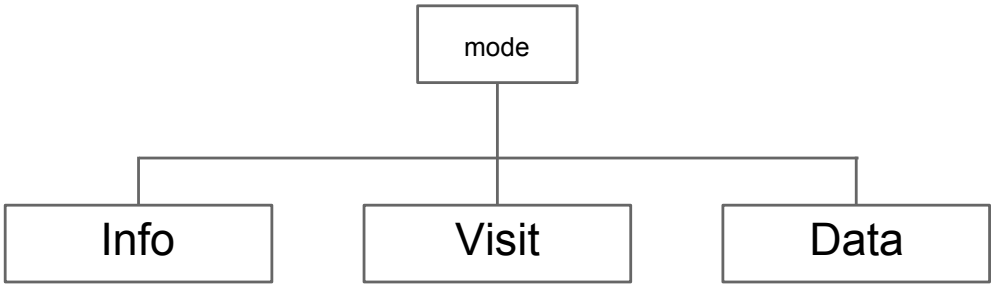
# Botanic

v 1.0

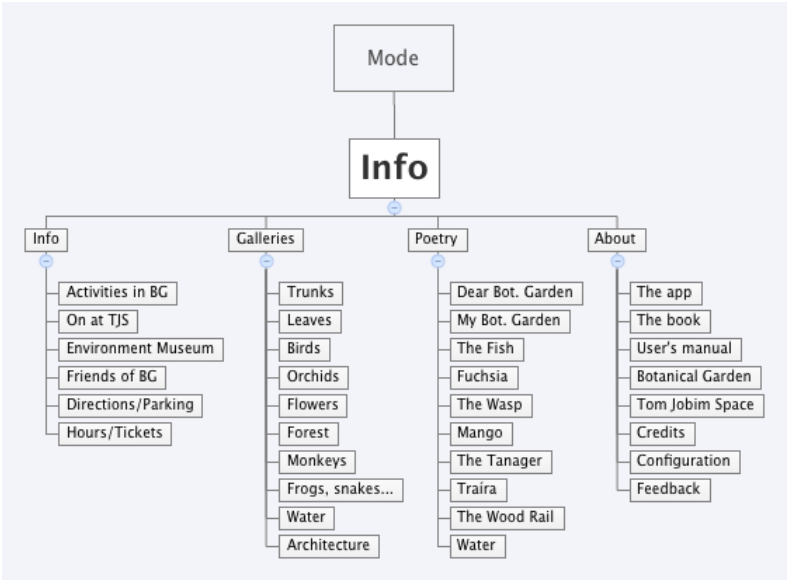
## Why the Botanical Garden?

- Public place
- One of the most visited attractions in Rio
- Big area, but not so big
- safe (to use your iPhone)
- rich (visually, historically, culturally)
- One of Tom Jobim's favourite spots (and house of the ITJ)

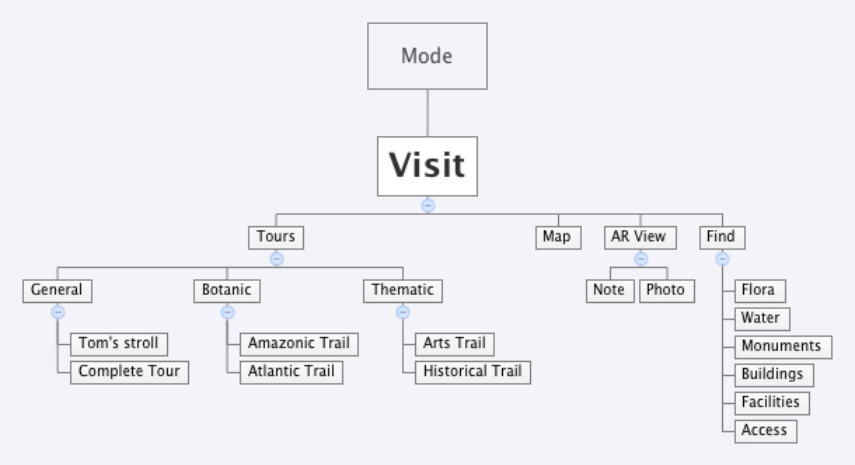
# Basic navigation structure



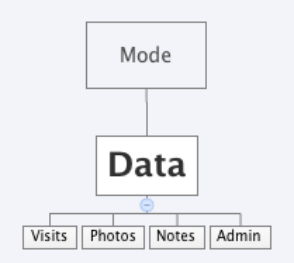

## Basic navigation structure (detail)



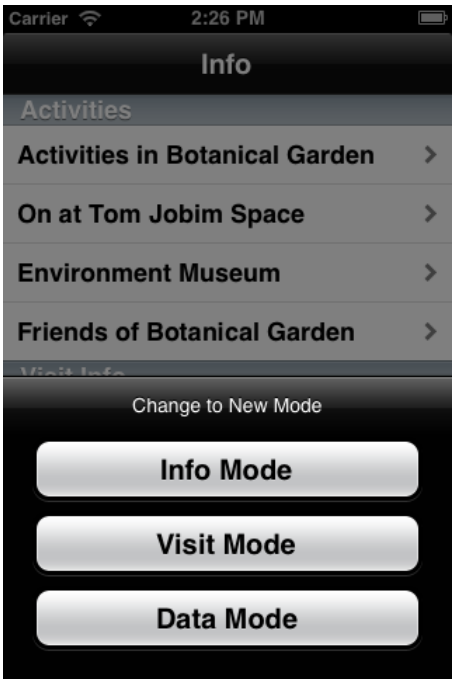
# Basic navigation structure (detail)



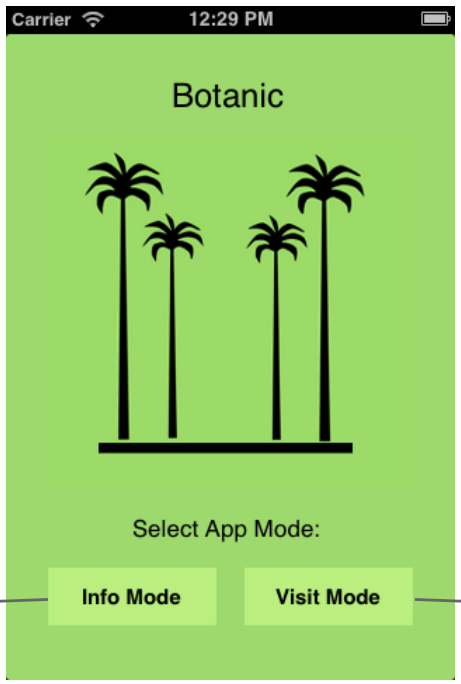

# Basic navigation structure (detail)



Three main modes:




Opening screen

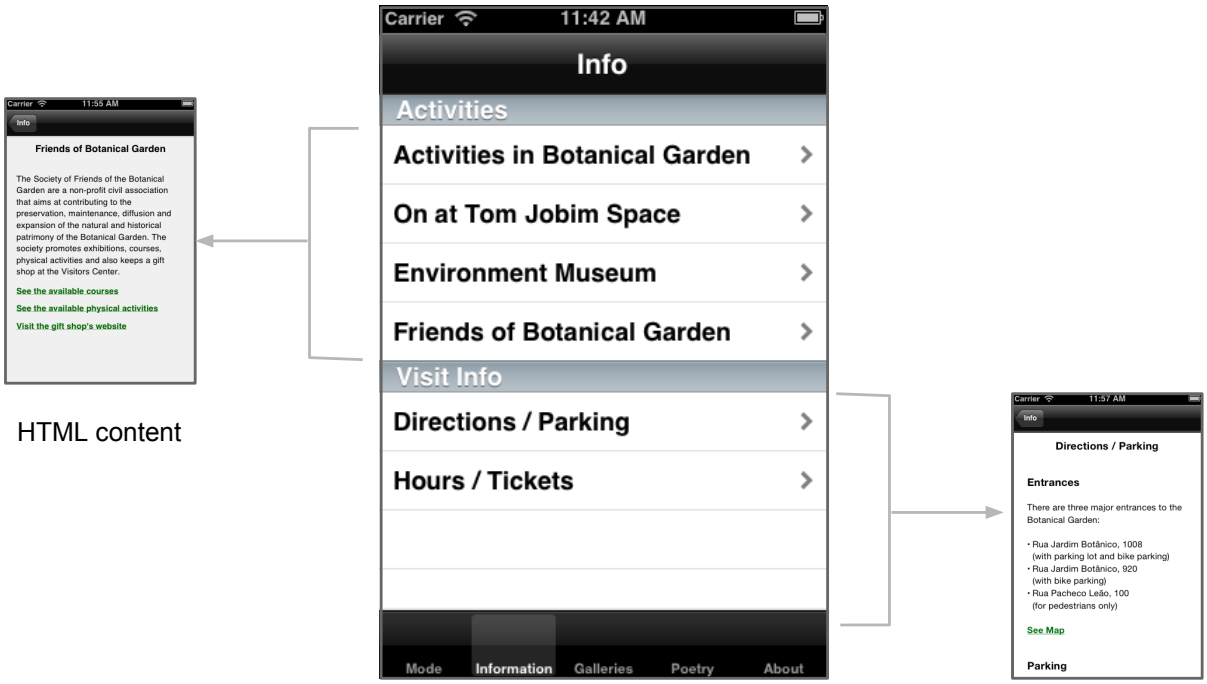



OBS.: we've decided to show only the Info and the Visit modes in this screen

- Information
- Galleries
- Poetry
- About

- Tours
- Map
- AR View
- Find

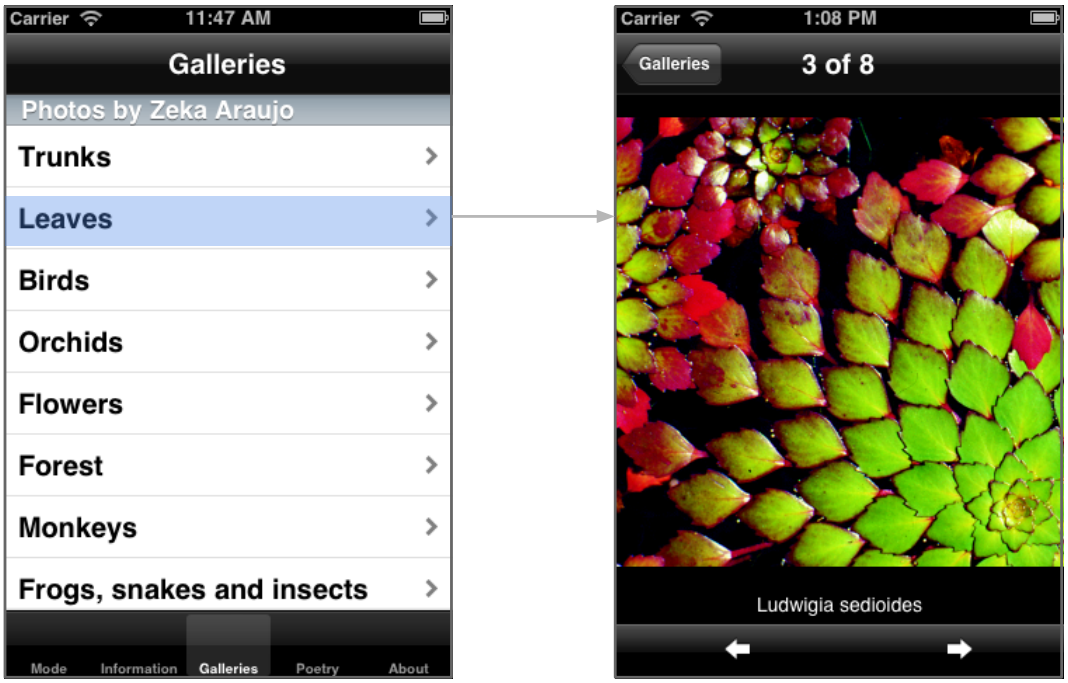
Info Mode / **Information**



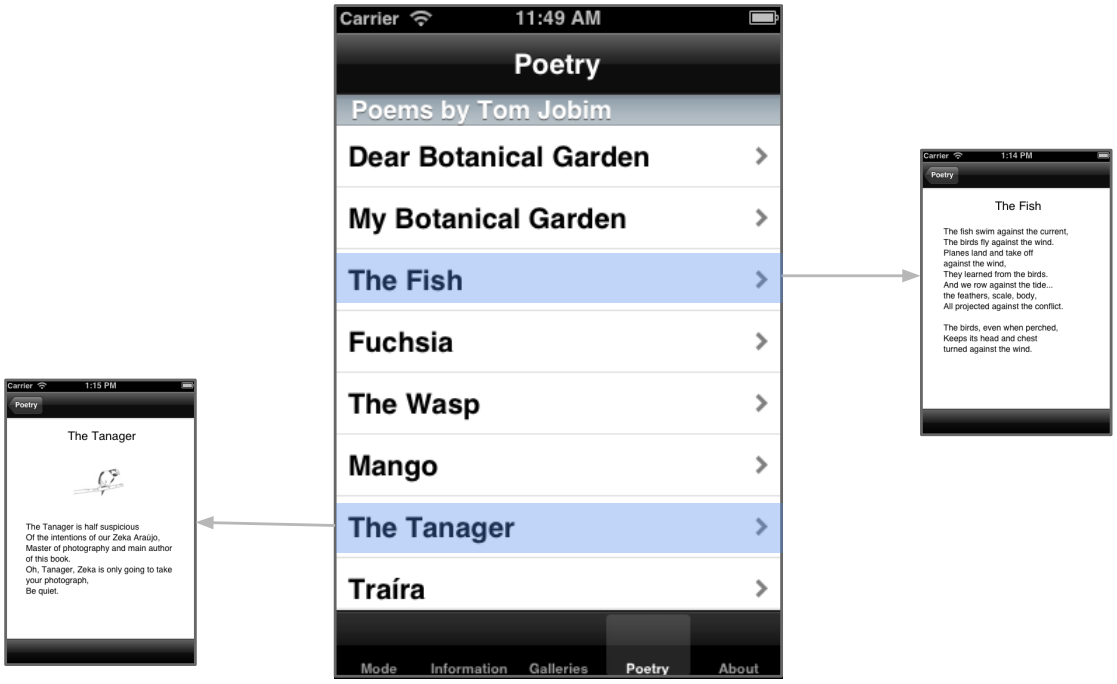

HTML content

PDF content

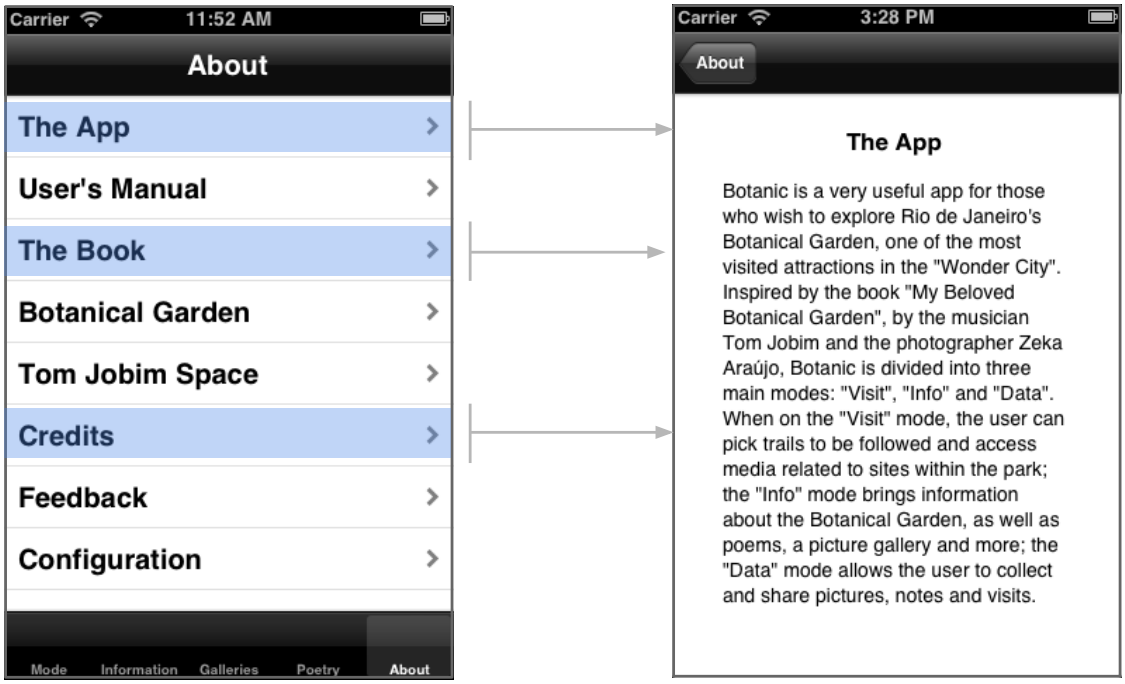
Info Mode / **Galleries**



Info Mode / **Poetry**

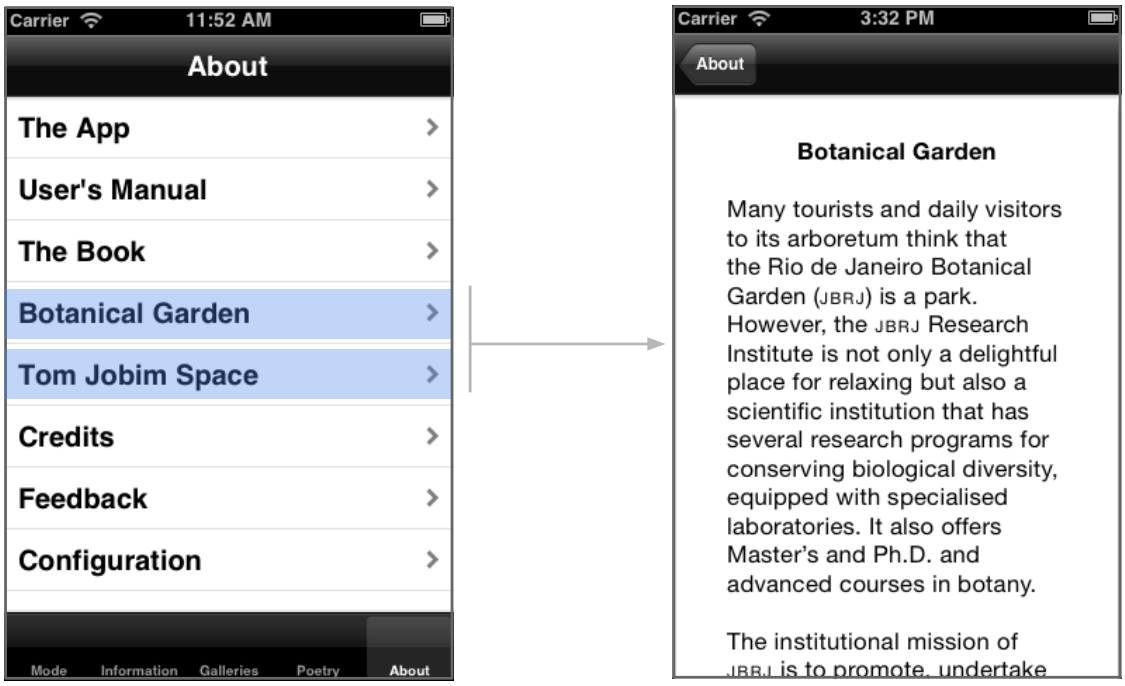



Info Mode / **About**



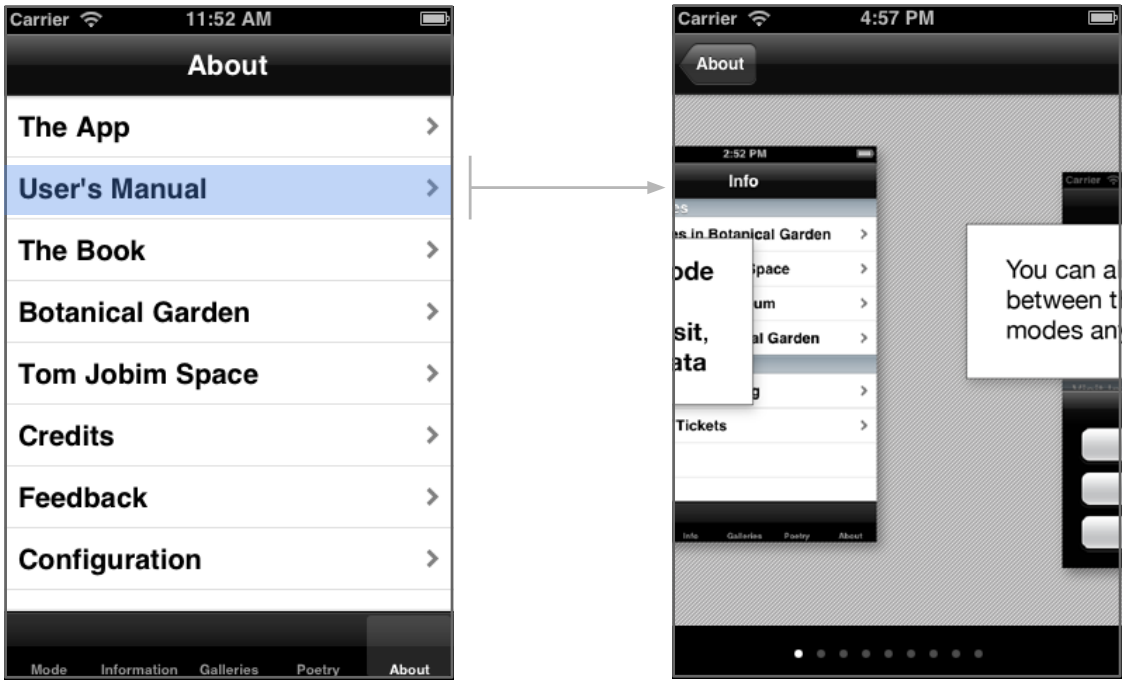

Made in storyboard

Info Mode / **About**



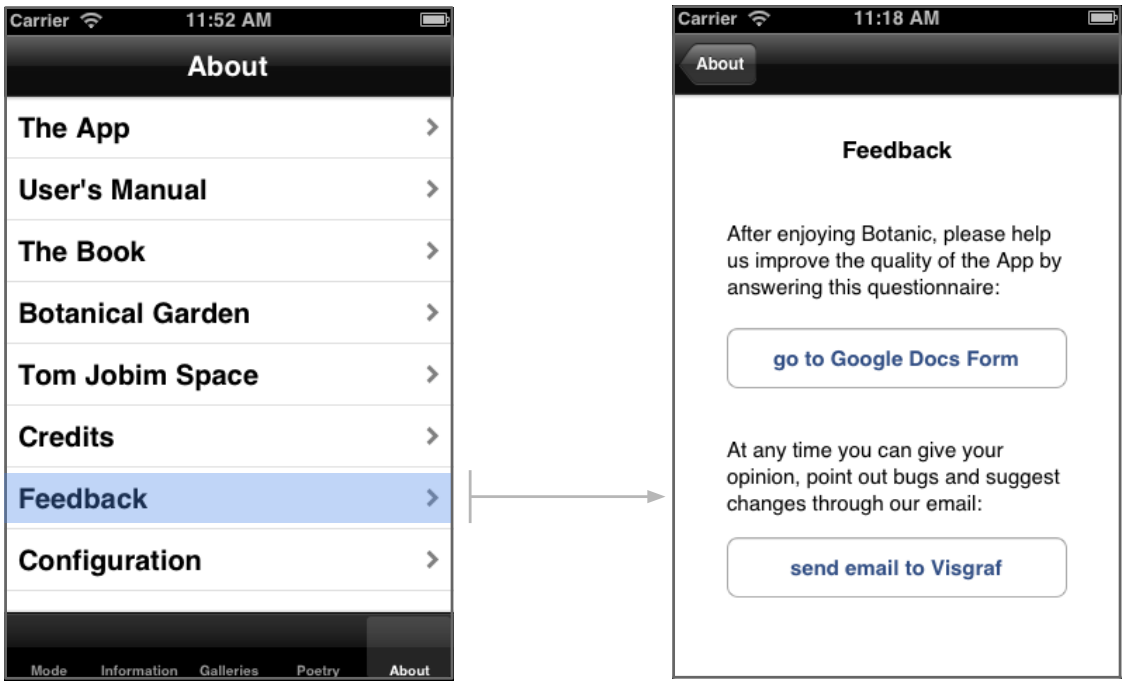

Scrollable PDF

Info Mode / **About**



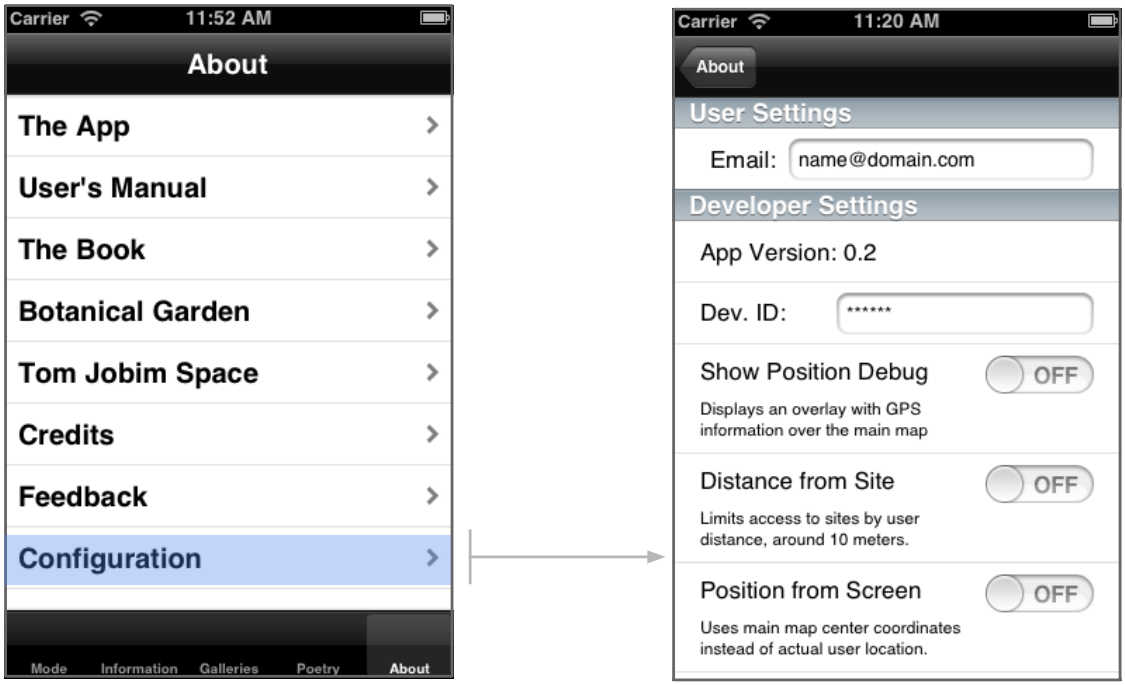

