RESI🔗LINK

Increasing Resilience of Smallholders with Multi-Platforms Linking Localized Resource Sharing

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Deliverable D2.1a

First report on user requirements, user interface and co-design of the RESILINK generalized resource sharing digital platform

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EXECUTIVE SUMMARY

Deliverable D2.1a describes the co-design approach used for the RESILINK project, and the result of the different design-thinking sessions led during the first year of the project. It also gives a view on the next step on this topic, in order to prepare field user-tests and living-labs in Morocco, Algeria and Egypt.

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1. INTRODUCTION

RESILINK's proposed approach is to increase smallholder's resilience by providing continuity of access to both resources and markets in crisis situations. It will empower the local agri-food value chain model by optimizing usage of local resources, promoting and generalizing local resource sharing approach and facilitating territorial markets. This local agri-food value chain model will also be integrated with the local e-commerce, supply & distribution channels. The concept of localized and short agri-food value chain will also impact on the agro ecological system by minimizing the food losses and contributing to the climate & environment changes with shorter food supply chains and logistics. As a result, new and local innovative services can be identified and created, enhancing further the smallholders' agri-food chain.

It develops a distributed digital resource management platform for real-time exchange of information on territorial resources and supplies & demands; connecting smallholders to new supply, sharing opportunities and distribution channels. In addition, RESILINK will incrementally use cutting-edge digital technologies to connect fields and farms resources, automatize and add intelligence in the agri-food value chain to provide simple application interfaces adapted to smallholders.

RESILINK has the clear ambition to make digital smart technologies attractive & accessible to smallholders. The proposed solutions will be simple to use on a daily basis so that its usage will become natural, even in non-crisis situations.

To maximize RESILINK's usage by the end users, RESILINK will develop a mobile application that will be the main interface to simply, quickly and intuitively interact with the RESILINK digital resource management platform.

On the other hand, in order to maximize the RESILINK's mobile application acceptability, RESILINK will adopt a co-design approach and will run a number of Design Thinking sessions to better define user requirements and user interface.

This document describes these preliminary steps, in link with D1.1 "Smallholders' resource requirements and distribution channels in a local & territorial agri-food chain" and D1.2a "First report on Framework for a generalized resource sharing for increased resilience of smallholder considering a local & territorial agri-food chain".

2. USER-CENTRIC-DESIGN

2.1. What it is

The User-Centric-Design[1] (UCD) is a process in which the project team focuses on the end-users in each phase, instead of thinking first on technology. Users are involved throughout the design process in order to match as much as possible with their needs, expectations, abilities, limitations, resources, context and constraints. Different steps are carried out in an iterative process that mix investigation phases with generative ones. Before

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[1] See international standard for User-Centric-Design method: https://www.iso.org/standard/52075.html

designing any interface, the main goal is to design a suitable user experience for the target, to be aware of the question the project will answer.

Here are the main steps of this process:

1. User research: conduct field studies to know more the target and his environment
2. Based on the results, specify users requirements
3. Brainstorm on potential solutions
4. Assess these ideas, then analyse feedbacks
5. Generate first mockup
6. Assess the mockup and continue in an iterative process, until reaching a suitable design and satisfaction of testers

The UCD process requires to work first with hypotheses that will be confronted to the field in order to be confirmed or evolve. It's a state of mind: the project team will think first in the satisfaction of the end-user, before thinking product, business or technology.

2.2. Working session, April 26th, 2023

In order to carry out a User-Centric-Design approach for the RESILINK project, Design Thinking sessions have been organised with the partners. In April 2023, an online session of 2 hours took place with the aim to agree with the main concepts we are working on: "resilience" and "sharing digital platform". The team also shared the key first results of the field studies taking place in Morocco, Algeria and Egypt, and listed the main challenges of the target (small holders).

RESILINK - klaxoon session of April 2023

Here's the wrap-up of this session:

"What does resilience mean to you and how does it apply to RESILINK?"

