**Applicazioni per dispositivi mobili**

**course**

**a.y. 2016/2017**

**DifferenziAquila**

**Design documentation[[1]](#footnote-1),[[2]](#footnote-2)**

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Strategy

# Product Overview

DifferenziAquila is an app that helps citizens in the activity of selective waste collection in the municipality of L’Aquila, providing tools and information that allow to communicate directly with the recycling company making the main services (such as requesting a special waste disposal) available directly from your smartphone.

The app aims to be usable by a vast diversified audience, from “middle-aged moms” to offsite students.

# Competitors

* [Juker](https://play.google.com/store/apps/details?id=it.giunko.junker&hl=it): “The first interactive app for the proper disposal of household waste”, its main goal is to tell the user how to properly separate waste and to provide basic information about the local recycling company (schedule, collection points location etc...).

Junker’s main issue is that it doesn’t allow a direct user-company interaction and it is not currently available for the municipality of L’Aquila.

* Other similar apps are dedicated to specific municipalities, so they are not considered as direct competitors.

in general, the other apps provide a lower level of interaction with the company and none of those tested has a notification system.

# User Research

The main need that DifferenziAquila aims to fill is the necessity to retrieve information about the schedule of waste collection and to interact with the recycling company without further losses of time.

* How many times have you forgotten to take out the right recycle bin?

From now on DifferenziAquila will notify you every evening telling you what is going to be collected the next morning.

* How much time have you lost trying to find the right number to call the right office to request a special waste disposal?

Through DifferenziAquila you can forward a request directly with your smartphone and it will also inform you about disservices or schedule variations.

DifferenziAquila wants to achieve that by providing an easy-to-use environment that allow the user to access the services as fast as possible as the DifferenziAquila user base is extremely wide (the average user age goes from 20 years and up), most of it is composed of people who do not necessarily have familiarity with technology.

The duration of the typical user session should be extremely short, the main reason is that the user does not want to invest time in these activities, because the selective waste disposal is already seen as a forced and annoying activity, DifferenziAquila aims to mitigate these feelings.

Probably all features will be used is situations where the user is in a hurry, or he’s doing something else at the same time, so every functionality must be reached in as few taps as possible and all the interactions must be quick and focused to the result.

# Personas

**Gabriella**

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| **Age:** 55 | **Occupation:** Biologist |
| **Family:** Married, 2 children, 2 dogs | **Internet use:** Facebook, Internet Banking and simple searches |
| **Technical profile:** Totally uncomfortable with technology, Samsung A3 |  |

Gabriella is a mom of two children with a full-time job and two dogs, she is the one that takes care of the house. She is so busy that she often forgets to take out the trash bin, so the waste starts to accumulate in the back of the house.

**Luca**

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| **Age:** 21 | **Occupation:** Offsite student |
| **Family:** Engaged for 2 years | **Internet use:** Social networks, university researches |
| **Technical profile:** Very comfortable with technology, Apple iPhone 7 |  |

Luca is an undergraduate at University of L’Aquila. He shares his apartment with other 3 colleagues. He doesn’t know how separate waste collection works in L’Aquila and he is too busy to go and ask for information about it. Also, being without a car, he has difficulties reaching the company offices to get the physical calendar and the recycling sacks.

**Mauro**

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| **Age:** 40 | **Occupation:** Electrical engineer |
| **Family:** Single | **Internet use:** Facebook, scientific researches |
| **Technical profile:** Somewhat comfortable with technology,  Huawei p9 |  |

Mauro is a electrical engineer, he is an “old school” man that prefers paper and pencil to a pc even if he’s starting to embrace the new technologies. He lives alone and he has some difficulties managing all the housework. He often uses his house as a laboratory and so he sometimes need to dispose special wastes.

Scope

**Features**

Main features:

* **Notify** the user about what is going to be collected the next morning

The user can choose the desired time at which the notification will be sent (if he wants).

* Show the user the selective **waste collection schedule** through a digital calendar
* **Book** a special waste collection and disposal

The user can choose from a list of dates and times when a company employee can come and pick up the special wastes.

* **Order** recycling sacks

The user can order a certain quantity of recycling sacks (directly provided by the company) to be delivered to his address.

* Get **communications** from the company

The user will be notified whenever there are disservices or changes to the calendar.

* Show the user a **map** of used oil collection points

Rules and constraints:

* **Few views** and easily navigable
* Everything must be done in at most **3 taps**
* Everything must be done **inside** the app (no external links, maps etc…)
* Ask for user’s credentials only when necessary (checking the calendar, receive notifications and consult the map, for example, do not require authentication)
* Avoid the use of the keyboard (when possible)

**Scenarios**

**Scenario 1:**

Gabriella has just finished washing the dishes and, after a long day of hard work she goes sleep. Between fatigue and various thoughts, she forgets to take out the trash bin.

The next morning, when she wakes up, she takes out the trash and she realizes that, since it is not the first time, the garbage began to accumulate in the back of the house.

