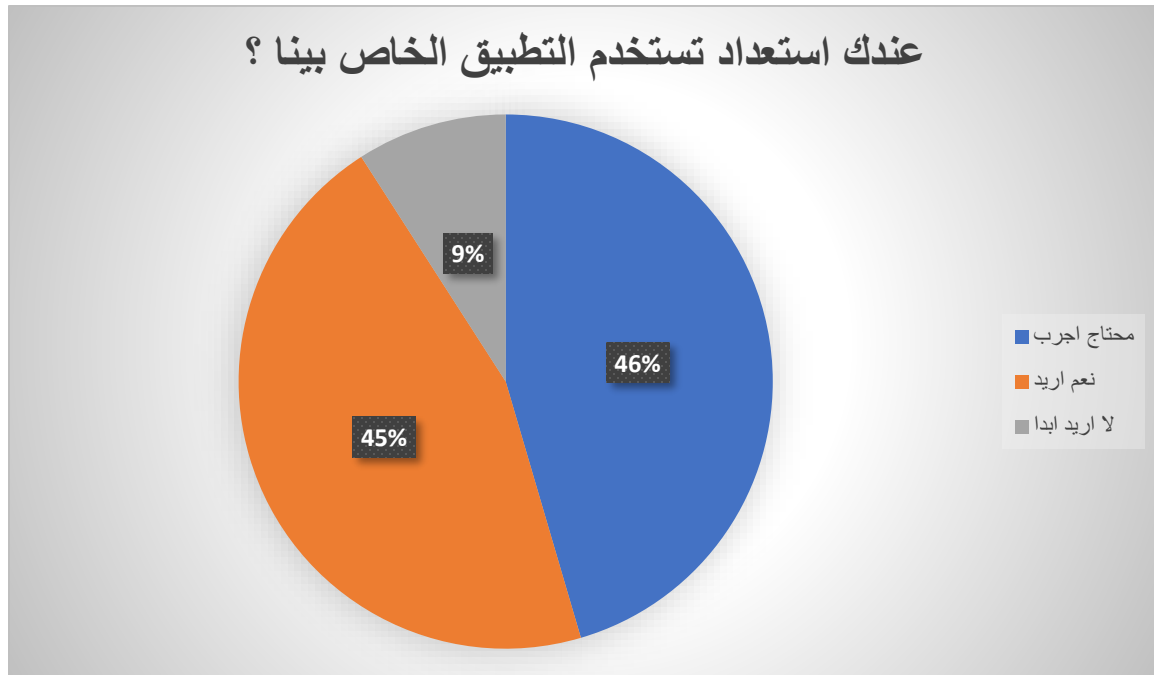
Q7



Q8



Q10



Q2

قناة التوزيع ماثية ازاي ؟

الشركة بتنزل مندوب عنها لكل منطقة تقريبا بيعرف التجار والموزعين بالمنتجات الجديدة او لو الشركة جديدة كليا بيعرفهم عنها ويبقى معاه عينة من المنتج ولو التاجر اقتنع او كان في اقبال على المنتج ده فيبشتره ترتيب التوزيع : الشركة – {المورد/الموزع/تاجر الجملة} – تاجر التجزئة

Q5

وهل ده هيساعد في حل اي مشاكل بخصوص المنتج المحلي في السوق ؟

ابرز المشاكل اللي بتواجه المنتج المحلي هي انخفاض جودته لان الشركات بتبقى مضطرة تخفض الجودة وفي المقابل سعر مناسب للجمهور او ترفع جودة منتجها ولكن بتواجه عدم اقبال من عامة الشعب نظرا للسعر العالي .

Q9

بالنسبة للمرتجعات ممكن نعرف ازاي بترجع للشركة ؟

النموذج العام هو ان التاجر بيتفق مع المندوب اللي اتعامل معاه في الطلبية اللي فيها المرتجع ويحدد ميعاد يستلم منه المرتجع ده او مثلا في حالة تسليمه طلبية جديدة وده ليه عدة سليات ابرزها إمكانية تلف المنتج و كثرة المعاملات الروتينية ويمكن ان يسبب أخطاء في الحسابات من طرف التاجر او المندوب.

Functional and Non-Functional Requirements

Functional and nonfunctional requirements are two fundamental categories of requirements in software development. Each type plays a vital role in defining the characteristics and operation of the solution.

1- Functional Requirements

- Registration and Login: Both distributors and brands need to register and log in to access the platform. The login system includes different user roles, ensuring a tailored experience based on whether the user is a distributor or a brand.
- Brand Dashboard: A page where brands can:
 - Upload and manage their product listings (name, description, price, and images).
 - View and manage incoming orders.
 - Track product inventory levels.
- Distributor Dashboard: A page where distributors can:
 - Browse available products from different brands.
 - Place orders for products.
 - Track the status of placed orders.
- Search and Filter Products: Distributors should be able to search for products based on keywords and filter them by category, price, and brand.
- Order Management: Distributors can add products to their cart, view their cart, and proceed to checkout. Orders are tracked within the platform, and both parties can view the status of each order.
- Notifications: Notify brands when they receive a new order and notify distributors when their order status is updated.

