

PART A: *Envision*

A1 Direct Stakeholder:

- **Manager:** he/she chooses which farmer/delivery person is eligible to the platform and checks statistics that the company is compliant with the law
- **Customer:** if the platform is poor of products they can choose other shops
- **Farmer:** they have to keep competitive prices and offer quality products
- **Employee:** they have to know how to use the application and to be gentle with the clients
- **Delivery Person:** they have to deliver the orders on time

A2 Indirect Stakeholders:

- **Farmer:** the Manager is choosing which farmer is eligible to join the platform. Furthermore, the User is choosing the ones he/she prefers the most. Finally, the Farmer is not responsible for the delivery: if there is a problem due to the Delivery person, the Customer may choose a different farmer for his next order.
- **Other shops:** a Customer may prefer to order products directly from the Farmers
- **Unregistered farmer:** loses a possibility to be known by end users
- **Delivery Person:** the manager is choosing which Delivery Person is eligible to join the platform. Furthermore, they need to be active if they want to be assigned for a delivery

PART B: *Speculate*

B1/B2 List the values, Investigate a value

- **Human welfare:** SPG are selling food, so it's important that it is good and healthy
- **Trust:** Once a client buys from a farmer he/she is trusting him/her.
- **Courtesy:** Employees and Delivery persons need to show kindness to customers
- **Calmness:** Workers need to act in a serene and organized environment
- **Environmental Sustainability:** An attention to the environment has to be paid
- **Privacy:** Clients' and workers' data must be protected
- **Autonomy:** Clients can freely choose which products to buy and Farmers can freely choose which products to sell
- **Reliability:** The system must be reliable
- **Universal usability:** The interface must be user friendly

Part C: *Explore*

C1 Primary values

- **Human welfare**
- **Trust**
- **Universal usability**

C2 Value tensions

- **Privacy - Trust:** Giving clients' sensitive data to farmers and delivery persons is useful for building an efficient system, but it can be harmful.
- **Reliability - Universal Usability:** Too many security measures can affect the system speed and so the usability.
- **Autonomy - Human Welfare:** In order to guarantee a quality service, many quality inspections have to be performed on products. This could affect farmers' autonomy.

Part D: *Adapt*

- **Reliability - Universal Usability:** Data must be encrypted, but finding a compromise between the number of checks to perform for each API and a fast system is crucial.
- **Privacy - Trust:** Delivery persons and Farmers won't know the clients' phone numbers. A virtual switchboard can be useful to hide this sensitive data.
- **Autonomy - Human Welfare:** Quality inspections at warehouse have to be performed, with a proper number of checks in order to keep the platform attractive for the farmers, to whom must be guaranteed a certain degree of freedom.

However, if some issue occurs with the orders, the farmer must send the product again.

Part E: A look into the future

E1 Time related activity: Obsolescence

- It is the beginning of 2028 and Clara is a registered customer and she wants to order 1 kilogram of potatoes and 2 kilograms of apples from the application with her brand new device. She notices that the web page is really messy and the buttons are too small. Then, she tries to place the order without success, so she gets annoyed and decides to make the purchase somewhere else.
- Some months later a hacker exploits a new SQLite vulnerability and all the SPG users' data are leaked.

Backend: If SQLite (that SPG uses) is no longer supported it will negatively affect the security, performance and integrity of the data persistence. In particular, the vulnerabilities that are known over time could generate attacks on the application by hackers affecting the privacy of many registered users. Another issue can be the scalability of the application, that could become a problem due to the increase in users because although multiple processes can access and query a SQLite database at the same time, only one process can make changes to the database at any given time.

To overcome this issue, a cloud (IaaS) solution such as AWS could be adopted. In that environment, security is constantly improving and the responsibility is left to AWS. Scalability is guaranteed by the fact that you could have multiple replicas of the same AWS S3 database that allow multi-concurrency and durability.

Hence, the backend part of the SPG web application can be migrated to AWS IaaS to guarantee the properties mentioned above.

Frontend: In the future Shopify Polaris can be deprecated.

In such a scenario, the system is not properly responsive with the new devices and the GUI is not displayed correctly. Some features are hard to access because buttons are too small to be clicked and the elements are located in improper positions. This most likely leads to some malfunctioning and dissatisfied customers.

In order to solve this issue the page should be redesigned using a new library whose components respect the latest technologies standards.