Horizontal Scroll View

Info Mode / **About**

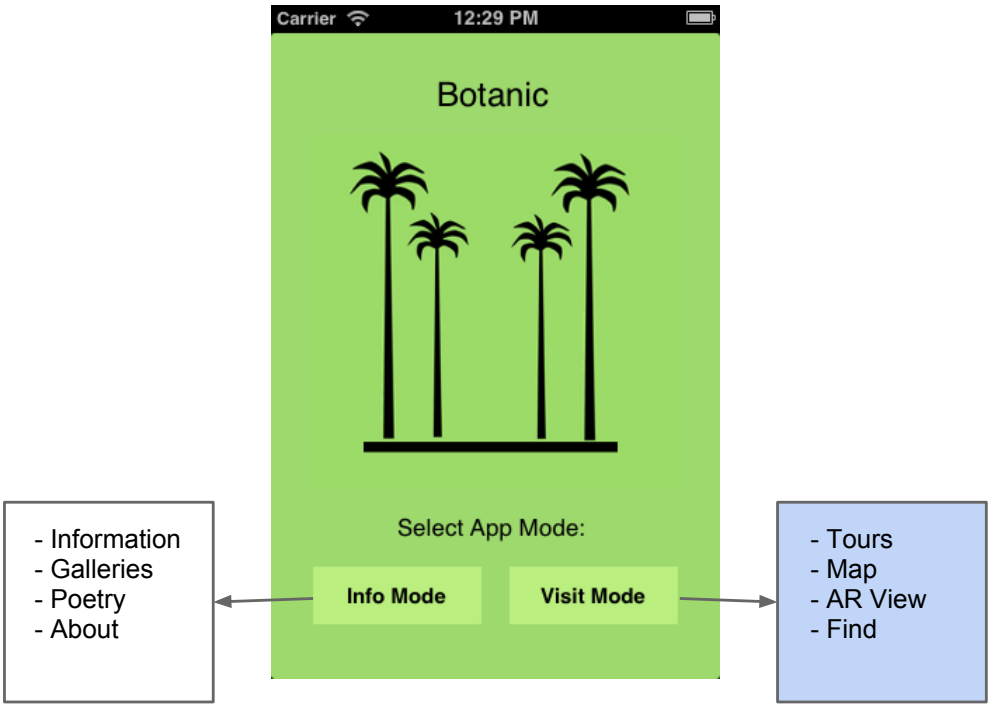



Storyboard + Web View

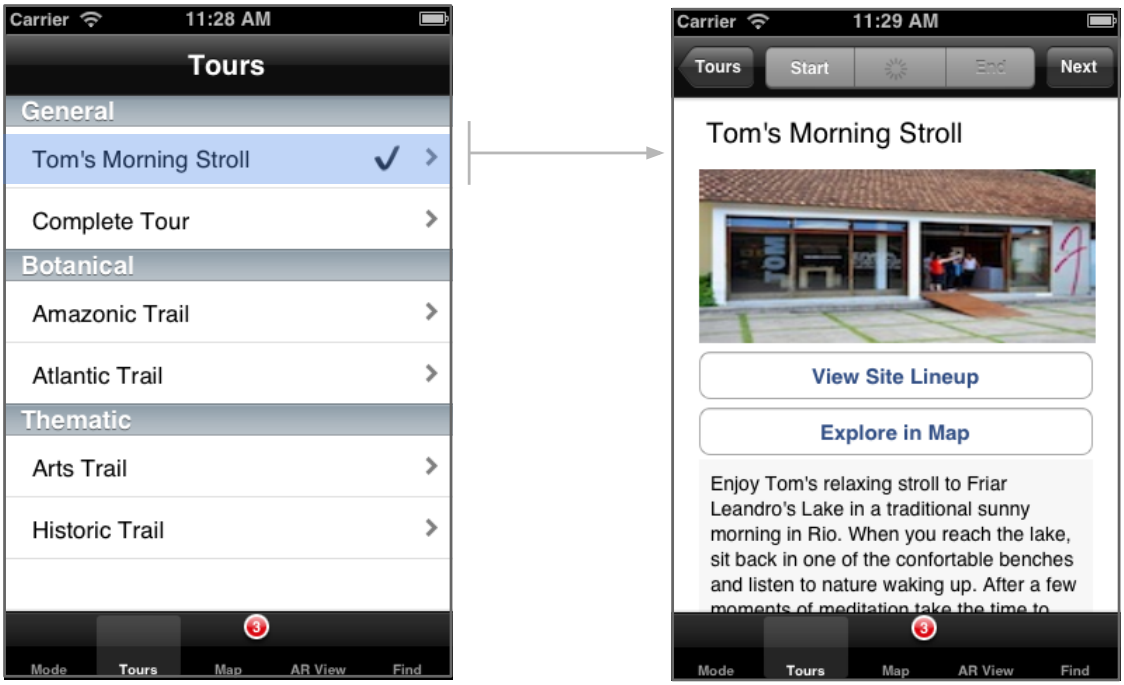
Info Mode / **About**




Static Table

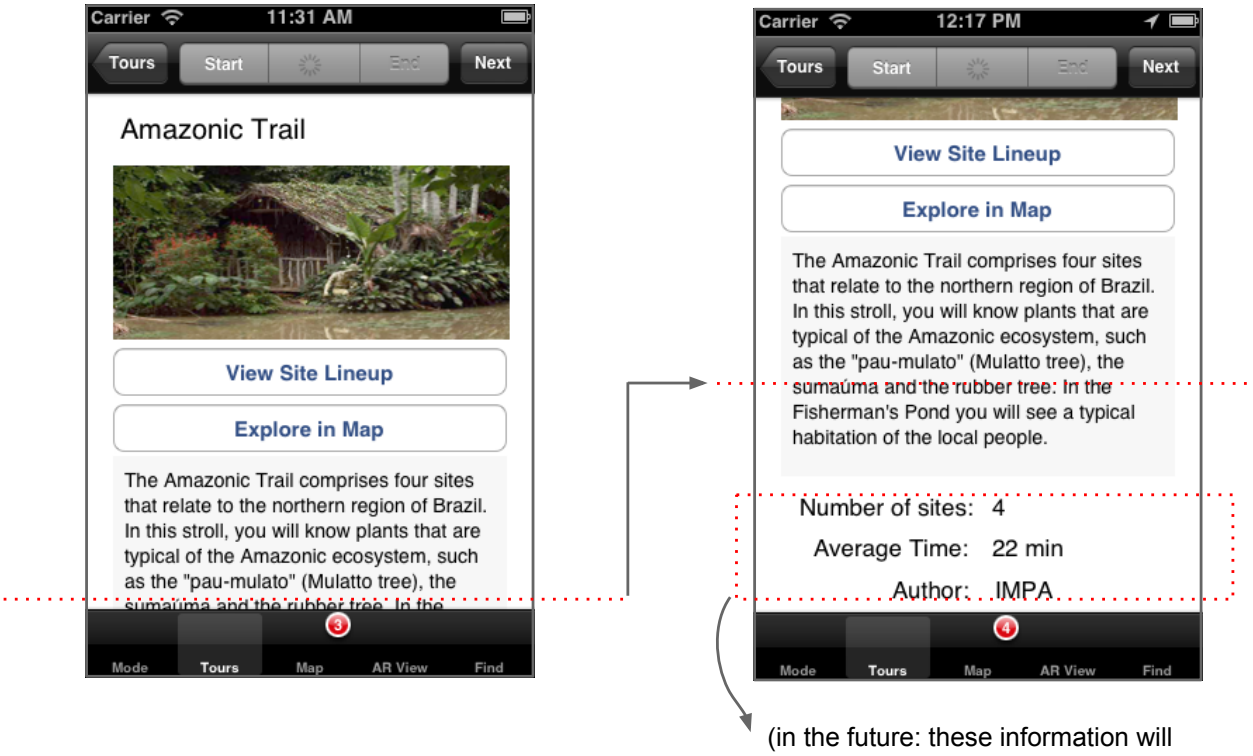



Visit Mode / **Tours**



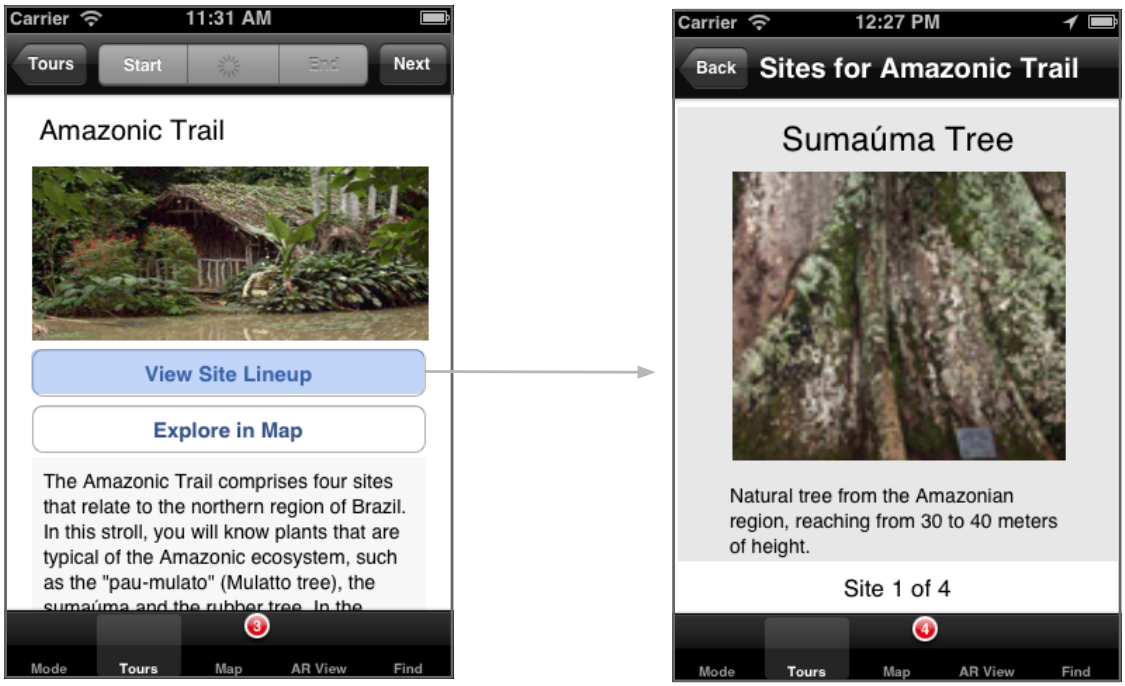

Scrollable screen

Visit Mode / Tours / **Detailed interface**



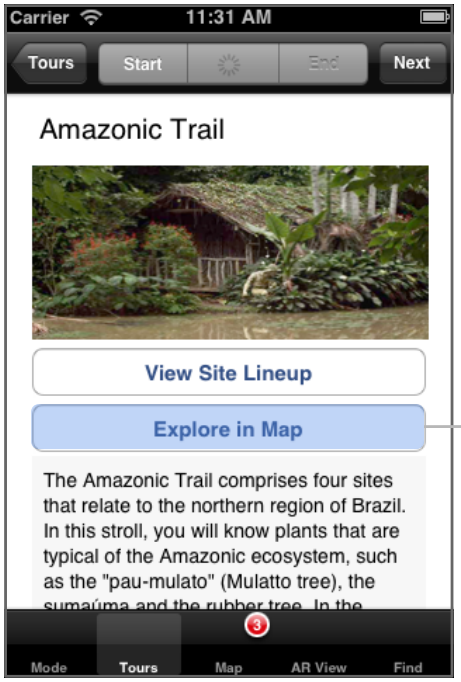

(in the future: these information will be distributed along the interface)

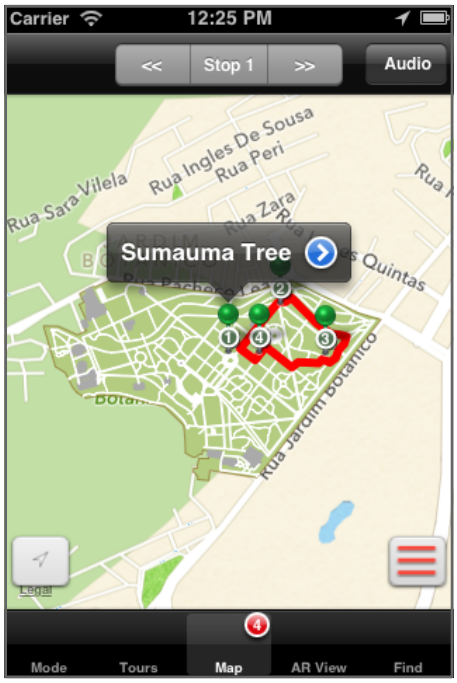
Visit Mode / Tours / **View site lineup**




Horizontal Page Scroll

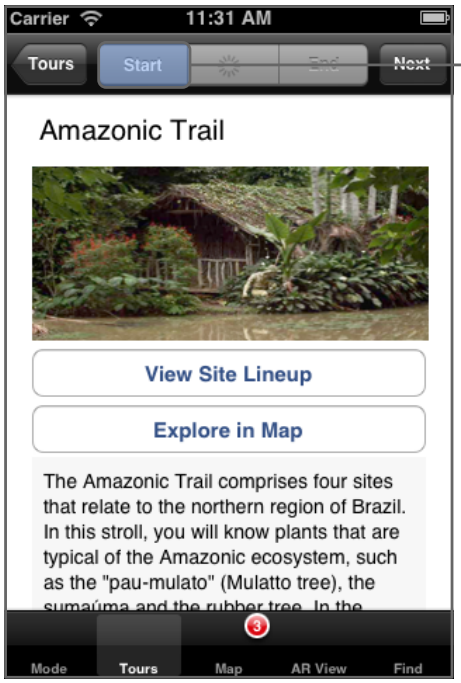
Visit Mode / Tours / **Explore in map**



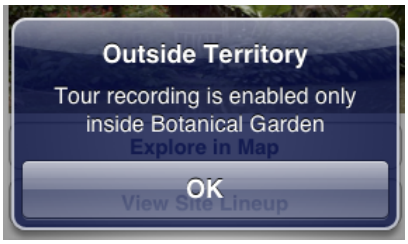