2- Non-Functional Requirements

- Scalability: The platform should be able to handle an increasing number of users and products as the user base grows.
- Performance: The system must be fast and responsive, ensuring quick page loads and seamless interactions.
- Security: All transactions and data should be protected through encryption and secure authentication methods.
- Usability: The interface must be easy to navigate for both tech-savvy and non-tech-savvy users.

- Availability: The platform should have minimal downtime and be accessible 24/7.

7. Use Case Diagrams

Nonfunctional requirements “NFRs”, are a set of specifications that describe the system’s operation capabilities and constraints. These are basically the requirements that outline how well it operates, including things like speed, security, reliability, data integrity, etc. Sometimes NFRs are referred to as quality attributes or software quality requirements as they describe different aspects of how the product works.

- **Importance of Non-Functional Requirements:**
 - **System Reliability:** Specifies the system's stability and availability, crucial for user trust.
 - **Performance Metrics:** Defines response times, throughput, and scalability, ensuring the system can handle varying loads.
 - **User Experience:** Addresses aspects like usability, accessibility.

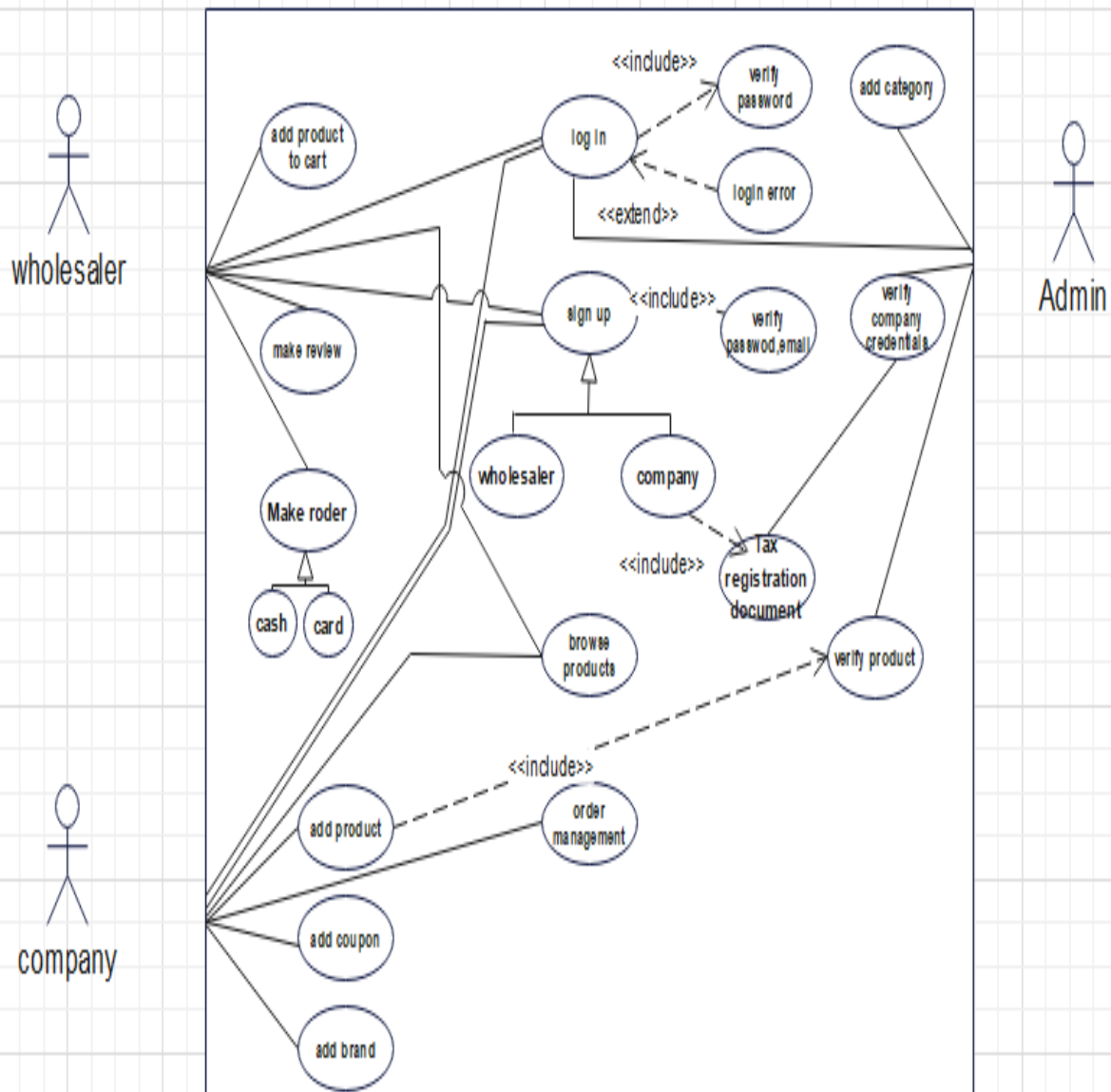
Non-Functional Requirements

Req. ID	Req. Name	Req. Description
1	Performance	<ul style="list-style-type: none"> - The landing page supporting 5,000 users per hour must provide a 4-second or less response time in a Chrome browser, including the rendering of text and images. - Product search results should be displayed within 3 seconds for 90% of the searches under normal conditions. So in case of executing queries, this operation should be performed in less than 2 seconds. - Real-time dashboard updates, the system should refresh and display updated analytics within 10 seconds of receiving new data. - Overall, The website performance should be optimized,

		and response time should be minimize
2	Reliability	<ul style="list-style-type: none"> - The system must perform without failure in 95 percent of use cases during a month. - Data Integrity: Retailers & Companies should have confidence that their data, such as order information, transaction history, ...etc. is accurate and reliable. - The system should be able to handle and recover from errors without data loss or incorrect data processing.
3	Usability	<ul style="list-style-type: none"> - Satisfaction: the Design should be pleasant for each user and responsive to fit different types of devices, also expresses the identity of the idea. - Learnability: the app should be easy to use considering the category of people who will use it. - Efficiency: possibility to reach any given goal from the main window in less than 4 clicks. - Memorability: users can return to the interface after some time and start efficiently working with it right away.
4	Availability	<ul style="list-style-type: none"> - The app must be available to EG users 99.98% of the time every month during business hours EST. and 99% Outside working hours. - The app must perform consistently across different devices and operating systems with a reliability rate of 99%. - Less than 30 seconds shall be needed to restart the system after a failure 95% of the time.
5	privacy policy	<ul style="list-style-type: none"> - A comprehensive privacy policy must be provided within the application containing: - Clearly outline how user data is collected, used, stored, and protected. - Detail the purposes for which the data is processed.
