

BPRACTICES

NEW INDICATORS AND ON-FARM PRACTICES TO IMPROVE HONEYBEE
HEALTH IN THE AETHINA TUMIDA ERA IN EUROPE

WP 7 - "New traceability system"

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WP 7 - "New traceability system"

Lead: Partner 1

Objectives:

- Identification of GBPs on traceability to submit for beekeepers' approval
- Development of an innovative traceability system based on QRCode/RFID technology
- Analysis of consumers' knowledge and perception on beekeeping practices and definition of a consumer's panel test of the traceability system to be implemented



A list of GBPs dealing with traceability will be identified by the partners.
The list will be submitted to WP5 for validation by beekeepers at the international level.

Subtask 1.1

All project partners will create a shared online document with a list of GBPs concerning the traceability of hive products

Subtask 1.2

The list of GBPs will be sent to WP5



An innovative traceability system based on QRCode/RFID technology will be developed and implemented during the project.

Subtask 2.1

Development of the web application with the improvement features suggested by beekeepers.

Two different groups of beekeepers, professional and hobbyist, will be chosen by each partner to verify the applicability, on field and on the honey house, of the web application and improve its usability.

Subtask 2.2

Implementation of the web application with project results.

All the results (review and research studies) will be published in the web application in order to update users on the best control methods and the innovative GBPs



Subtask 3.1 Conduction of an online survey

A sample of consumers will be surveyed using Computer Assisted Web Interviewing method. The questionnaire, administered internationally, will investigate: consumers' knowledge of honeybee production chain; the perception of food risk connected to the production chain; the perception of environmental impact of beekeeping and the ecosystem services provided by bees; the consumers' honey consumption and purchasing habits. Different consumers' profiles based on the level of knowledge, perception and honey consumption habits will be identified.

Subtask 3.2 Creation of focus groups for the evaluation of the web application

The web application will be tested by consumer panels with the aim to identify the weaknesses and the strengths of the system.



QR code (abbreviated from Quick Response Code) is a two-dimensional barcode

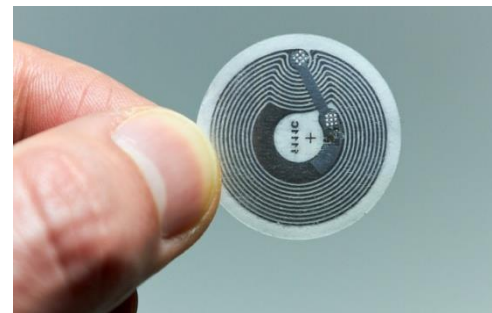


QR code are readable from all devices provided with a camera and specific software (open source)

Nowadays all smartphones, tablets and PCs can read a QR code



Near-field communication (NFC) is a set of communication protocols that enable two electronic devices, one of which is usually a portable device such as a smartphone, to establish communication by bringing them within 4 cm (2 in) of each other.



NFC tags are readable from all devices provided with a reader hardware (faster, no camera needed)

Nowadays a lot of smartphones and tablets can read a NFC tag



Beekeepers and consumers, using the web application, will be informed on the innovations proposed with the new management system developed, continuously updated by the project partners.





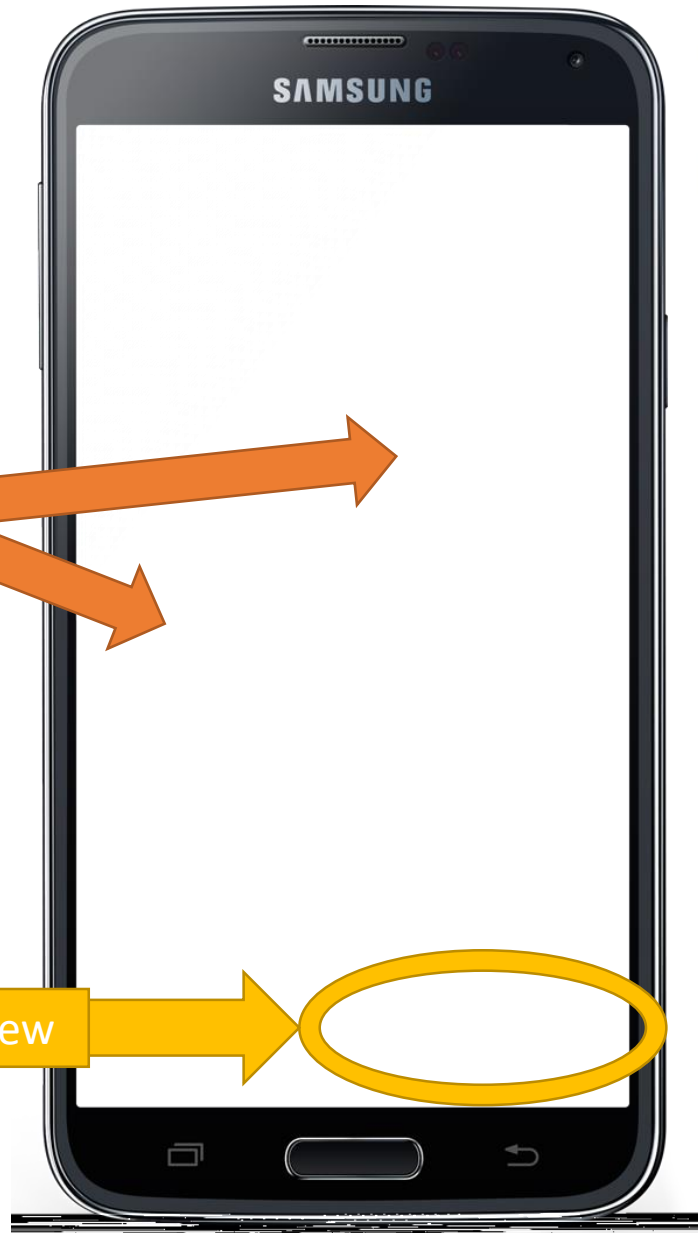
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Apiaries

The application will also provide a long-lasting system able to record apiary management data and act as a surveillance system.