At work, the colleagues (who had the same problem) talk to her about DifferenziAquila and how they managed to solve this issue with it.

Gabriella choose to receive a notification every evening at 10pm so she quickly knows what is going to be collected the next day and she never misses a collection.

**Scenario 2:**

Luca and his friends are cleaning the kitchen after the lunch, they realize that they are running out of recycling sacks and every time they have to take out the garbage they have to visit the company website to check the schedule.

Being without a car, they have difficulties reaching the company offices to get the physical calendar and the recycling sacks.

Luca is very confident with technology and he decides to check the store to see if there is something that can help him and his friends.

After installing DifferenziAquila and providing his client code, he quickly sends a recycling sacks request, and he goes back to what he was doing.

**Scenario 3:**

Mauro has a very old bunch of batteries to dispose in his “home lab”.

He isn’t very confident with technology, but he finally convinced himself that it is time to find information about the local special waste disposal procedure.

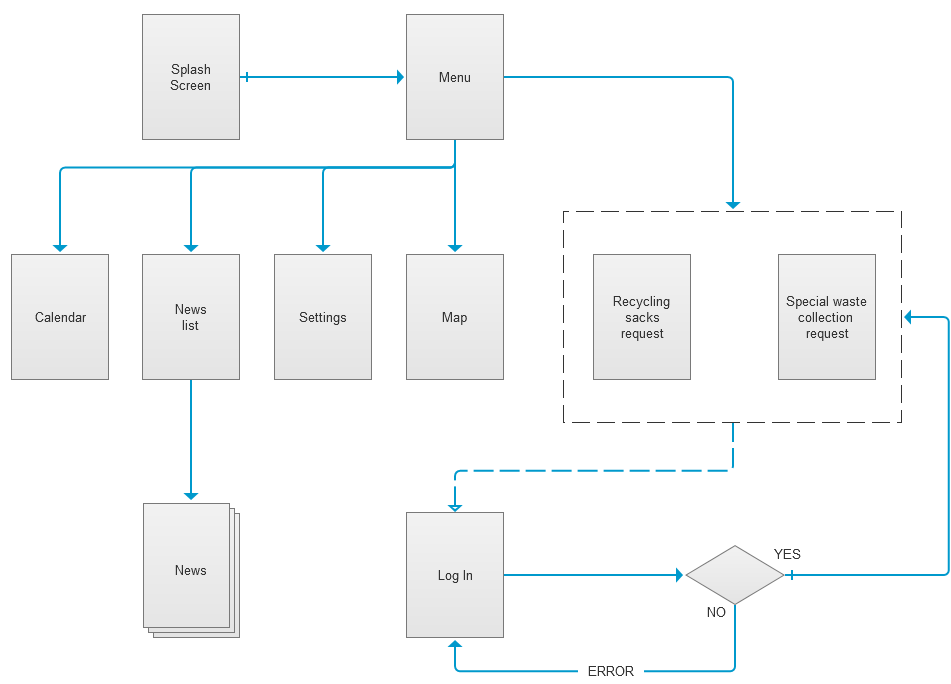
He hasn’t time to consult the company’s webpage so, using his smartphone, he decides to check the app store.

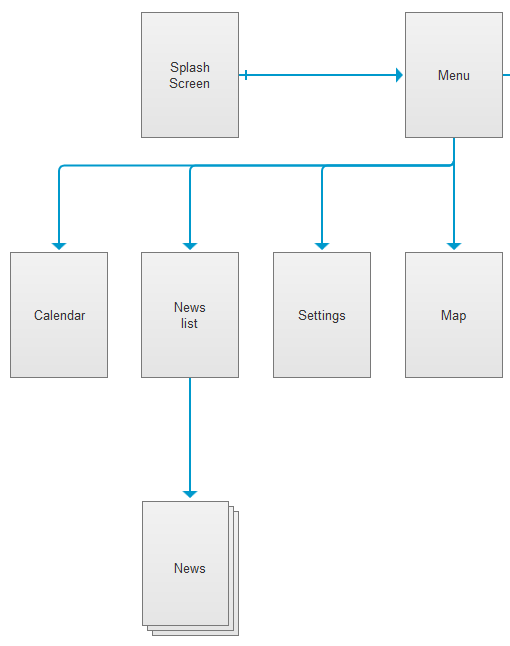
After a couple of minutes, he finds DifferenziAquila, through its easy-to-use interface he quickly finds the special waste collection request, logging in with his client code he doesn’t even need to provide his address.

In a few taps he choose a time that does not conflict with his working hours and send the request.

Structure

# Navigation model

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**Splash Screen:**

This is the opening view of DifferenziAquila. The user will see this view when he starts the app.

**Menu:**

This view is the first interactive view of DiferenziAquila: here the user can choose what to do and what to see.

We decided to make this view because we want to give the user the possibility to choose immediately what he wants to do, right after opening the app.