- it's a state of mind: to adapt, to overcome, to continue, to manage the risks
- with help: to be prepared, to access to tools that will help to continue activities, to find support, to make the needed changes (short or long term)

"What are the main challenges or our targets (farmers, consumers, suppliers, points of sales)?"

- lack of trust in digital solution and NIH syndrome
- access to ICT expensive, problem of illiteracy
- many other concerns
- existing value chain / not all affiliated to cooperatives

"What does a Sharing Digital Platform mean for you? How do you imagine the RESILINK platform?"

- a "matchmaking" tool
- secured
- access to / share valuable information
- user interface adapted, easy
- not a traditional e-business platform
- modular

2.3. Working session, May 26th, 2023

During the General Meeting held in Rabat, Morocco, at the end of May 2023, visits and interviews of 2 farmers were organised.

Then another live working session was organised in order to brainstorm on use-cases and end-users profiles.

List of use-cases for each target:

Farmers:

- want to show and sell products
- need help, information and counsel
- look for or want to show equipment to rent or to borrow
- need access to logistical services
- want to negotiate, buy, pay and receive payment in a secure way

Traders and service providers:

- look for goods to buy
- need to buy products to farmers in a secure way
- want to be known and provide counsel
- Offer to rent or sell services

Decision makers:

- push information to farmers (including breaking news in case of crisis)
- want to collect information from farmers

Consumers:

- want to buy local products and pay in a secure way

All users:

- want to manage their offers, demands and notifications
- need to secure their activities and incomes in time of crisis

Synthesis of end-users main profiles:

We need to look deeper into this point, as there may be some slight differences between the three countries, and to be sure to include everybody that needs to be involved.

3. PRELIMINARY ANALYSIS

On July 5th, 2023, we worked on the analysis of all the information collected during the design thinking sessions.

Main relevant use-cases have been listed, analysed and sorted, then grouped in 5 categories:

- Supply (whereas selling, renting, giving, providing goods or services)
- Demand
- Institutional information push
- Secured payment system
- Communication between users

We decided to implement the three first families of cases in the first version of the mockup we plan to test during the fall 2023.
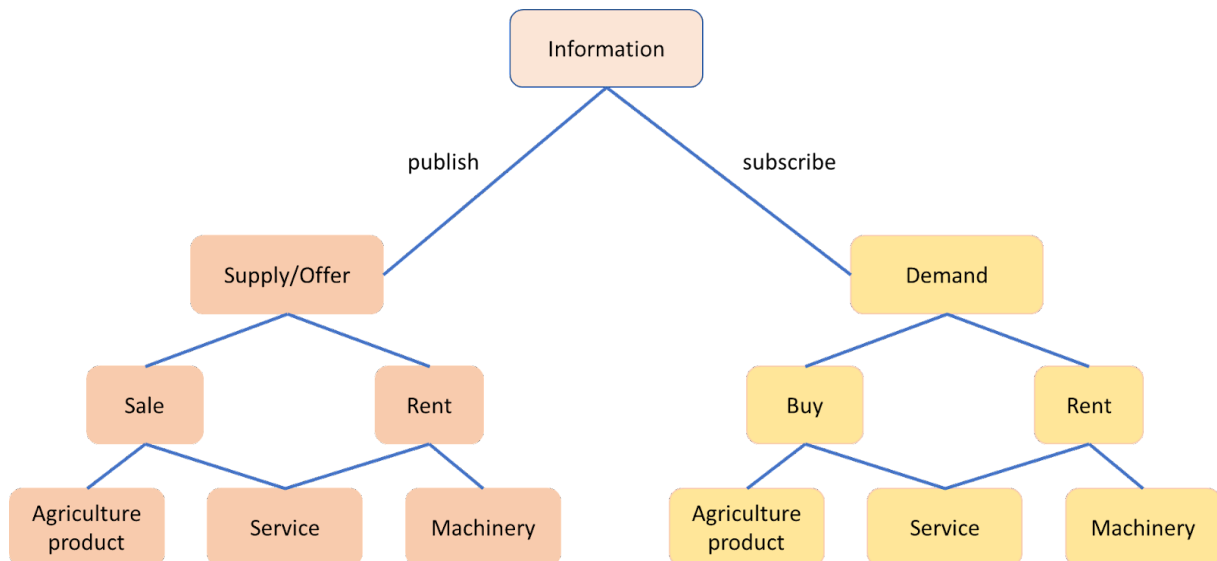
We listed some use-cases to illustrate the type of content and functionalities that the mobile app will offer:

- Information: notifications when new offer published, and "breaking news" from governmental institutions
- Supply: offers of goods and services
- Demand: search for goods or services ; subscription to receive notifications
- Account management: profile, offers and notifications

Scenarios for first mockup: supply

I want to sell 3 tons of potatoes
-> I give my name, phone number, the price and the place
+ I can write (or record ?) more details
-> I can modify or delete my ad

I want to rent my tractor with driver
-> I give the place and time, my name and phone number, the price
+ I can write (or record ?) more details
-> I can modify or delete my ad

I offer manpower
-> I give my name and phone number, the dates I'm available
+ I can write (or record ?) more details
-> I can modify or delete my ad

Scenarios for first mockup: demand

I want to buy barley seeds
-> I search in the list of ads (with keywords?)
If I don't find:
I can publish my demand
-> I give my name, phone number, what I'm looking for
+ I can write (or record ?) more details
I can ask to be notified if a new offer matches my demand
-> I can modify or delete my demand

I need to rent cold storage facilities
-> I search in the list of ads (with keywords?)
-> If I don't find:
I can publish my demand
-> I give my name, phone number
+ I can write (or record ?) more details
I can ask to be notified if a new offer matches my demand
-> I can modify or delete my demand

example of Supply and Demand scenarios for the mockup

4. NEXT STEPS

4.1. Design of the first mockup

A first set of screens and a first user journey have been designed with MarvelApp (https://marvelapp.com/). It will help partners and first testers to check the proposal in a very simple way by "playing" the browsing on the mockup directly on a smartphone.

Here is a sample of the screens on MarvelApp: greens zones are interactive and allow testers to click and browse.
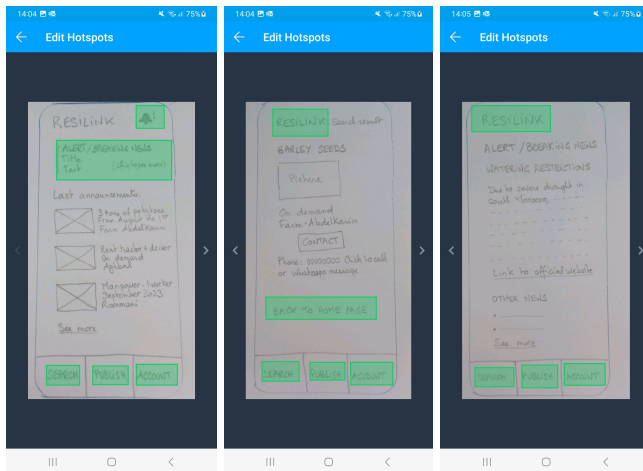
This step gives flexibility to change any item, order, or vocabulary on the draft of the mockup before the elaboration of a more detailed design.

