

1. System Vision Document

System Name: **GrowLink B2B Agri-Input Marketplace Platform**

Vision Statement:

In Egypt's agricultural market, transactions between suppliers and agro-retailers are still largely offline, relying on phone calls, middlemen, and cash payments. This results in high operational inefficiency, price inconsistency, and limited access to financial services for small retailers.

GrowLink envisions a fully digital B2B platform that connects **suppliers, agro-retailers, logistics providers, and financial institutions** through a single integrated system. The purpose of the system is to simplify agri-input procurement, increase price transparency, and enable financial inclusion through digital payments and credit solutions such as BNPL (Buy Now Pay Later).

The system's **scope** includes development of a responsive **web application** and a **mobile app** for retailers and suppliers, integration of secure APIs for payments, logistics, and credit services, creation of a centralized database for users, products, and transaction data, implementation of analytics and reporting dashboards for internal use. GrowLink will serve as a trusted intermediary that automates transactions, provides data-driven insights, and strengthens supply chain efficiency in Egypt's agricultural sector.

Main Goals:

- Digitalize and centralize supplier–retailer transactions.
- Reduce dependency on middlemen and ensure price transparency.
- Facilitate digital and credit-based payments for agro-retailers.
- Integrate logistics and delivery tracking for reliable order fulfillment.
- Provide data analytics to support supplier decision-making and market forecasting.

2. Stakeholders Identification

| Stakeholder Category | Stakeholder | Interest in the System |
|--------------------------|---|---|
| External Stakeholders | Financial Institutions (e.g., Paymob, Fawry Microfinance) | Integrate APIs for payments, credit scoring, and BNPL services. |
| | Ministry of Agriculture / Trade Authorities | Ensure compliance with trade, digital payment, and data protection regulations. |
| | Logistics Partners | Receive and track delivery requests, optimize routes, and manage shipments digitally. |
| Internal Stakeholders | Software Developers & Designers | Implement and maintain the web and mobile applications, ensuring usability and scalability. |
| | Data Analysts | Use transaction data to generate insights for suppliers and platform optimization. |
| Operational Stakeholders | Suppliers / Manufacturers | Manage product listings, process bulk orders, analyze demand patterns, and reduce distribution costs. |

| | | |
|-------------------------------|----------------------------|--|
| | Third-Party Logistics APIs | Provide delivery tracking, status updates, and partner verification. |
| Executive Stakeholders | Project Owner / CEO | Overview the system's vision, strategy, and alignment with business goals. Interested in market impact, revenue growth, and scalability |
| | Investors | Monitor project progress, business feasibility, and system impact. |

3. Functional Requirements

Core Functionalities

1. User Authentication and Management

- Allow suppliers, retailers to register, log in, and manage their profiles.
- Support role-based access (e.g., admin, supplier, retailer).

2. Product Management

- Suppliers can add, edit, or remove products, including descriptions, prices, and stock quantities.
- Retailers can browse and search for products using filters (e.g., category, brand, location).

3. Order Management

- Retailers can place, modify, and track orders in real time.
- Suppliers can view incoming orders, confirm availability, and schedule dispatch.
- Automated order status updates (pending, confirmed, shipped, delivered).

4. Payment and Credit Integration

- Enable secure digital payments via integrated payment gateways (Paymob, Fawry, etc.).
- Provide BNPL (Buy Now Pay Later) functionality through partner APIs.
- Generate transaction records for both suppliers and retailers.

5. Logistics Coordination

- Connect to third-party logistics APIs for delivery management.
- Display order tracking information and estimated delivery times.

6. Analytics and Reporting

- Provide dashboards showing sales trends, demand analytics, and supplier performance.
- Generate reports for internal monitoring and external stakeholders.

7. Notifications and Communication

- Send notifications for order status updates, payment confirmations, and delivery alerts.
- Enable in-platform messaging between suppliers and retailers.

4. Requirements Elicitation Techniques

To ensure that GrowLink's system requirements accurately reflect user needs and operational realities, multiple **requirements elicitation techniques** will be used. These techniques will help gather diverse insights from stakeholders such as agro-retailers, suppliers, financial partners, and logistics providers.

Selected Techniques and Justifications

1. Interviews (Structured and Semi-Structured)

- **Purpose:** To gain direct, detailed insights from different user groups — especially suppliers and agro-retailers — about their daily workflows, challenges, and expectations.
- **Justification:** Interviews allow open communication and follow-up questions, ensuring a deep understanding of real pain points and user requirements.