Add new



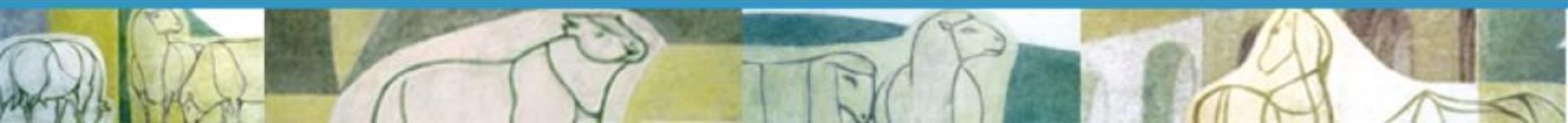
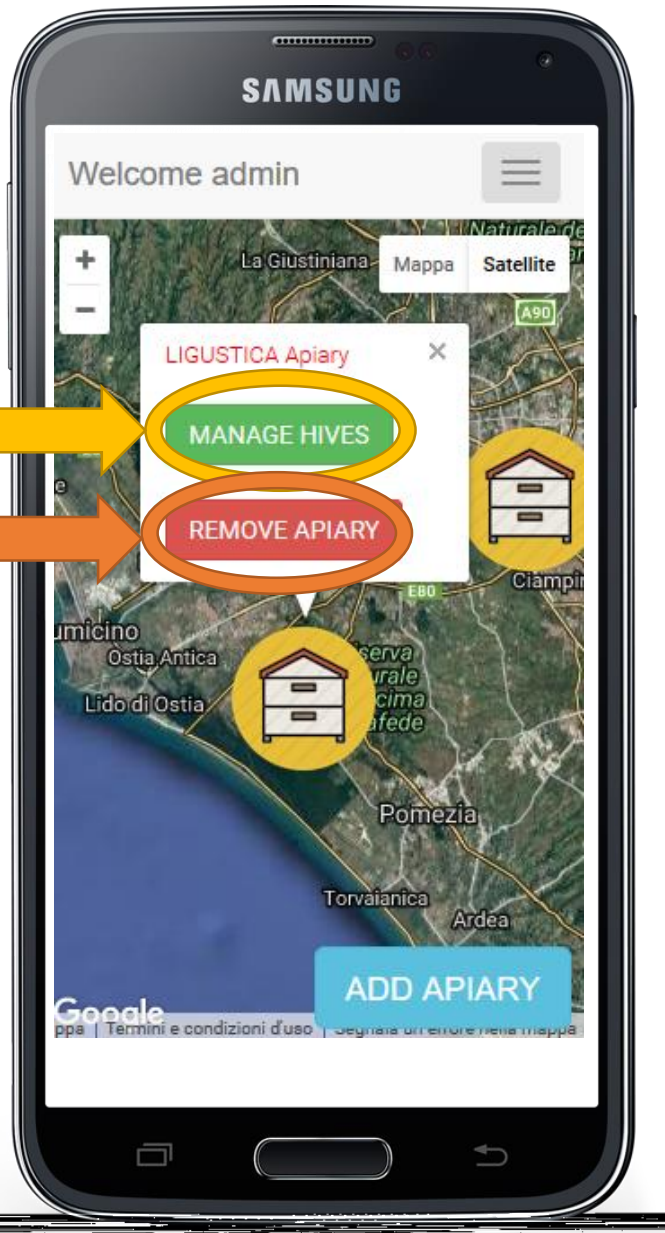


