Seed Market Service

by Group nr. 12

Shuqi Yan (2631023), Shuxin He (2633040), Peter Petkanic (2652016)

0. Name
Seed Market Service

1. Summary of key idea
This service will give farmers the possibility to advertise the seeds they want to sell. Moreover, customers or advertisers (like radio) will be able to access this service as well. They will be provided with a list of farmers' advertisements dependent on their choices (e.g. customer wants to buy seeds of this specific type, region, etc.). This way farmers will be able to sell a lot more of their productions and there will be natural competition in the market.

2. Actors and goals

Stakeholder	Operational goal	Responsibility in the envisaged system
Farmers buying seeds(buyers)	Check the type, price of seeds sellers have for sale	Use the system to get the information of seeds to buy
Advertisers	Check the type, price of seeds to download and broadcast online	Use the system to get information about seeds to advertise
System developer	Provide a working system	Develop and Maintain the system
Farmers selling seeds(sellers)	Provide accurate seed types and prices	Information sources/provider

Table 1: Stakeholder table

3. Context and scope (max 400 words)
Farmers and buyers/advertisers are the external stakeholders in this use case. Farmers pay attention to the seed types they have and the price they can provide, also the price of the same seed that other farmers give. Buyers/advertisers concern about the lowest price of the seed type they want. The scope of the scenario is that farmers will only provide the seed types and price, and buyers/advertisers will search for the seed they want and get all the advertisements of this seed. We do not consider that farmers will also be the advertiser to search for more information about the market price of the same seed. If farmers can set prices for each type of seed and store in the database, and when buyers/advertisers call for one type of seed they can get all the available information, then we think the system is successful. For infrastructure, we must have a laptop and mobiles, also the system developer and maintainer. Also numbers of users(farmers, buyers, advertisers) and accurate information.

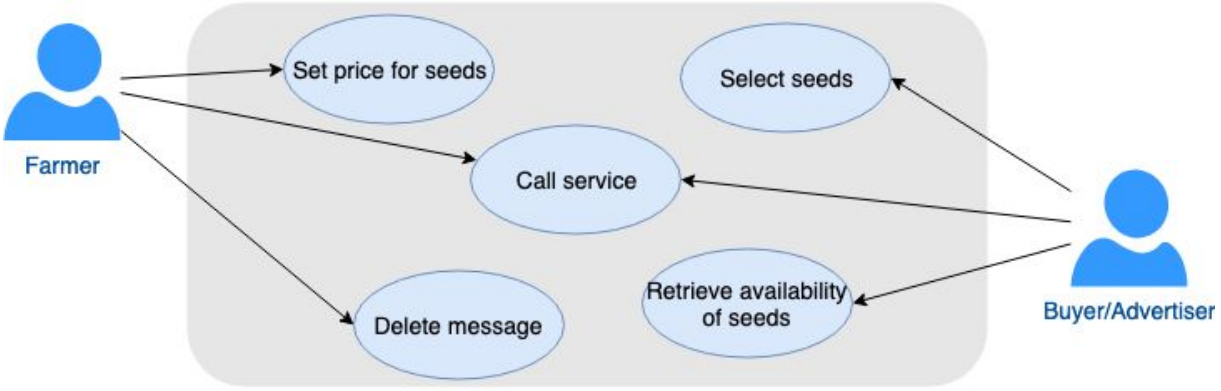

Figure 1. Interaction diagram

4. Use case scenario script (make a conceptual model or storyboard)

1. The end user - a farmer calls the number of services
2. The system receives a call and offers a selection of language
3. The end user chooses a language
4. The system offers a selection of roles to choose from
5. The end user chooses a role
6. The system offers a selection of seed types
7. The end user chooses a seed type
8. The system requests the end user for prices of seeds to set only when the role is a seller
9. The system offers a voice message of seed and price to the end user