2. Observation

- **Purpose:** To observe how transactions currently occur between suppliers and retailers (e.g., manual ordering, payment handling, delivery coordination).
- **Justification:** Observation helps identify inefficiencies and unspoken issues users may not mention in interviews, such as delays, communication gaps, or repetitive manual tasks.

3. Questionnaires and Surveys

- **Purpose:** To collect quantitative data from a larger group of agro-retailers and suppliers about product ordering frequency, price sensitivity, and preferred payment methods.
- **Justification:** Efficient for collecting standardized feedback from many participants, especially when time or geographic distance makes interviews impractical.

4. Document and Workflow Analysis

- **Purpose:** To review existing records such as invoices, supplier catalogs, and delivery logs.
- **Justification:** Analyzing current documentation clarifies how data flows in the existing manual system and what can be automated in the digital version.

5. Prototyping

- **Purpose:** To develop a simple mock-up of the GrowLink interface for early feedback.
- **Justification:** Visualizing the system helps stakeholders better articulate their needs and identify usability or feature gaps early in development.

5.1 Interview Agenda — Internal Operational Stakeholder (Supplier Operations Manager)

Objective:

To understand how suppliers currently manage product listings, orders, and communication with agro-retailers, and to identify how GrowLink can improve these processes.

Stakeholder Role:

Supplier Operations Manager – responsible for handling incoming orders, stock management, and coordination with logistics.

Discussion Questions:

1. Can you describe your current process for receiving and fulfilling retailer orders?
2. What are the most common challenges you face in managing stock and deliveries?
3. How do you currently communicate with retailers (phone, email, agent visits, etc.)?
4. How do you handle payments — are they mostly cash or digital?
5. What type of information would be most useful to have in a digital dashboard?
6. How often do you experience order delays or miscommunication?
7. Which features would make your workflow easier (e.g., automated order confirmation, notifications)?
8. How would you prioritize the importance of speed, cost, and reliability in your operations?
9. Do you currently use any software tools or management systems? If yes, what are their limitations?
10. What metrics would you like to track to improve your operational efficiency?

5.2 Interview Agenda — Internal Executive Stakeholder (CEO or Project Owner)

Objective:

To identify the strategic goals, vision, and long-term expectations for GrowLink from a leadership perspective.

Stakeholder Role:

Internal Executive (e.g., CEO, Project Owner, or Product Lead) responsible for setting project direction and approving major development decisions.

Discussion Questions:

1. What are the main business goals you want GrowLink to achieve in its first year?
2. How do you envision GrowLink creating value for suppliers and retailers in the long term?
3. What performance metrics (KPIs) will determine project success?
4. What challenges do you anticipate in implementing the system (technical, financial, or adoption-related)?
5. How should the system balance business scalability with affordability for small retailers?
6. What partnerships (financial institutions, logistics, etc.) are critical for system success?
7. Which core features must be included in the MVP (Minimum Viable Product)?
8. What are your expectations regarding data analytics and decision-making capabilities?
9. How do you see the platform evolving in future versions (AI, predictive analytics, etc.)?
10. What risks or concerns do you have about system implementation and user adoption?

6. Questionnaire for Operational Users

Purpose:

This questionnaire is designed to gather information from **agro-retailers and suppliers** about their current business operations, challenges in product sourcing or distribution, and their expectations for the GrowLink digital platform. The collected data will guide system design, ensuring it aligns with real user needs.

Section A: General Information

1. What is your role?
☐ Agro-Retailer ☐ Supplier / Manufacturer ☐ Other (please specify):

 2. How long have you been in the agricultural supply business?
☐ Less than 1 year ☐ 1–3 years ☐ 3–5 years ☐ More than 5 years
 3. In which governorate or region do you primarily operate?
☐ Beheira ☐ Fayoum ☐ Minya ☐ Sharqia ☐ Other: _____
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Section B: Current Business Processes

4. How do you usually communicate with your suppliers or customers?
☐ Phone calls ☐ Messaging apps ☐ In-person visits ☐ Other: _____
5. How do you currently place or receive orders?
☐ Manual (calls / visits) ☐ Paper forms ☐ Spreadsheets ☐ Through an existing online system
6. How often do you face issues such as delivery delays or order mistakes?
☐ Rarely ☐ Sometimes ☐ Often ☐ Very often
7. How do you usually handle payments?
☐ Cash ☐ Bank transfer ☐ Mobile wallet ☐ Other: _____

8. Have you ever used any digital platform to buy or sell agricultural inputs?

☐ Yes ☐ No → If yes, what was your experience like?