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Manage

Remove

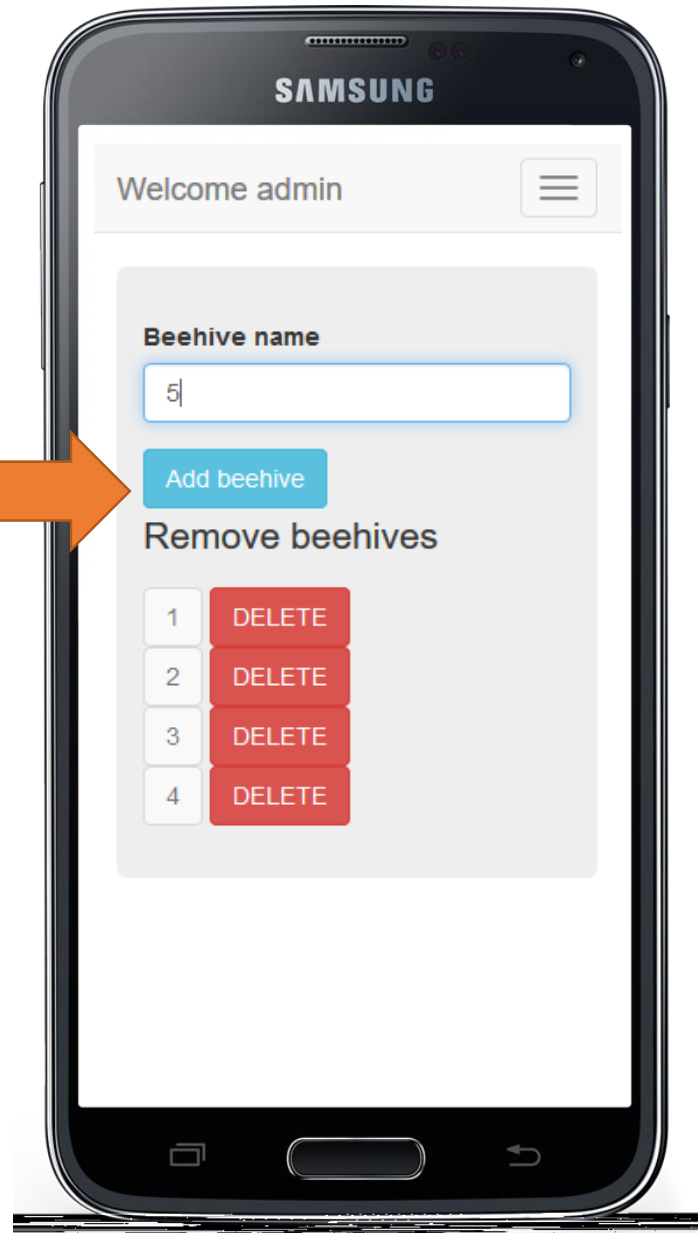




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Manage hives
of the apiary

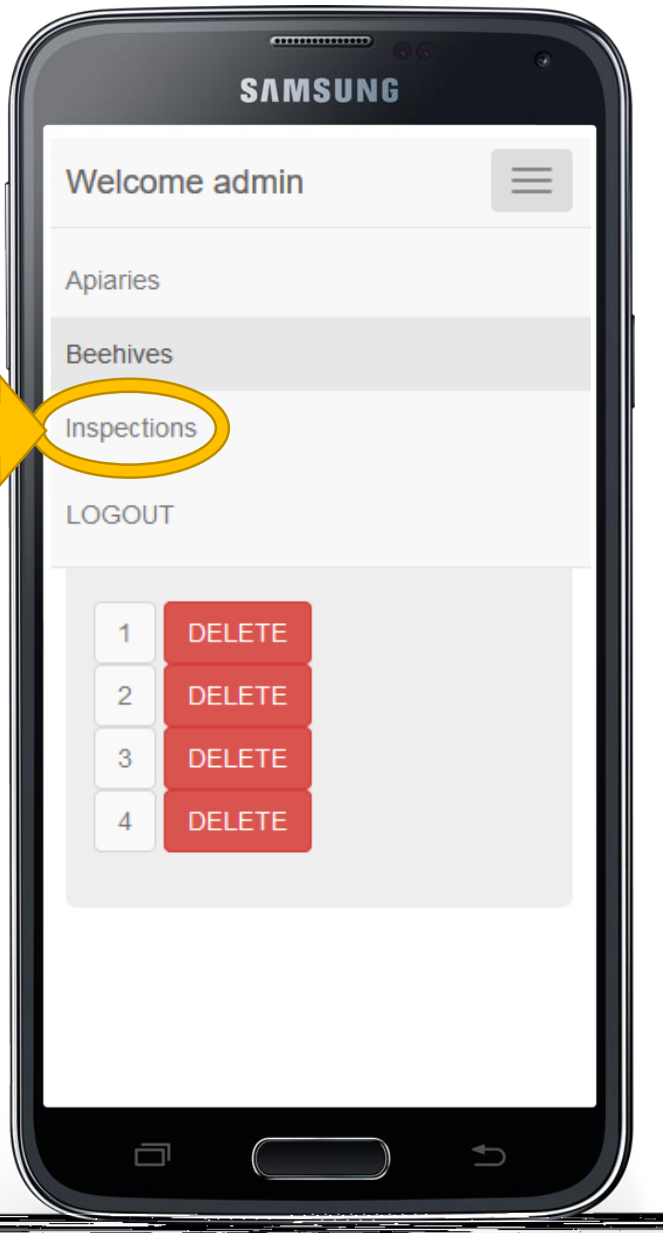




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Go to inspection





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IN THE APIARY



SAMSUNG

Welcome admin

Today is 16/11/2016

Bees 6
It was 6 on 10/09/2016

Brood 4
It was 4 on 10/09/2016

Queen year 2015

Not seen Virgin Productive Absent Drones

Treatment

Describe the treatment

Last treatment Apistan on 12/08/2016

Notes

Last notes: check for drones

Number of supers 0

- Add data of the hive
- Amount of bees
 - Amount of brood
 - Year of the queen
 - Queen's state
 - Treatments
 - Notes
 - N. of supers



IN THE APIARY



SAMSUNG

Diseases:
Clinical symptoms

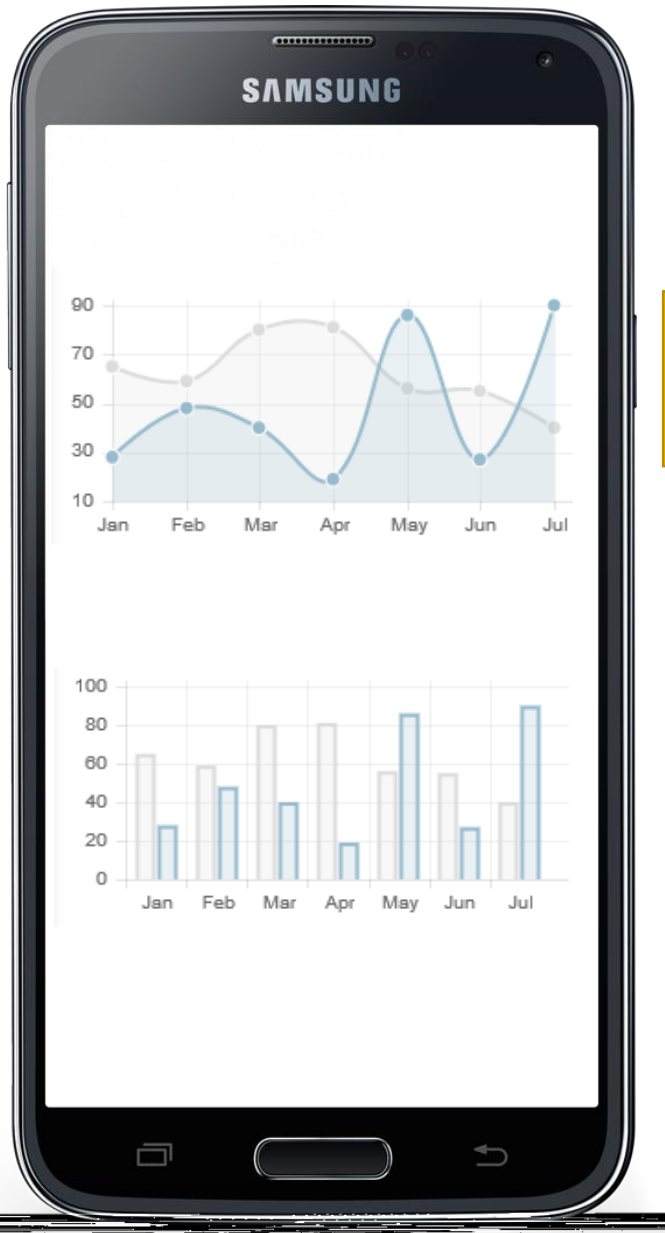
- ☐ Varroatosis
- ☐ AFB
- ☐ EFB
- ☐ Nosemosis
- ☐ Aethina tumida
- ☐ Tropilaelaps
- ☐ Virosis
- ☐ Miasys
- ☐ Chalk brood



IN THE APIARY



It will stimulate breeders to prevent diseases and adopt the best GBPs depending on the local conditions (guidelines), increasing their skills in favour of higher product quality and quantity.