5. Interaction and communication (max. 100 words)

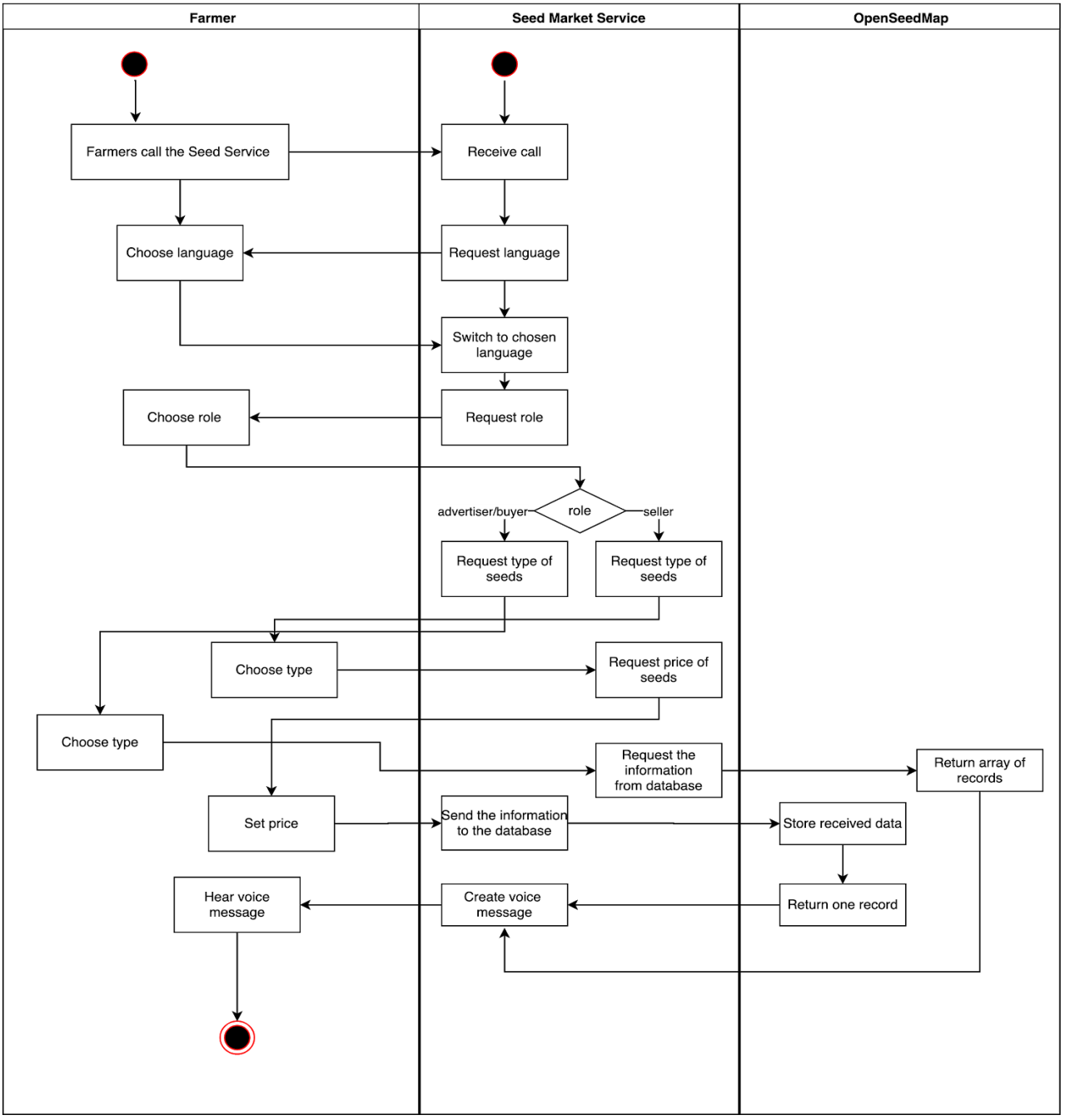

Figure 2. Activity diagram

6. Information concepts (as UML diagram)

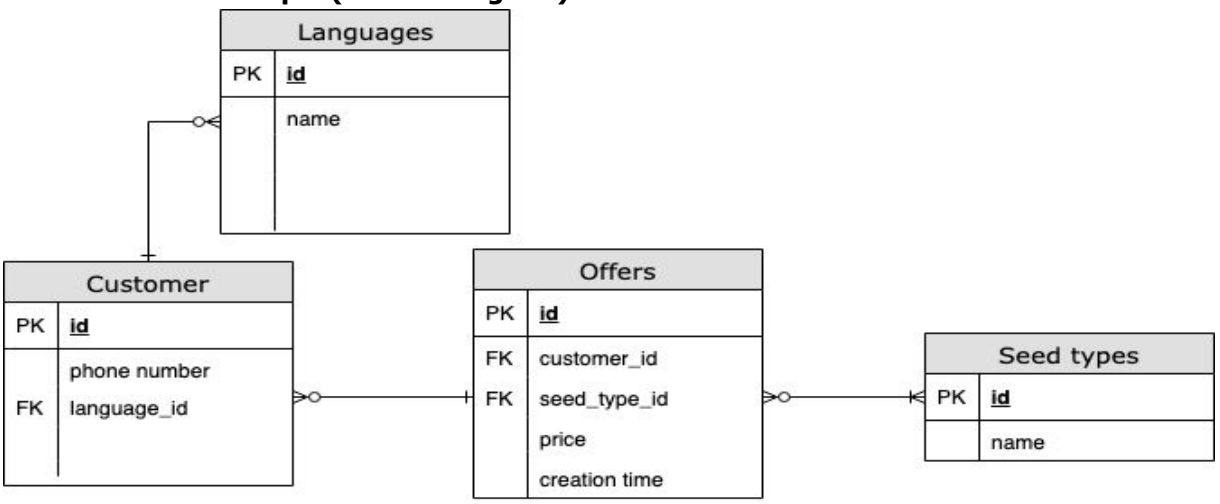

Figure 3. Database diagram

7. Technology infrastructure (as UML diagram)

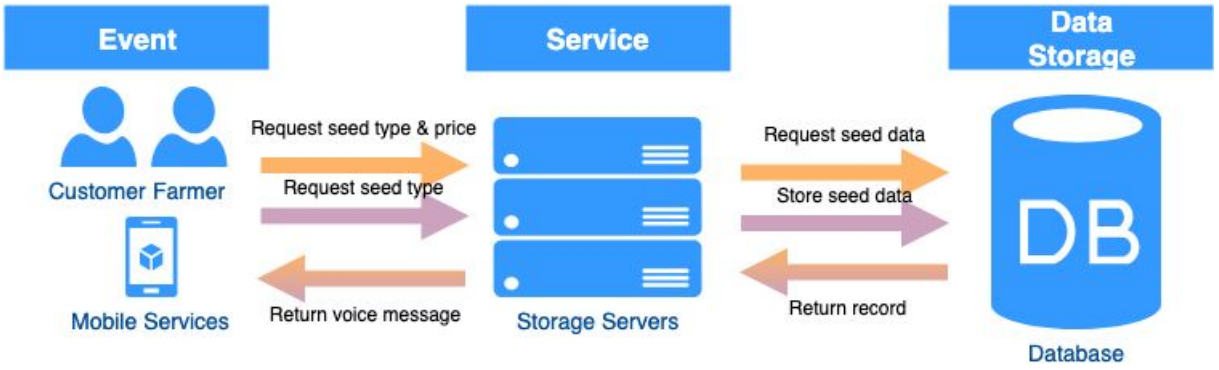

Figure 4. Infrastructure diagram

8. Cost considerations (as a table)

Cost type	Cost	Cost carrier
Operational cost	Mobile services fee and calling fee	Farmers
Investment cost	Advertisement	Farmers and software owner
Development cost	To develop and maintain the system	Software owner and developers
	To add local language component	Software owner
In/outsource cost	To record and broadcast offers	Farmers

Table 2. Cost table

9. Feasibility and sustainability (max. 150 words)

From the perspective of technical and financial, this system can be developed anywhere with Internet access, so it's not a problem to maintain the system in Mali, also the expense for development will spend some budget, but won't spend too much for maintaining it.

With this system, end-users will save a lot of time collecting information and save human effort. That will be the motivations for farmers to use it.

But still the problem we focus most on is the quality of the sound, also we are not sure if the quality for French, Bomu, and Bambara are the same. It will be a lot easier for the text interface.

10. Key requirements (as a table)
So-called MoSCoW list of requirements (Must have, Should have, Could have, Won't have) as a starting point for further architecture design, and system and component development.

MoSCow List	
Must have	Mobile services with local telephone number
	A database to store all the data and information
	A component to ask users to select from choices
	A component to transfer information to voice
	Software developers to create and maintain the system
Should have	Advertisement to make the system known
	Local number to call to have less calling fee
Could have	Local Malian language to announce information