Section C: Challenges and Needs

9. What are the biggest challenges you currently face in your business?

☐ Price fluctuations ☐ Delayed deliveries ☐ Limited product availability ☐ Lack of credit access ☐ Other: _____

10. How important are the following features to you? (*1 = Not Important, 5 = Very Important*)

| Feature | 1 | 2 | 3 | 4 | 5 |
|------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Price transparency | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Delivery tracking | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Credit or BNPL options | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Product comparison | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Order history records | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 24/7 platform access | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

11.

Would you be willing to use a digital system that centralizes orders, payments, and deliveries?

☐ Yes ☐ No ☐ Maybe (depending on training/support)

Section D: System Expectations

12. What device would you most likely use to access the platform?

☐ Smartphone ☐ Computer ☐ Tablet

13. How important is Arabic language support for you?

☐ Very important ☐ Somewhat important ☐ Not important

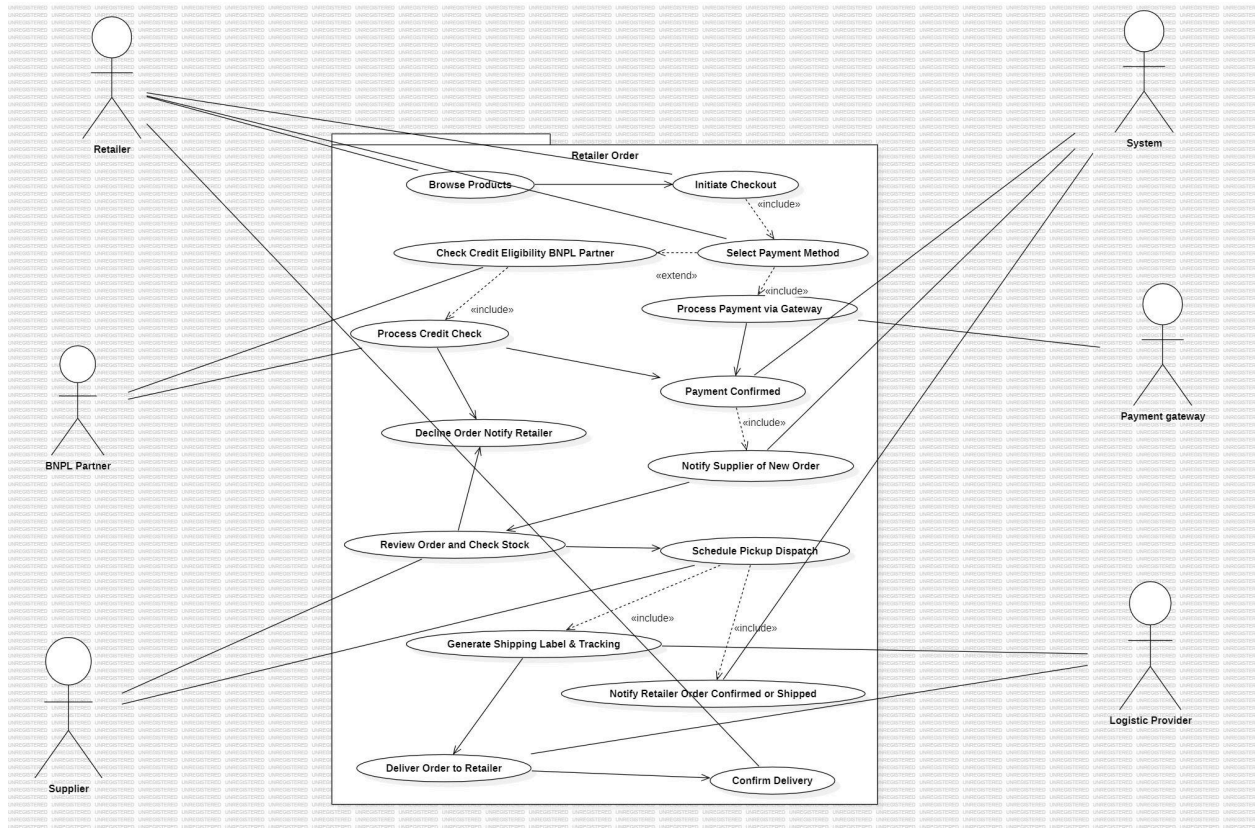
14. How confident are you in using digital platforms or apps for business?