Link to item in tab bar

Visit Mode / Tours / **Starting a tour**





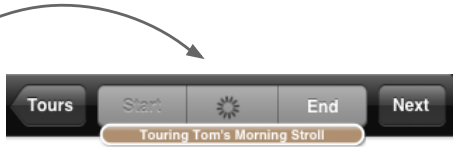
Is the user inside the park?




Is the user outside the park?

# Taking a tour

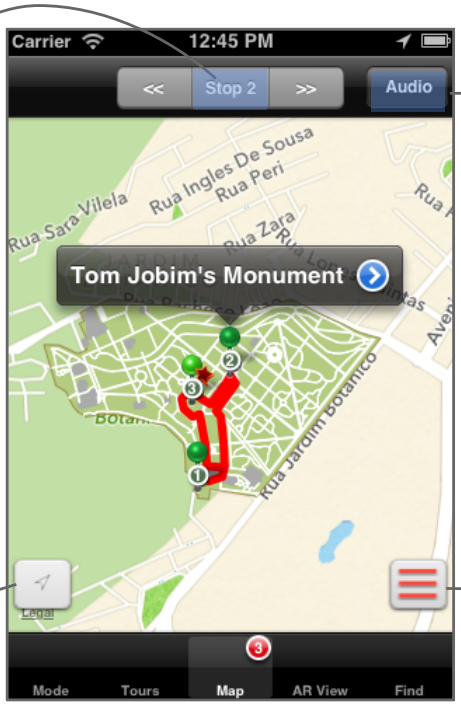
- Once the tour is started, a **timer** will be set.
- The users can alternate between the Map and the AR View to check their location and to uncover information and media related to the sites they're visiting.
- Once the users decide to **end** the tour, its record can be discarded or used.
- If the user taps on **Use**, the data collected will be stored in the Data Mode.



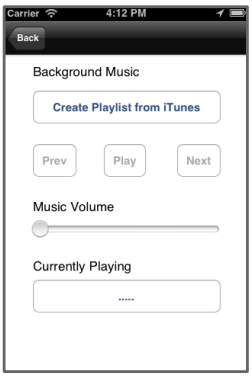


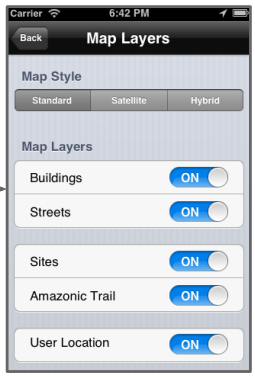
Visit Mode / **Map**