Data of the hives:
Strength
Production

IN THE APIARY



Data of the hives:
Diseases:
Lab analyses

LABORATORY



E.g. laboratory results of
innovative methods for
preclinic diagnosis



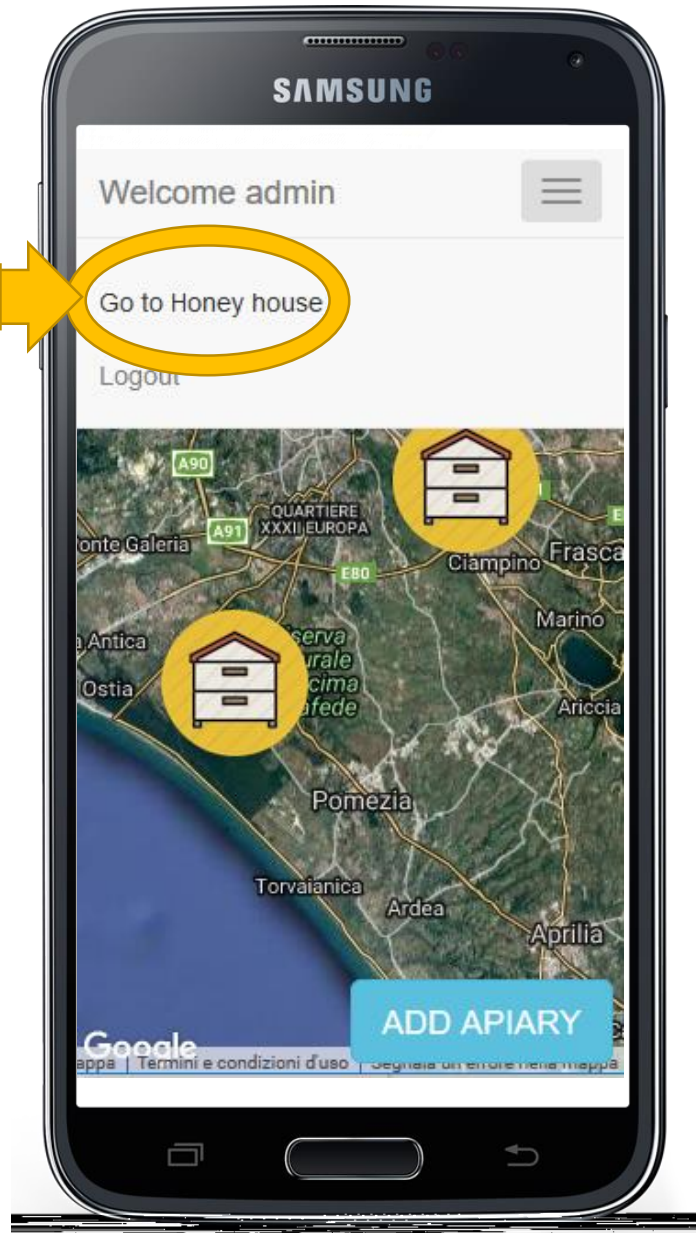


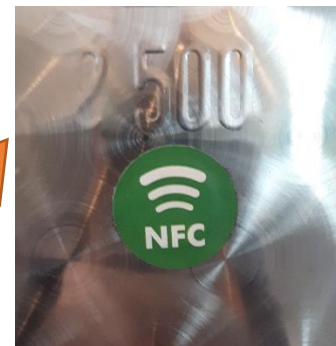
IN THE HONEY HOUSE

Go to honey house

Go to Honey house

The same web application will also have an interface to be used during the hive product processing to help beekeepers to maintain product traceability.



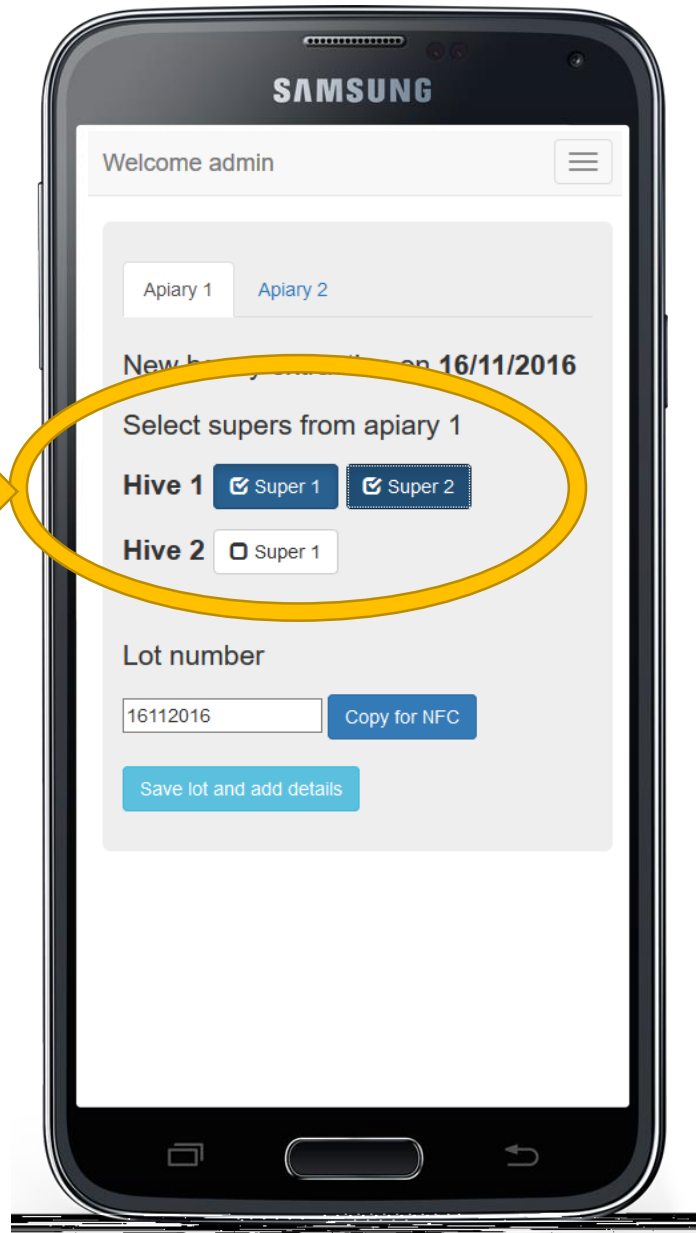




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Select supers that
will be processed





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IN THE HONEY HOUSE

Generate a lot number

SAMSUNG

Welcome admin

Apiary 1 Apiary 2

New honey extraction on **16/11/2016**

Select supers from apiary 1

Hive 1 ☒ Super 1 ☒ Super 2

Hive 2 ☐ Super 1

Lot number

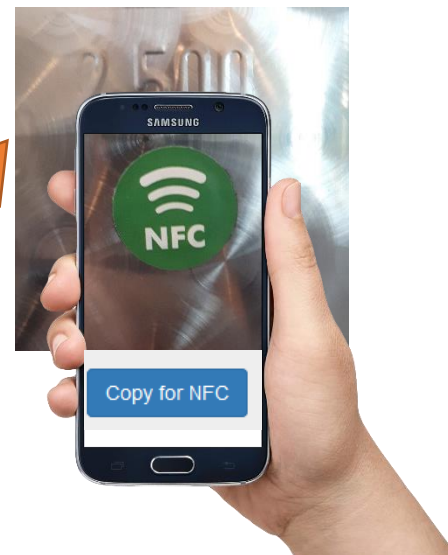
16112016 [Copy for NFC](#)

[Save lot and add details](#)





IN THE HONEY HOUSE





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LABORATORY



E.g. laboratory results of
hive products analysis



SAMSUNG

Welcome admin

Lot number 16112016

Produced from Apiary 1

Supers n.1, n.2

Date of extraction

16/11/2016

Total Quantity

Add value

Upload Laboratory Analysis

Sfoglia... Nessun file selezionato.