☐ Very confident ☐ Somewhat confident ☐ Not confident

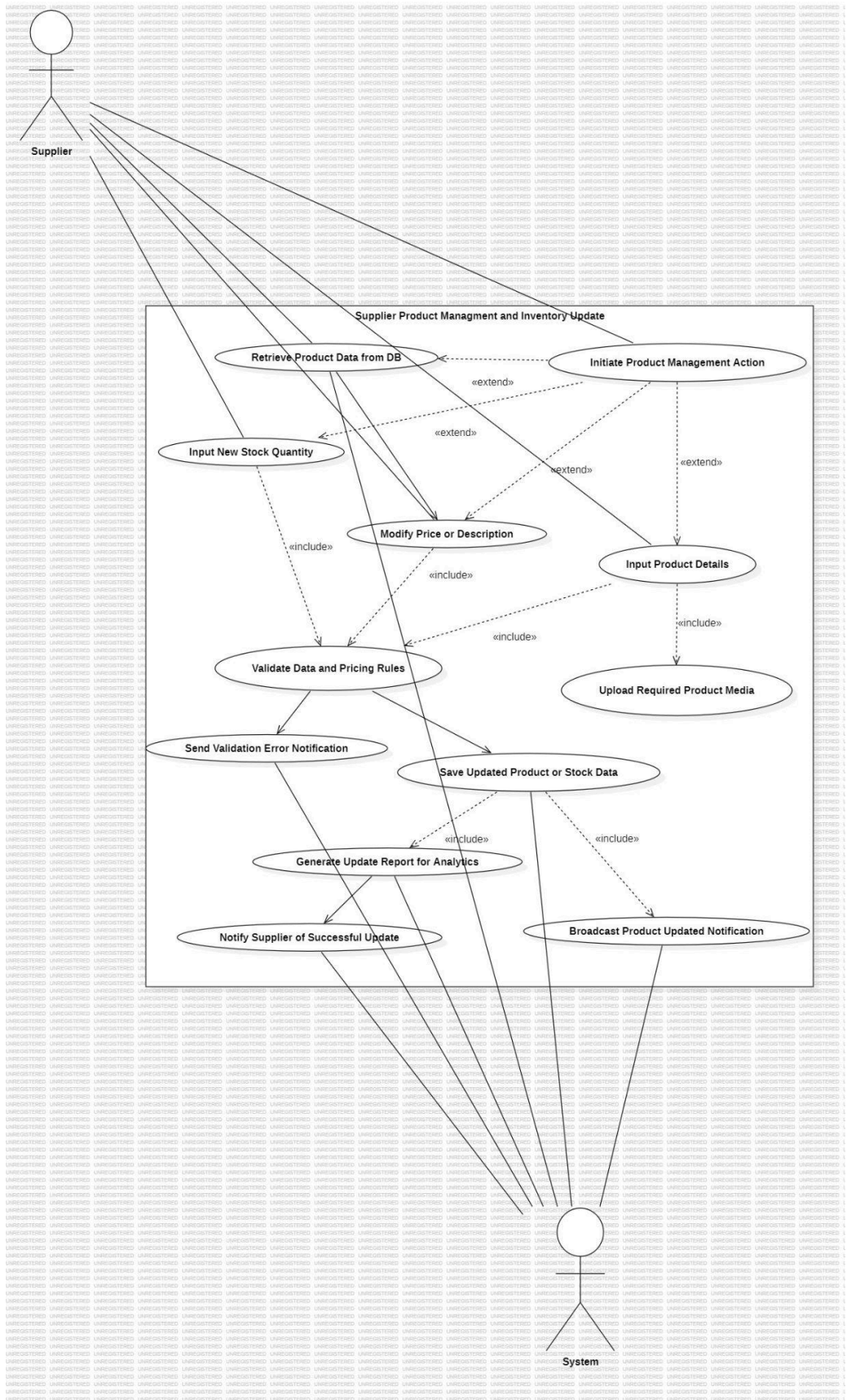
15. What additional features would you like GrowLink to include?