Shows information about the current site/stop

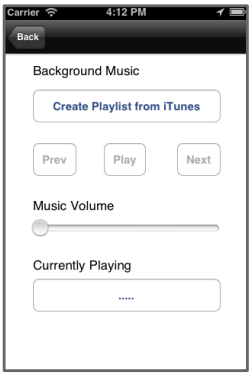

Centers user on map




Map layers

# Visit / Map / **Audio**



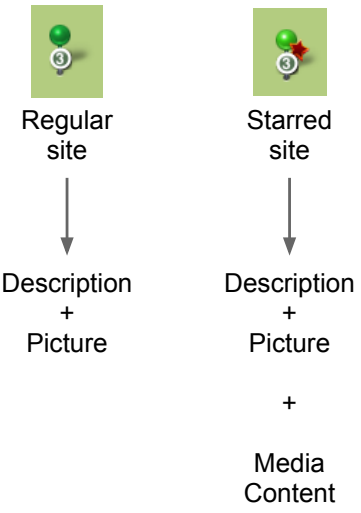

The **Audio** function enables users to create musical playlists **within Botanic** with their own iTunes songs.

The audio controls are fully integrated with the App, so that the users need not leave Botanic in order to listen to music, and there is no interference between the playlist and the audio content that is part of the application.

# **Regular and "starred" sites**

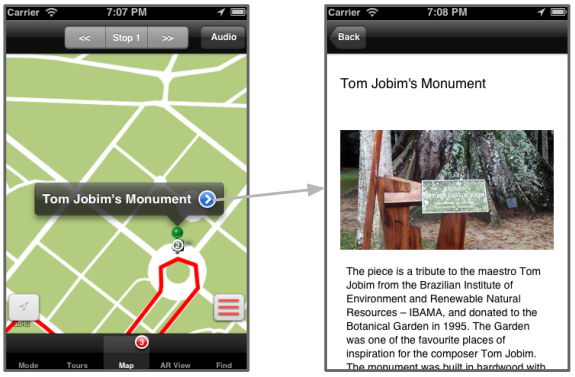
Currently there are two types of sites that are displayed on the map: the **regular** and the "**starred**" ones.