	Language components to switch(English, French, etc)
	Laptop with Internet to download and store data
	Radio stations to announce and broadcast offers
Won't have	Components to report their extra information

Table 3. MoSCow table

11. **Prototype description**:

Based on the use case of Seeds system in rural Mali from the AOPP, we designed the system named Seed Market Service. The system will cover the main function of the use case that users can select the role as a seller or a buyer/advertiser to execute further steps, and also select the language. As a seller, we consider that users can select the types of seed that users want and sign their price which will store in the database. As a buyer, we will provide all the advertisements about the seed users want after they choose the type of seed. After all the selection, customers will require a voice message as confirmation or advertisement which depends on their role. Now we partially implemented the voice service and did not yet implement the web service.

12. **Pointer to the VXML code**

http://unsalted-sound.000webhostapp.com/ict4d.xml

13. **Pointer to how to access the application**

Call +31208082848 with PIN: 9996161285

Or navigate to

https://evolution.voxeo.com/worldwide/languages.jsp?pin=9996161285&ppid=1111&appName=test_code

14. **Short Usage scenario**

For now insertion of the offers works. User is able to add the amount and the type of the crops which will be stored with user's caller ID. To see the added contents navigate to the saveOffer.php to get information about database connection. Language selection will be implemented later (as we were advised) because we focused on storing and retrieving the data. Our team was really close to completing the implementation of data retrieval. Which means, at the time of reading this report the menu will change.

Nevertheless, we still provide sample steps to navigate through the menu:

- Select the seed type -> PRESS 1
- Enter quantity of seeds -> [NUMBERS] end with #
- Confirm offer -> 1
- End the call -> 2