7. Workflow Activity Diagram

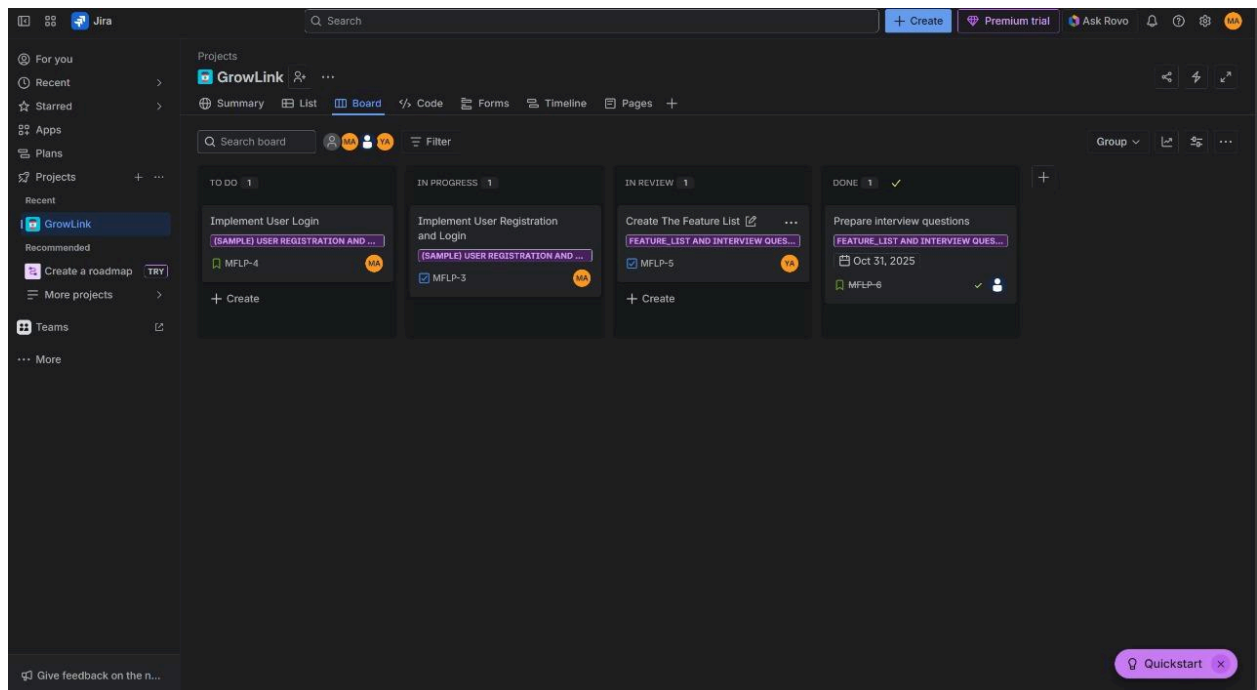
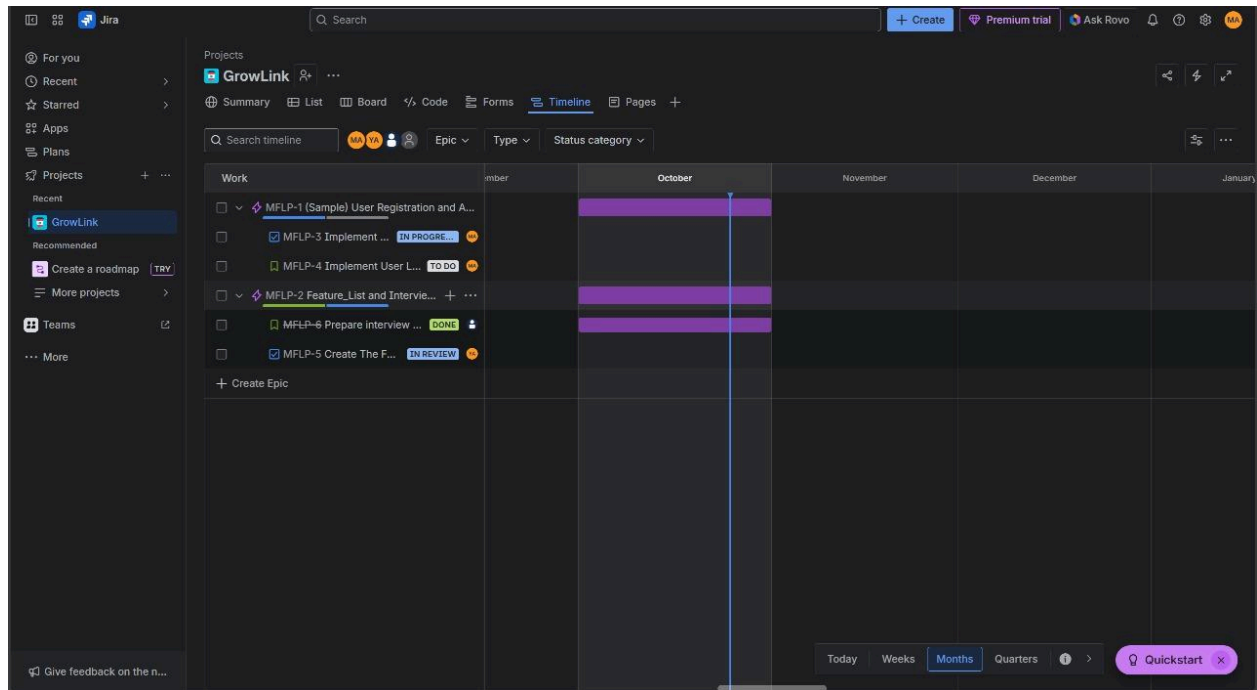
1. Retailer Order