The difference between the two is the type of informational material associated with them. The regular sites have a description and a picture, whereas the starred ones also contain media.

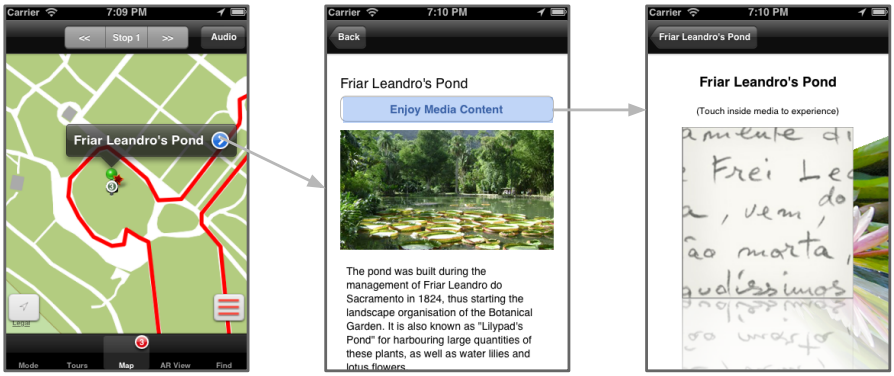


Visit Mode / Map / **Regular and Starred sites**

Regular site



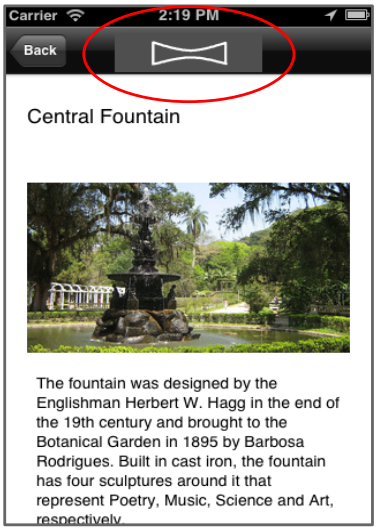

Starred site




# Panorama

We have implemented a feature in one of the sites (the Central Fountain) that enables users to navigate through a panoramic image.

(Here, Luiz will be more able to give the technical details)



# AR View

- AR stands for "Augmented Reality"
- The function allows users to locate sites within the park through the device's camera
- Arrows indicate the exact direction of the sites (turn to turn?)
- The users can also write notes and take pictures

# AR View

Not possible to take a good screenshot from the simulator (lack of camera). In the future, place a real picture of the AR View here!

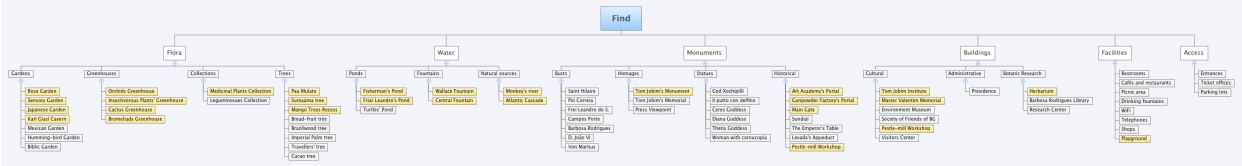
# Find

- Flora
- Water
- Monuments
- Buildings
- Facilities
- Access

Sites

Landmarks

Marks

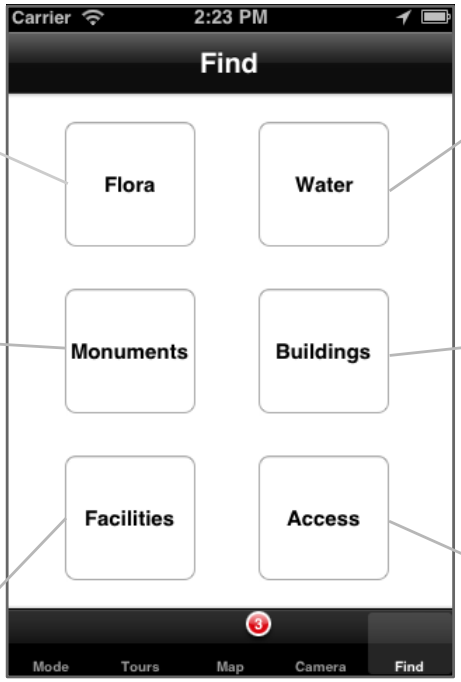



Visit Mode / **Find**

- Collections
- Trees
- Greenhouses
- Gardens

- Homages
- Historical
- Statues
- Busts

- Restrooms
- Telephones
- Cafes and Restaurants
- Picnic Area
- Shops
- Drinking Fountains
- Wi-fi
- Playground

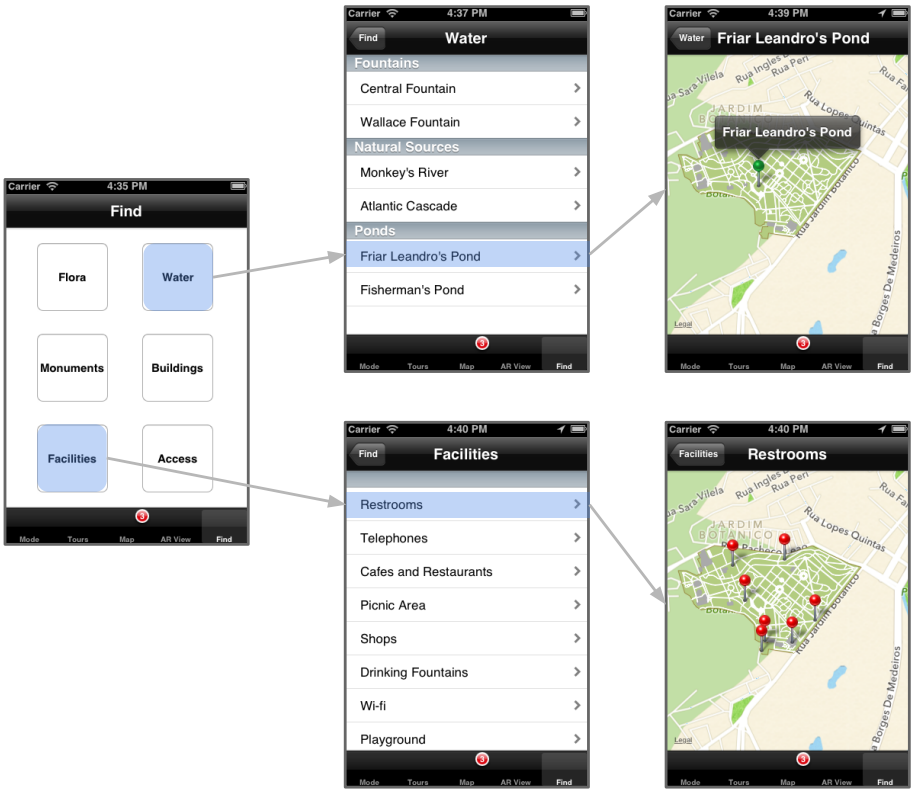



- Fountains
- Natural Sources
- Ponds

- Botanic Research
- Administrative
- Cultural

- All Entrances
- Visitors Entrances
- Parking Lot
- Ticket Offices

Visit Mode / **Find**




Specific sites are displayed separately and are identified by a "tag".

Generic sites are displayed simultaneously.

*In the future: center user's location on the map as well.

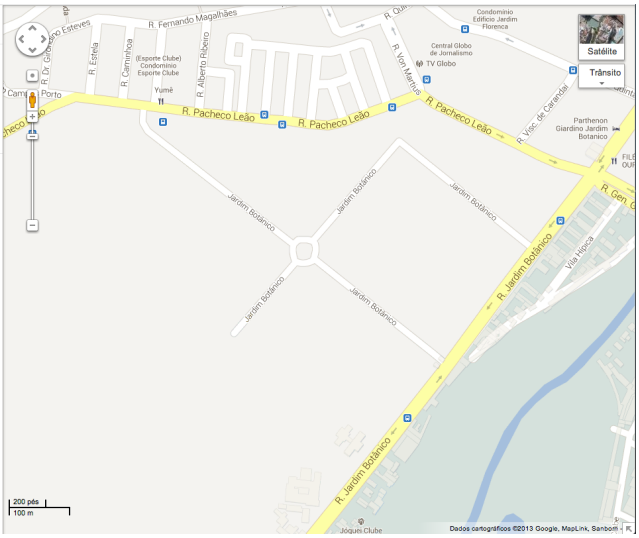
# Mapping the Botanical Garden

The Botanical Garden already had a map showing the perimeter, along with all the alleys and small streets inside it. However, this data was, until now, only vectorized, with no real relation with the geographical points the Garden is located at. To be able to work with the geolocation we wanted to use in the App, the map had to contain information of latitude and longitude.

# Mapping the Botanical Garden

We looked for the information already available about the Botanical Garden in Google Maps and in the Apple map.

However, these maps didn't have an accurate information about the paths inside the perimeter.