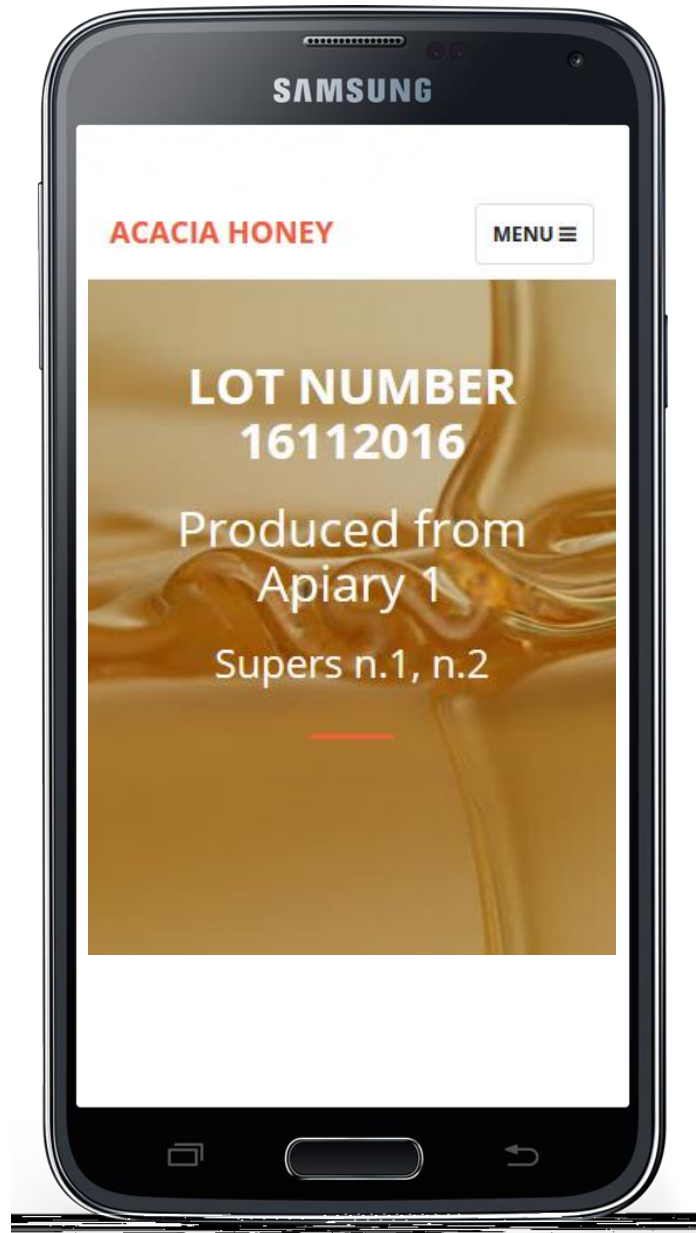
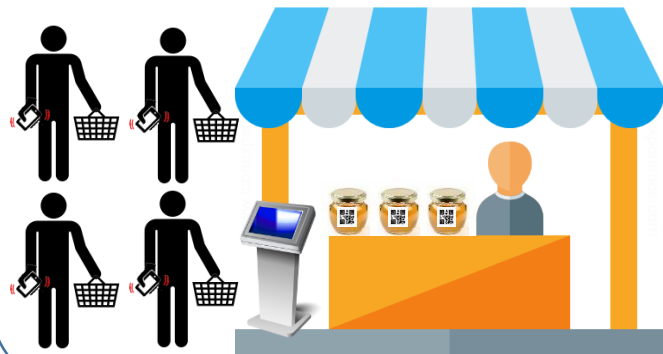
Save