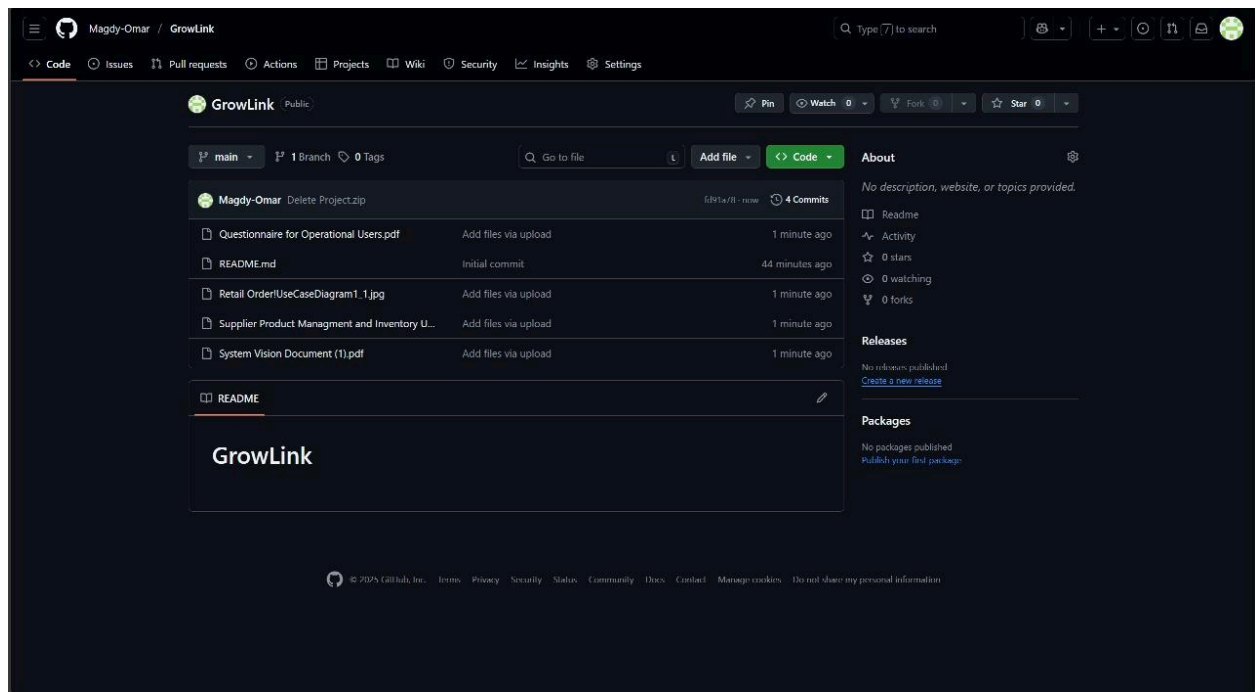
2. Product Management and Inventory Update



8. Jira's Project View



9. Github Repository



<https://github.com/Magdy-Omar/GrowLink#growlink>