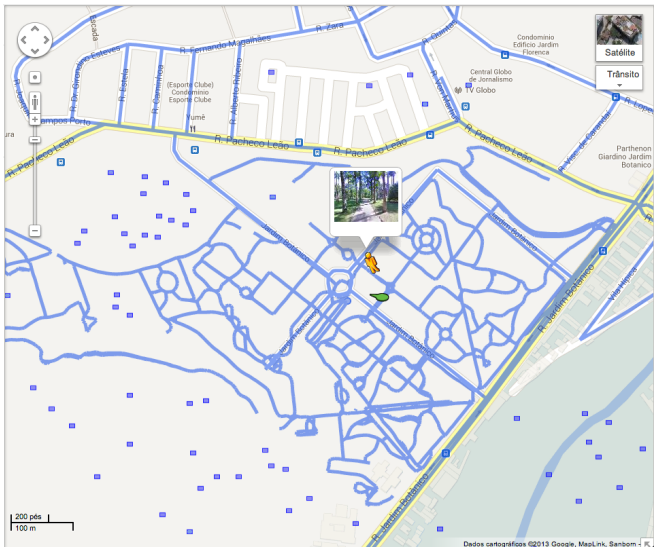



Google maps showing the Botanical Garden in "Map View"

# Mapping the Botanical Garden

When choosing the Street View mode in Google Maps, it reveals the paths that the camera went through, however, they are only shown during the moment you drag the figure to the point you want to explore.

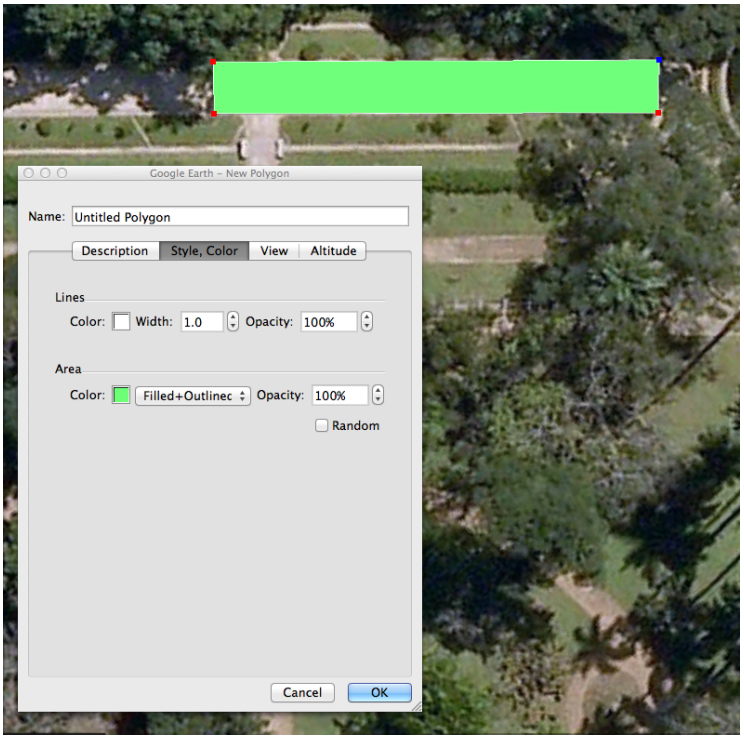
Even this way, there were areas inside the Botanical Garden Google hadn't been through.




Google maps showing the Botanical Garden in "Street View"

So, we used the vectorized map from the Botanical Garden as a reference and traced all the paths on Google Maps with the polygon tool.


The polygon tool allows you to create forms in Google Earth and save them in .klm format. With this tool, we were able to map the alleys inside the Botanical Garden.



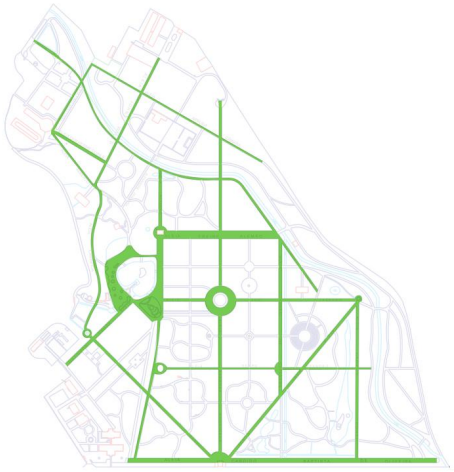

The Polygon Tool allows you to add as many points to the polygon as you need, and also edit color and description

# Mapping Steps:

Firstly, the perimeter was traced.

# Mapping Steps:

Following, the main alleys were traced. Each alley is a separated polygon.

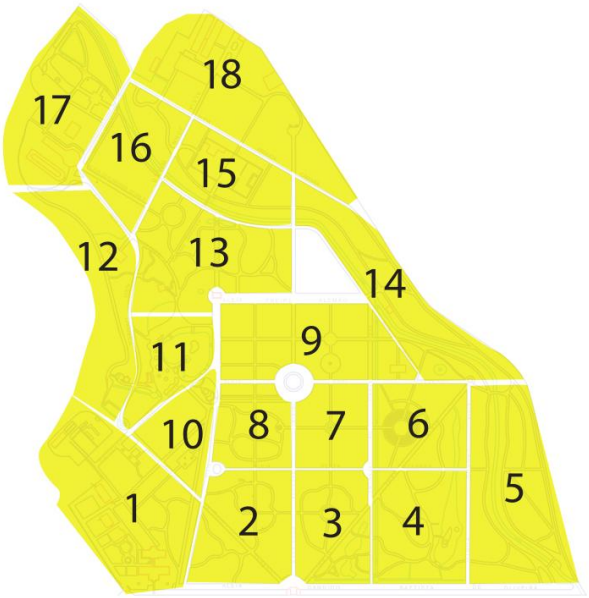


Relação entre as Aleias e os arquivos .kml

A_Candido = Aleia Candido Baptista de Oliveira
A_Barbosa = Aleia Barbosa Rodrigues
A_Campos = Aleia Campos Porto
A_Karl = Aleia Karl Glasl
A_Frei = Aleia Frei Leandro
A_Capanema = Aleia Barao de Capanema
A_Brandao = Aleia Serpa Brandao
A_Serrao = Aleia custodio Serrao
A_Moreira = Aleia Nicolau Moreira
A_Alemao = Aleia Freire Alemao
A_Brade = Aleia Brade
A_Velloso = Aleia Frei Velloso
A_Guinle = Aleia Guilherme Guinle
A_Willis = Aleia John Willis
A_Arruda = Aleia Arruda Camara
A_Alberto = Aleia Alberto Loefgren
A_Pizarro = Aleia Pizarro
A_Caminhoa = Aleia Caminhoa
A_Pedro = Aleia Pedro Gordilho

## Mapping Steps:

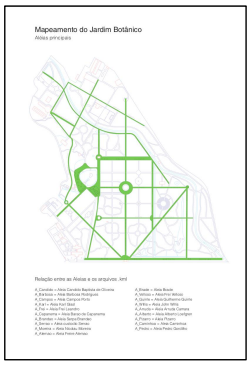
The smaller streets were not so easy to map since they aren't named. For that reason, the map was divided into areas, using the main alleys as divisors, and the streets were numbered inside each area.



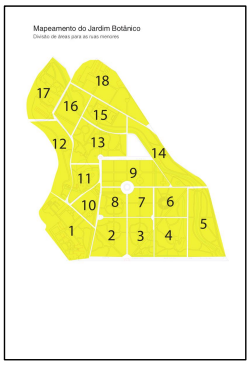


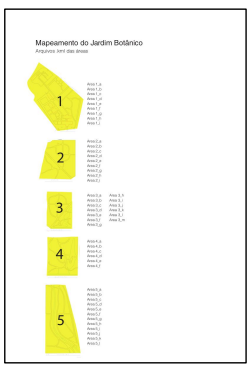
## Mapping Steps:

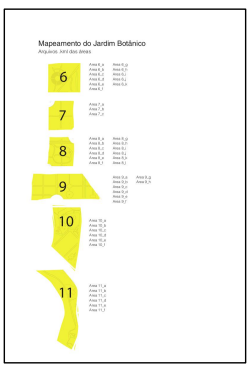
We created a pdf file to organize the map so far and to work as a reference when we wanted to look for the location of a specific alley.

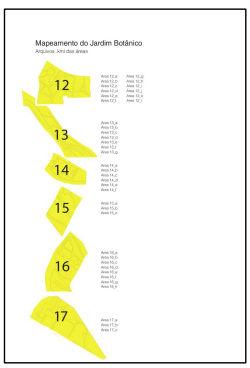






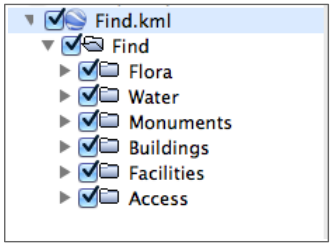



## Mapping Steps:

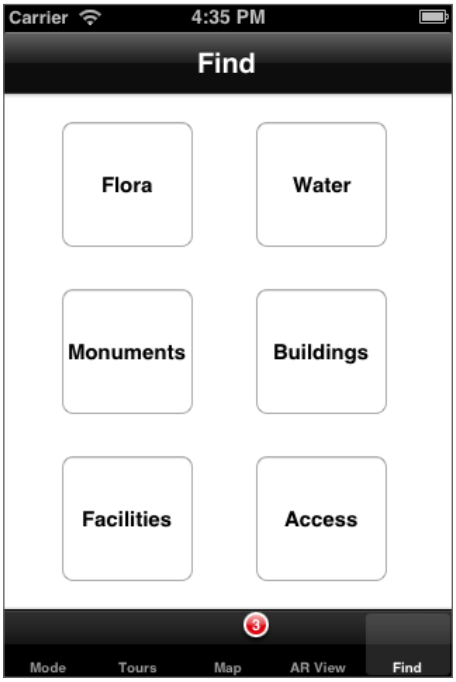
Next, we added the buildings and marked the sites with the placemark tool.