Add quantity

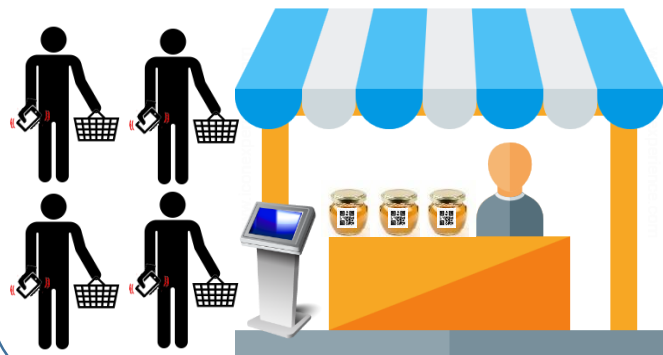
Upload lab results



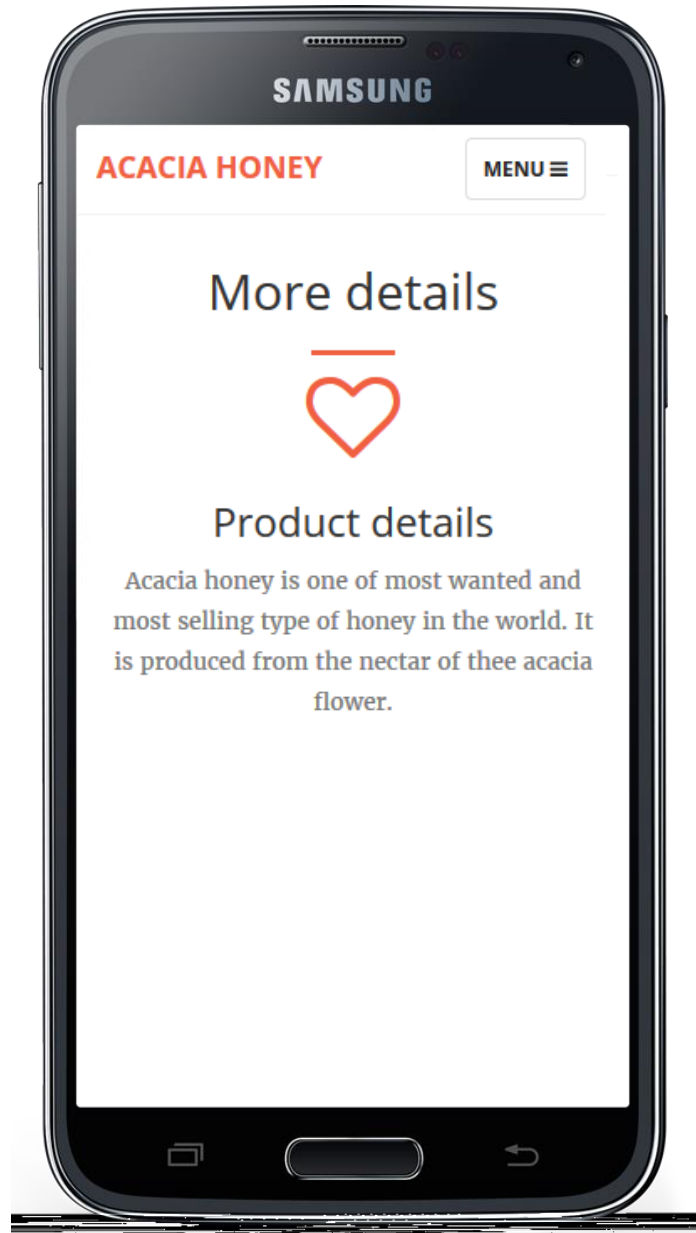
AT THE MARKET



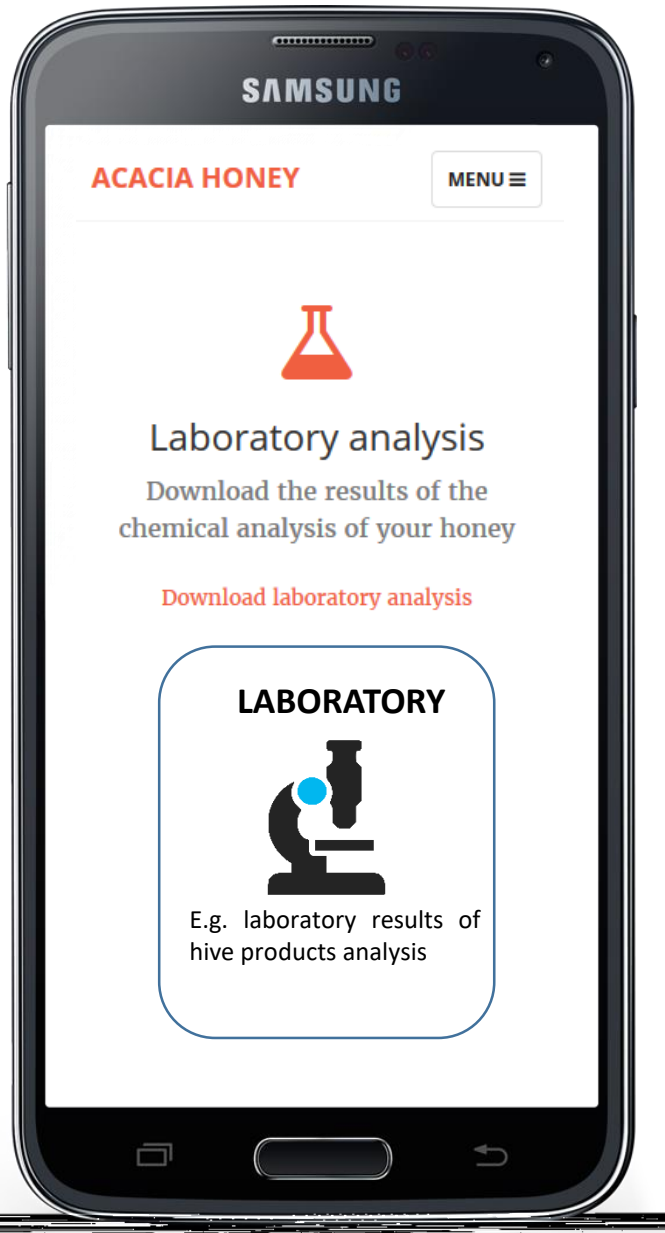
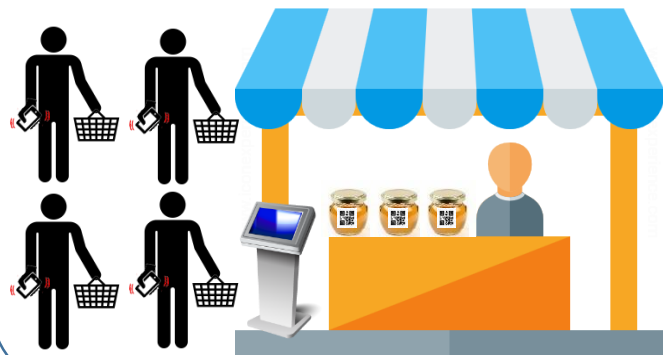
AT THE MARKET



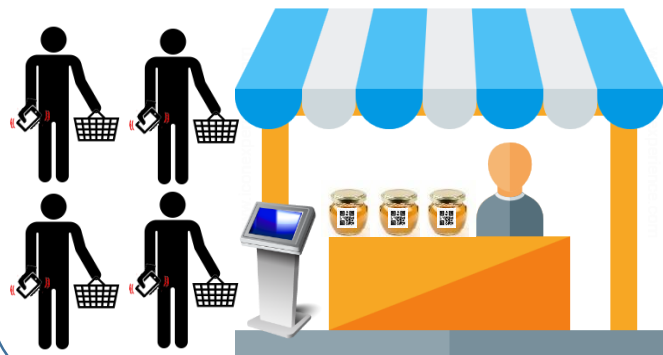
Consumers, accessing the application directly from the jar, will be educated to responsible consumption and will be made aware of the benefits of consuming a product deriving from an environmentally-friendly management, increasing the development of local productions.



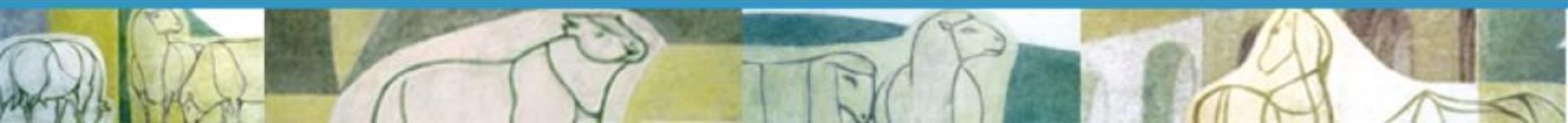
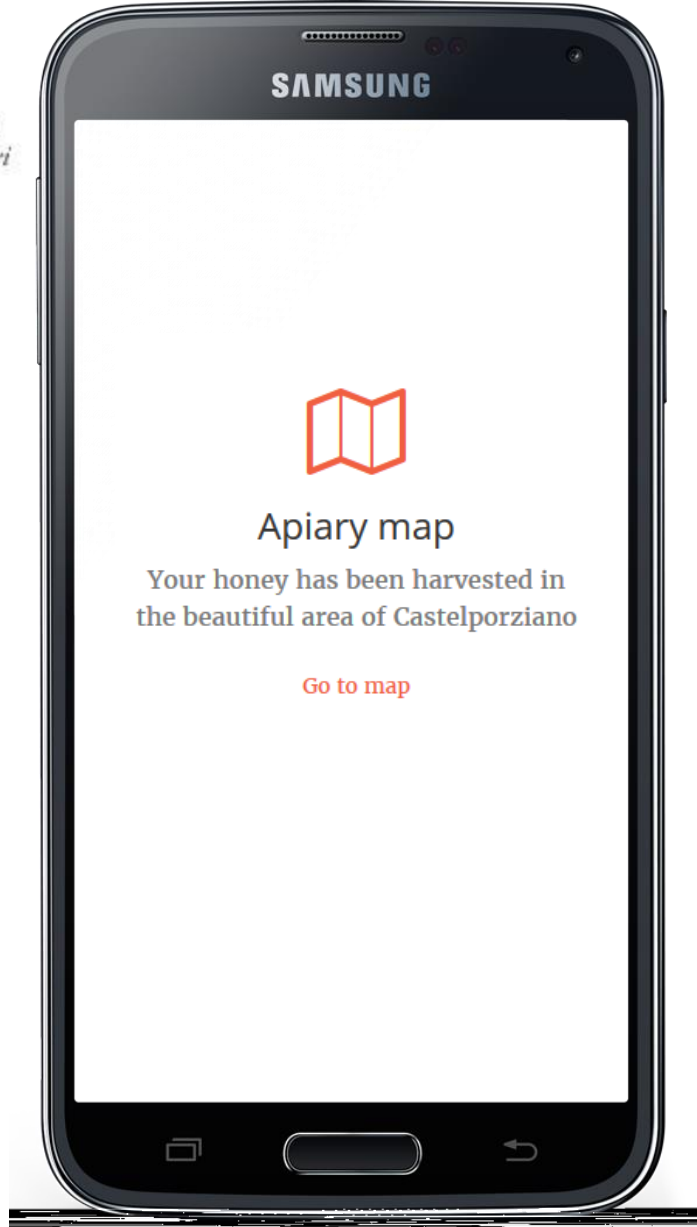
AT THE MARKET