**Calendar:**

This view exhibits the selective waste collection schedule through a digital calendar.

**News list:**

This view contains the list of news and essentials communications.

On this page will be published disservices and changes in the calendar.

**Settings:**

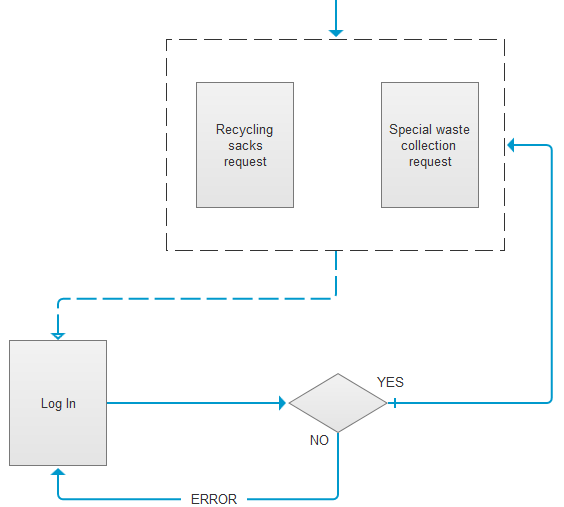
This is where the user can choose (if and) when to receive notifications and find information on the company.

**Map:**

This view shows all collection points for special wastes, such as used oils, used batteries, clothes, etc.

**News:**

This is the view that shows the details of a single news.

**Log In:**

This is view that allows the user to log in and consequently allow the user to access to the areas reserved for costumers.

**Recycling sacks request:**

This is first reserved view where the user can access only after logging in.

This view allows the user to order a certain amount of recycling sacks. Indeed, we have assumed that the company provides adequate waste bags to each type of waste.

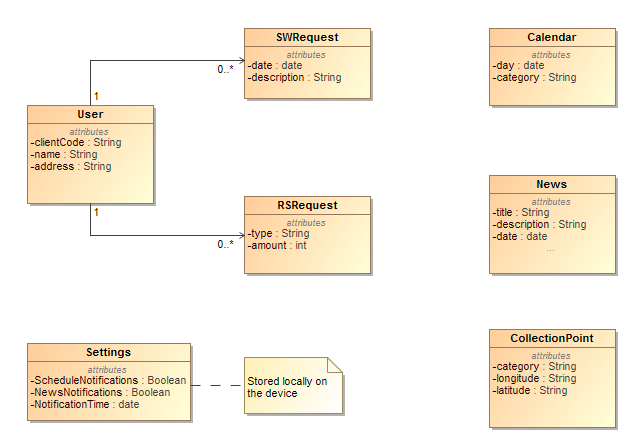
**Special waste collection request:**

This is second reserved view where the user can access only after logging in.

This view consists of a request form that is used to book a special waste collection, in this form the user has to provide some basic information about the items.

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# Data

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**User:**

The User entity represents the users with their basic information.

**SWRequest:**

The SWRequest (Special Waste collection Request) entity contains the user’s request list. Every user can submit zero or more requests, every request refers to a single user.

**RSRequest:**

The RSRequest (Recycling Sacks Request) entity contains the user’s recycling sacks request list.

Every user can submit zero or more requests, every request refers to a single user.

**Calendar:**

The Calendar entity contains the data about the collection schedule.

**News:**

The News entity contains the details of a single news.

**CollectionPoints:**

The CollectionPoints entity represents all the collection points for small special wastes (such as used oils, used batteries, clothes, etc.).

So, we need to know what types of waste we can dispose there and its coordinates (longitude and latitude).

**Settings:**

The Settings entity contains two attributes that represent if the user wants to receive the schedule notifications and news notifications or not.

If the user decides to receive the schedule notification, we also store the time he chose.

These data are locally saved on the device because it is not necessary to store them on the database.

Skeleton

Lo-Fi Wireframes of your app. In this phase you have to create a **complete wireframe** representing all the views described in the navigation model.

Description of the relevant choices you made about the user interaction and how information flows among views.

// It will be a very friendly and simple view: the user can choose if he wants to receive notification or not through a check box and in case he wants it, he can choose the best time when receive it.

// This page can be helpful for the user because trough a simple search he can find the collection points closer to his house or near his location.

// With this view the user can order them and have bring them the following day in their own home, without having to go to the agency's door for them.

// It’s helpful to the user because often we do not know where to throw special waste as refrigerators, TVs, chemical substances, etc

// This is very important for the user as it will be informed in real time through a notification about the changes.

Surface

Provide an Hi-Fi Wireframes of a **single view** of your app. Please choose a representative view to show here.

Description of the relevant choices you made about the layout and color palette, fonts, icons, etc.

1. The max length of this document is 20 pages [↑](#footnote-ref-1)
2. The structure of this document is fixed, it cannot be changed in any way [↑](#footnote-ref-2)
3. The team leader is listed as first member in this table [↑](#footnote-ref-3)