## Mapping Steps:

The sites were organized in the same order as the Find folder in the App.

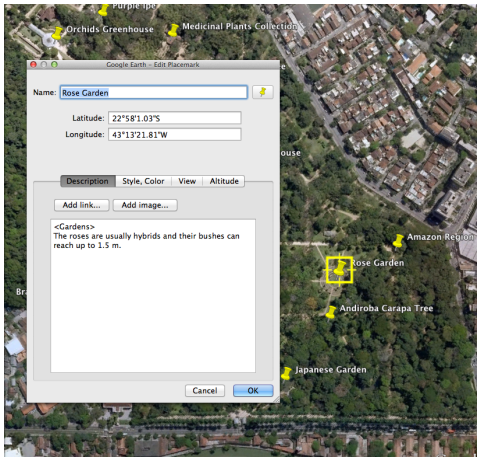



.kml files organized in Google Earth

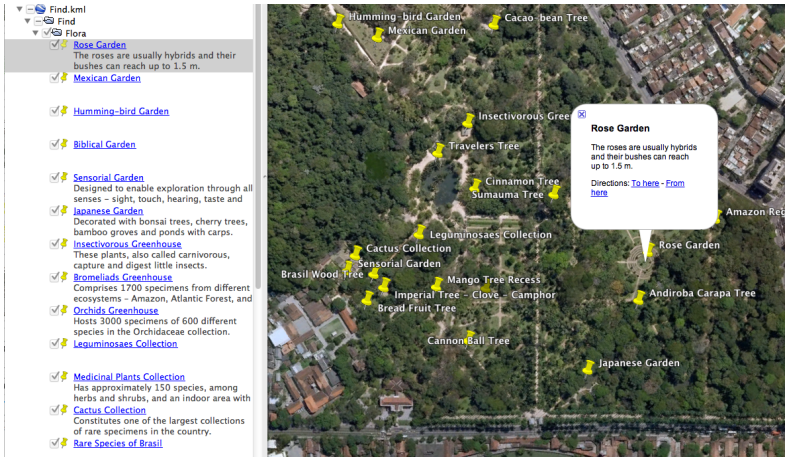


# Mapping Steps:

Inside the description, each site declares the category it belongs to and a small description, when it's necessary. These information were used to make the programming easier.



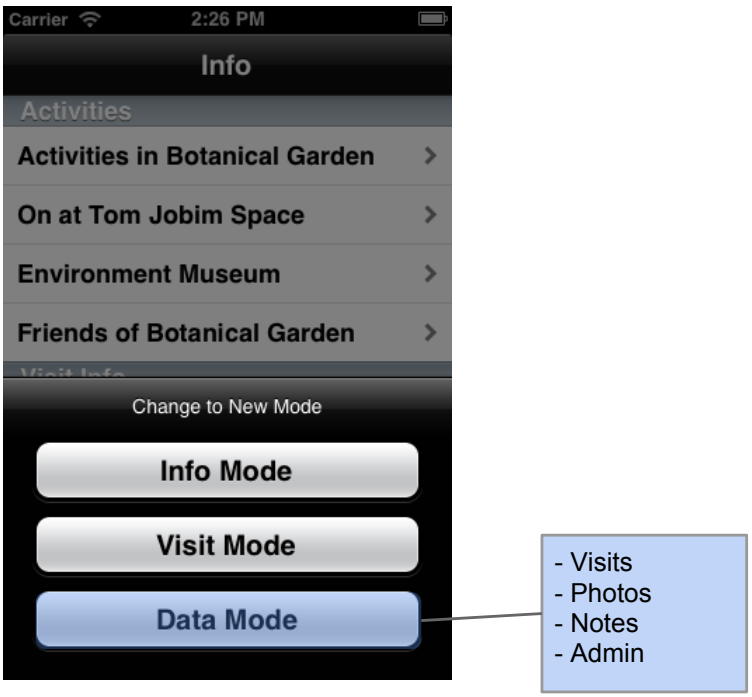

The description of the site was made editing the properties of each placemark



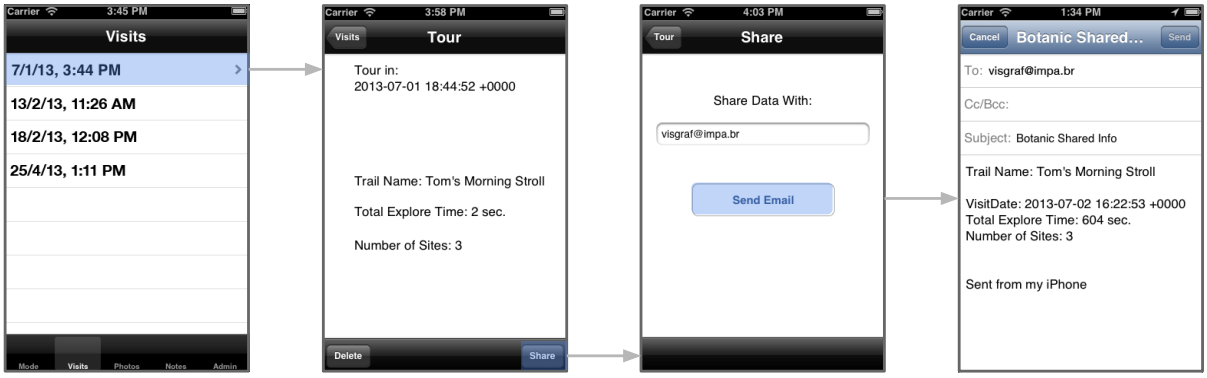

The properties also appear by clicking on the placemark and on the Site's list on Google Earth

**Data Mode**

It can only be accessed through the "Mode" button.



Data Mode / **Visits**



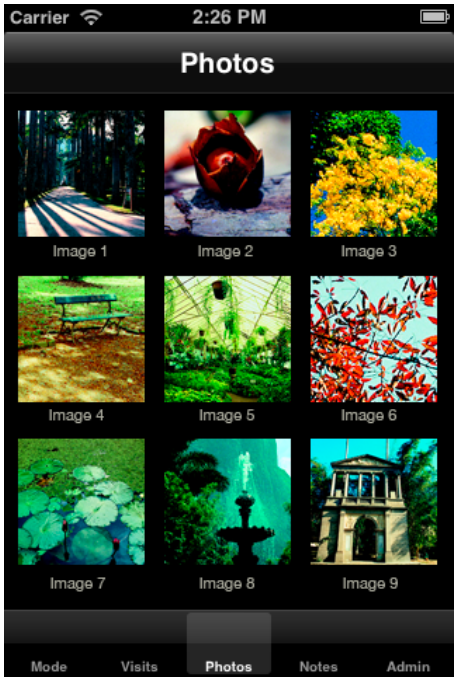

Visit title: time of the visit (each one is unique)

The App collects data about the visit automatically (more to be added in the future)

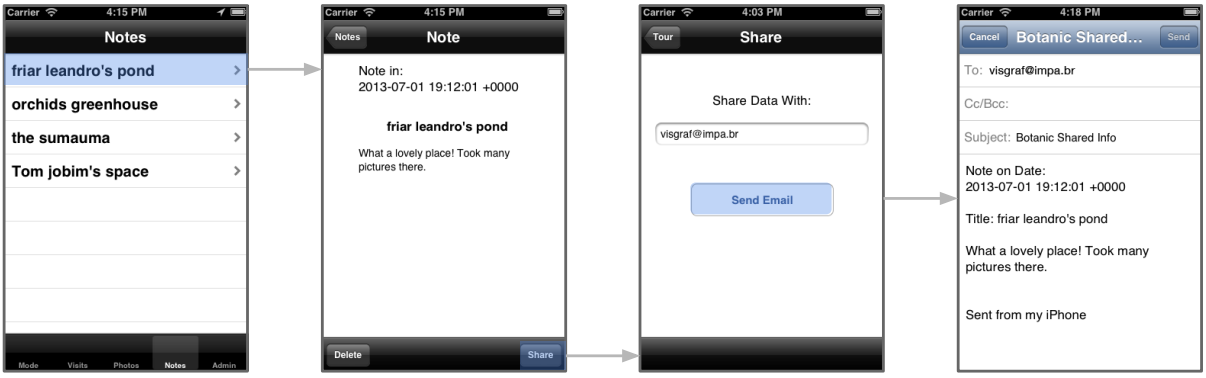
Data Mode / **Photos**

Pictures are taken when on the **Visit mode** (AR View function). These pictures are stored in an album called "Botanic" that is automatically created in **Photos** (which is part of the iOS system) and in the Camera Roll. The files are linked via URL to the Botanic App.

Just like the notes and visits records, these image files can also be sent by email through Botanic.



Data Mode / **Notes**




The notes are created in the **Visit/AR Viewer** mode and stored in **Data/Notes**

Data Mode / **Admin**

Set data that will be used to send emails through Botanic