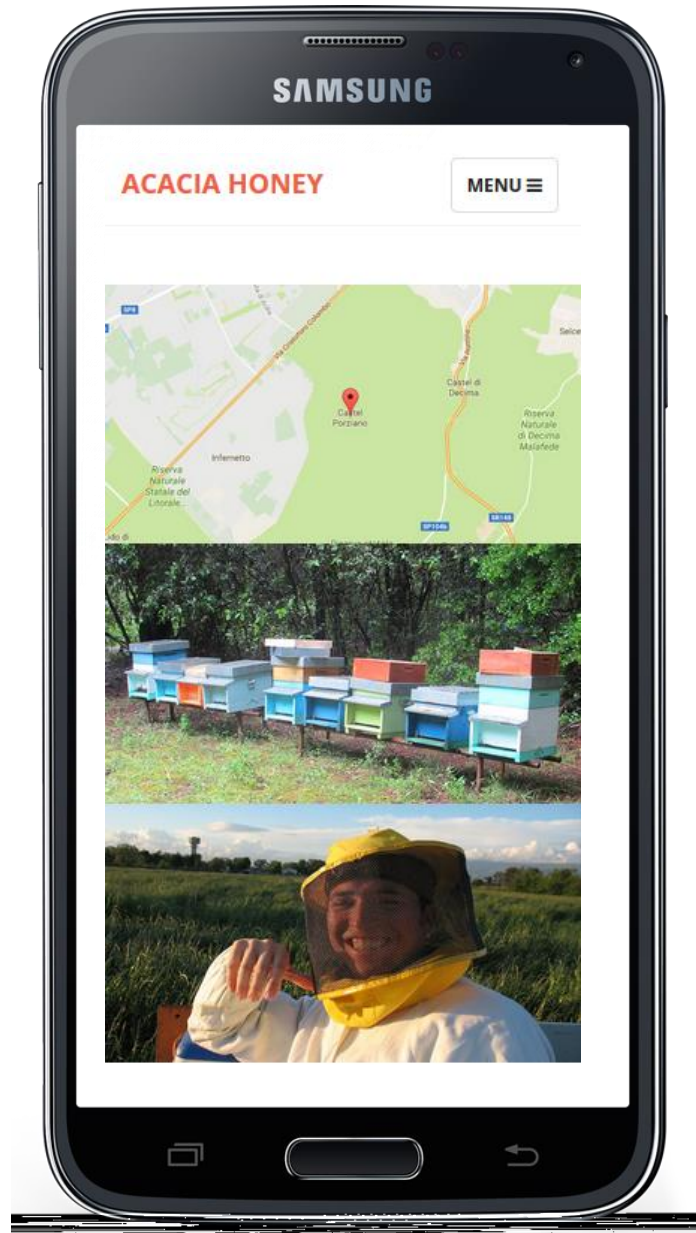
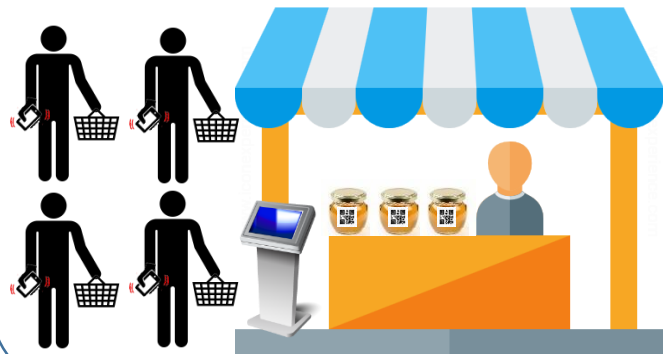
AT THE MARKET



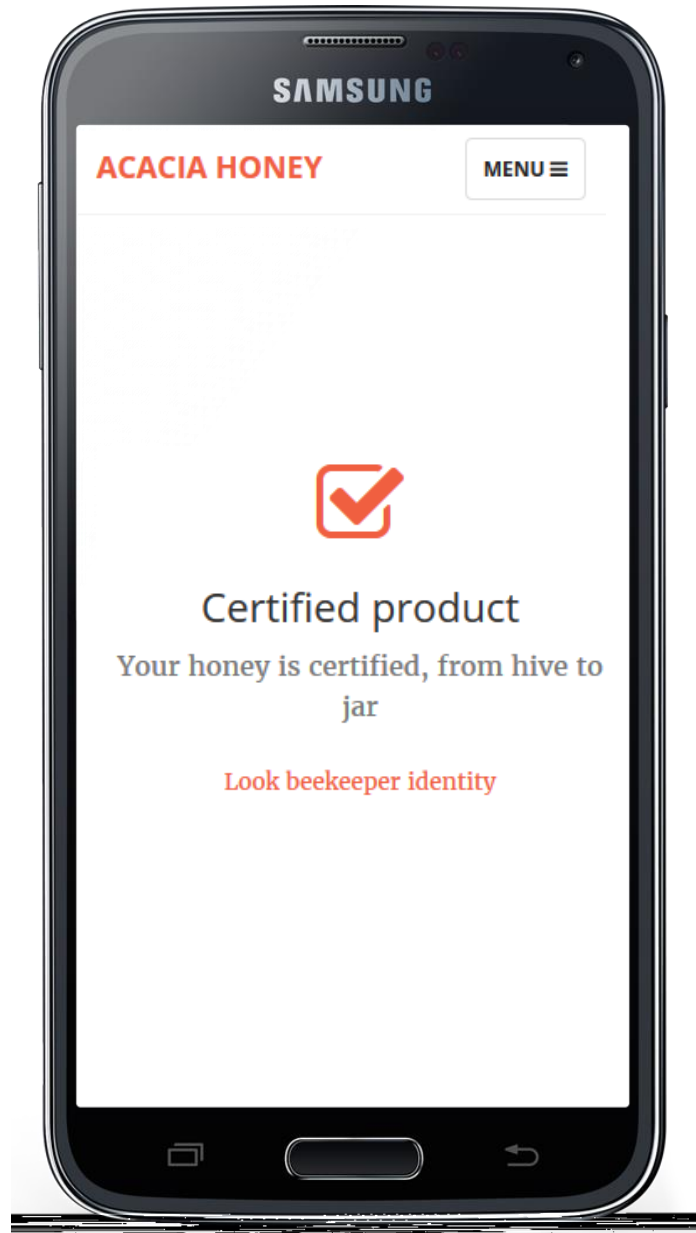
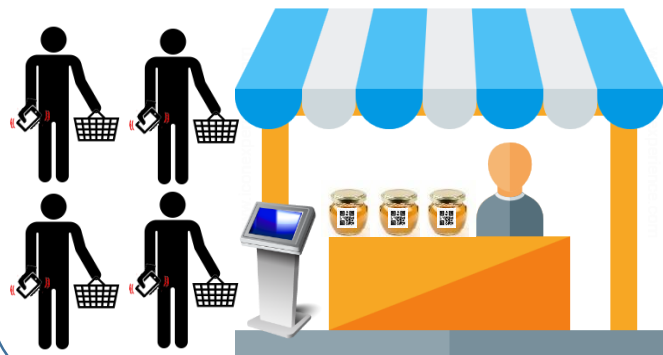
Moreover, the positive environmental impact of beekeeping and the ecosystem services provided by the bees will be pointed out in the web application.