6	terms and conditions	<ul style="list-style-type: none"> - Clearly defined terms and conditions must be accessible within the application containing: - Specify user responsibilities and obligations while using the application. - Define the rights and responsibilities of both users and the application provider. - Address legal aspects such as intellectual property rights and dispute resolution.
7	Scalability	The system can handle increased Actors like company and trailers while maintaining acceptable performance levels.

		<ul style="list-style-type: none"> • website can hold many users without delaying or slowing down response times, so it meets performance very well.
8	Portability	<p>. The software should be capable of running on multiple operating systems, including Windows, macOS, and Linux, Android, and iOS without any modifications.</p> <p>. The software should be fully functional on all browsers, including Chrome, Firefox, Safari, and Edge, with consistent performance and layout.</p>
9	Maintainability	<ul style="list-style-type: none"> • Website maintenance every period of time to increase security and keep up with events. • Installation of a new version shall leave all database content and all personal settings unchanged. • If the system failed at any time it can be restored very ease and rapidly.
10	Security	<ul style="list-style-type: none"> • Verify identity of company and trailer by national ID • System applies concepts of authorization by Suggest a strong password to the user to increase the security of the account. and authentication such as head of the company can manage which can use or view some features. • The system makes sure that the purchase method is safe and all information about the card or the price will be secure. • The system uses a security method called two factor authentication to prove that the person who wants to access the website is who he really is whether it is the company or trailer.

Use Case Diagram



Tools and Technology stack

MarketMate requires a robust set of tools and technologies to handle both the back-end and front-end operations, as well as the business logic that will power the platform.

Front-end Technologies

- **Angular:** Angular is chosen for its ability to create dynamic, responsive, and scalable user interfaces. It allows MarketMate to handle real-time updates and provide a smooth user experience for both brands and distributors.
- **Bootstrap:** For styling and ensuring that the platform is responsive across all devices (desktops, tablets, smartphones), Bootstrap will be used. It enables us to quickly prototype UI components such as forms, buttons, and navigation.
- **HTML5/CSS3:** For the basic structure and styling of the platform.
- **TypeScript:** Angular's default language, which provides static typing, ensuring a more maintainable codebase and reducing bugs.

Version Control

- **Git:** Git will be used to track changes in the source code, allowing for collaboration and version control. The project will be hosted on **GitHub**, enabling multiple developers to work on the platform simultaneously.
- **GitHub:** It will also serve as the repository where all the versions and branches of the project are stored. GitHub's issue tracking and project management features will be used for managing Agile sprints.

Development Tools

- **Visual Studio Code (VSCode):** The primary Integrated Development Environment (IDE) for developers, providing extensive support for TypeScript, JavaScript, Node.js, and Angular.