4.2. Towards more elaborated mockups

A more elaborated mockup will be designed with Figma to illustrate the four main user journeys (Push of news, Supply, Demand and Account management). The mockup will be available on a smartphone to be tested out of network constraints. Again, particular attention will be paid to the simplicity of the user interface which is the main objective of this Figma mockup
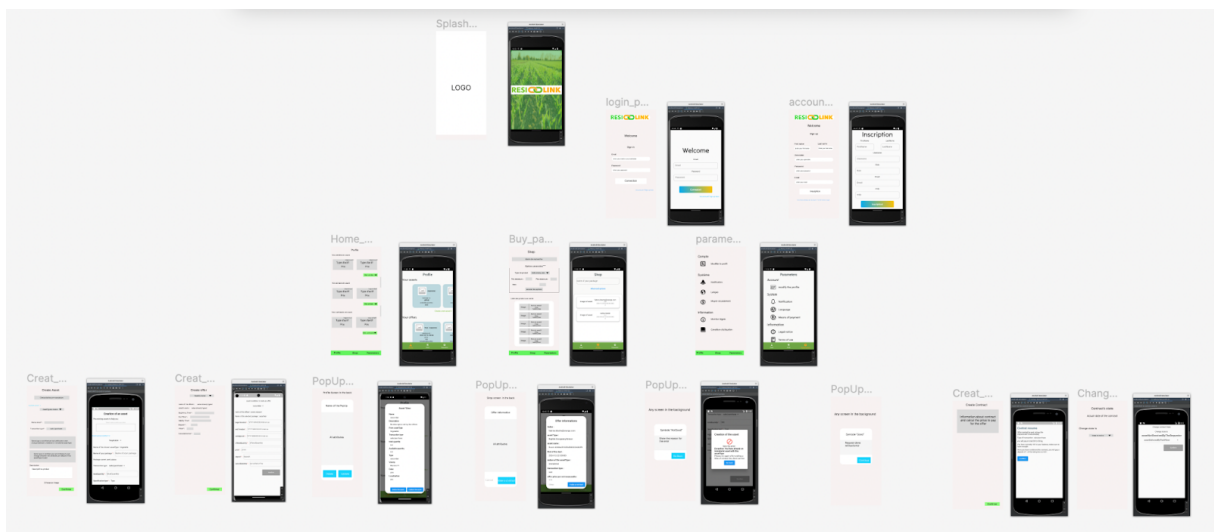

4.3. Tests of the mockups

We will organise tests on the field, with potential end-users, during T2 2023. The first tests will take place in Morocco, then we will see the opportunity to do it in Algeria and Egypt too with the help of the local partners. Recruitment of testers with accurate profiles is the key to collect relevant feedback.

4.4. Toward the mobile app prototype

While the tests will go on, we will follow-up design thinking sessions that will include the results, and lead to the design of the prototype.
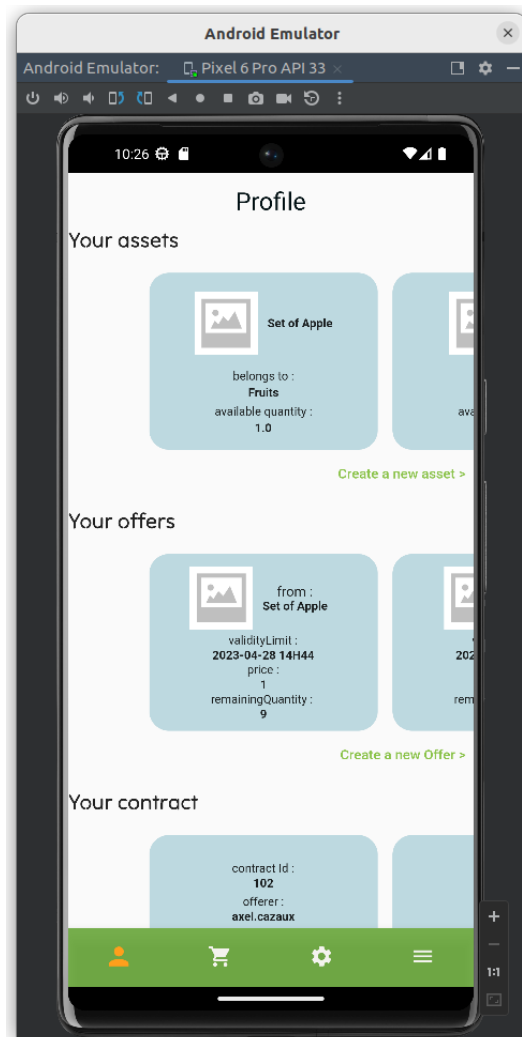
ACRONYMS LIST

Acronym	Explanation
UCD	User-Centric Design
NIH	Not Invented Here
ICT	Information and Communication Technologies

Acronym	Explanation

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