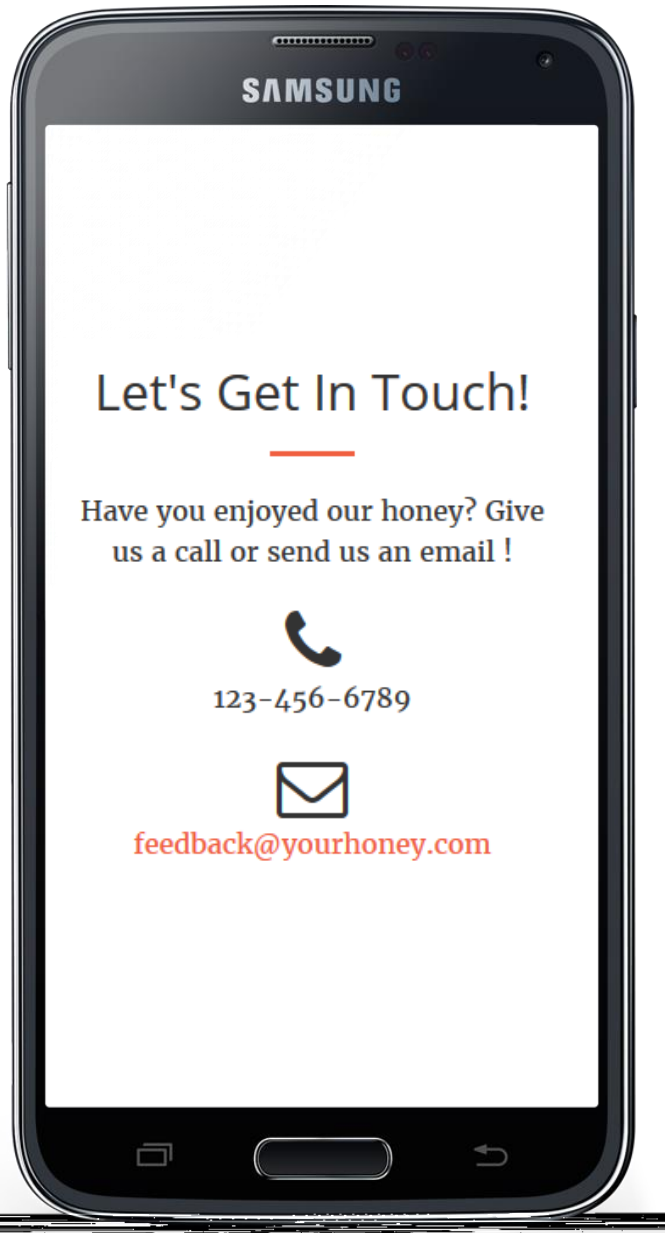
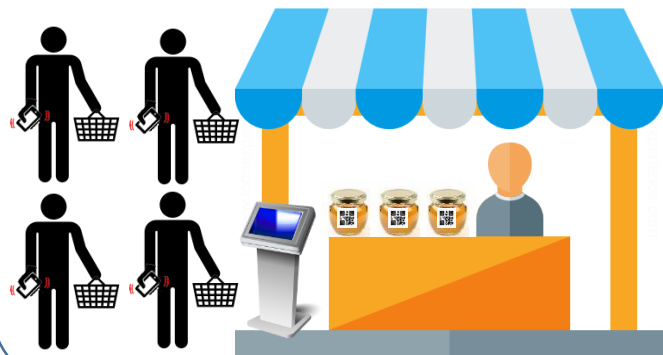
AT THE MARKET



AT THE MARKET



AT THE MARKET





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LABORATORY



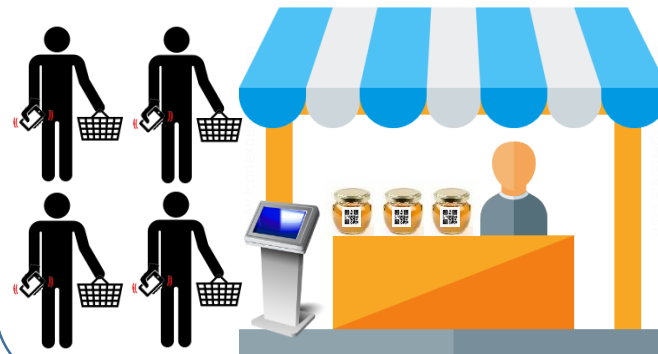
E.g. laboratory results of innovative methods for preclinic diagnosis, hive products analysis

APIARY



Feedback for
beekeepers

MARKET



- Honey characterization
- Apiary position
- Importance of bees in the environment

E.g.

- Clinical inspection date
- Colony strength
- Queen's performances
- Treatments application
- Notes

- Apiary position
- Honey extraction date
- Productivity data

HONEY HOUSE



The traceability system will be implemented on the basis of the recommendations of a consumers' panel, that will be carried out during the second and third year of the project by **Partner P7** through a social research technique.

Data on consumers' knowledge and perceptions will be collected to identify the weaknesses and the strengths of the traceability system and will be crucial to promote and sensitize the public on the project issues.

