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National Park Guide

Description

National Park Guide boasts rich, detailed information on America's most popular National Parks, including key features, history, maps, campgrounds, hiking trails, current weather and alerts, with links to additional information resources using NPS Data API , Hiking Project Data API and OpenWeatherMap API.

Intended User

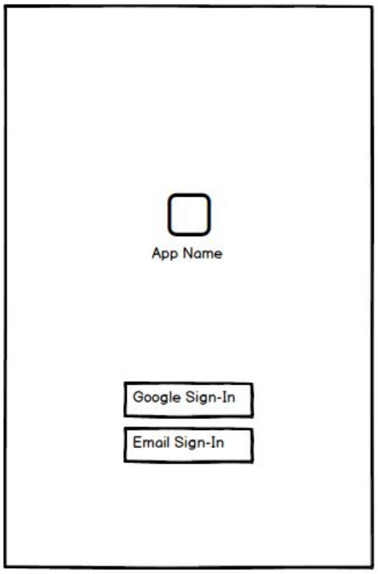
The application is aimed at Tourists and Hikers visiting any of the National Parks in United States of America.

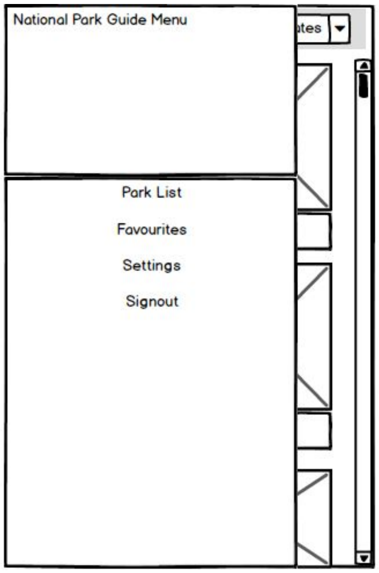
Features

- Descriptions of each park's key features and history, with links to additional resources.
- Photo gallery stocked with high-quality park images
- Push notifications for park-related news, alerts, and events.
- Tag your favorite park sights.

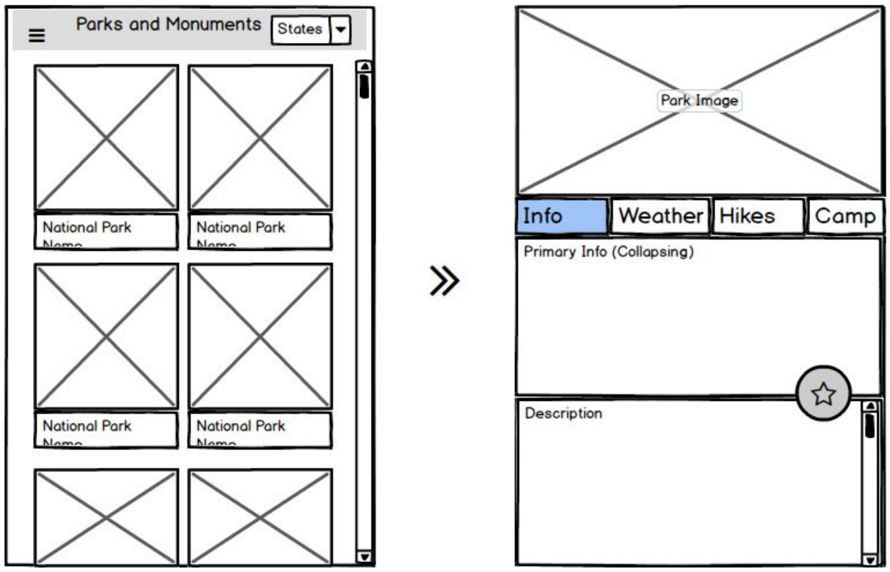
User Interface Mocks

Login and Menu

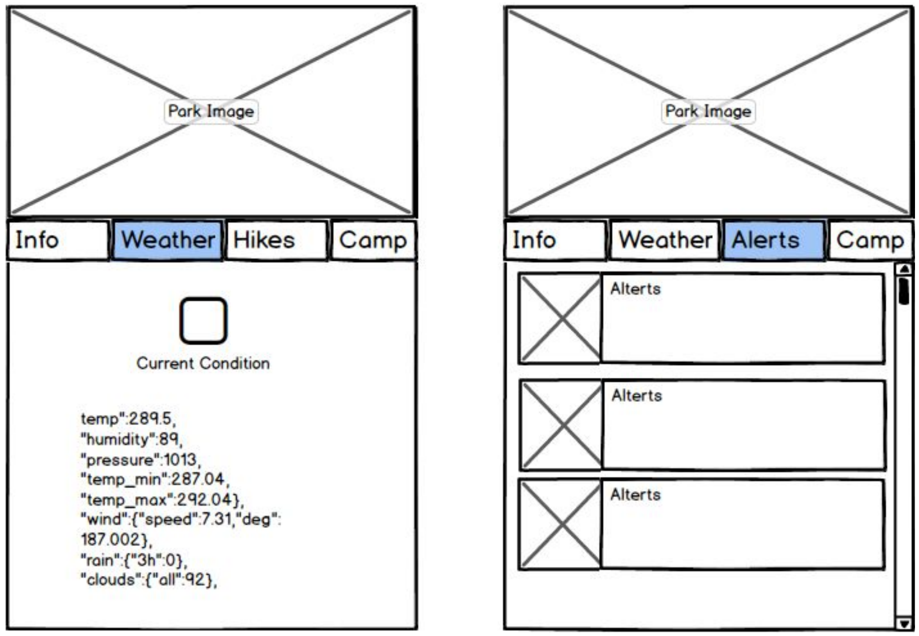




Main Menu and Detailed Info View



Current Weather Condition and Alerts



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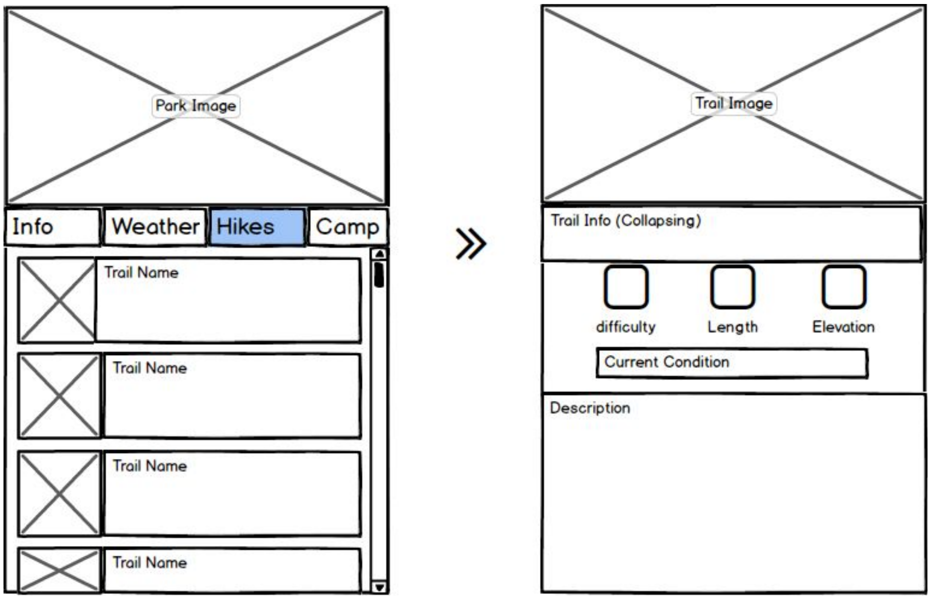
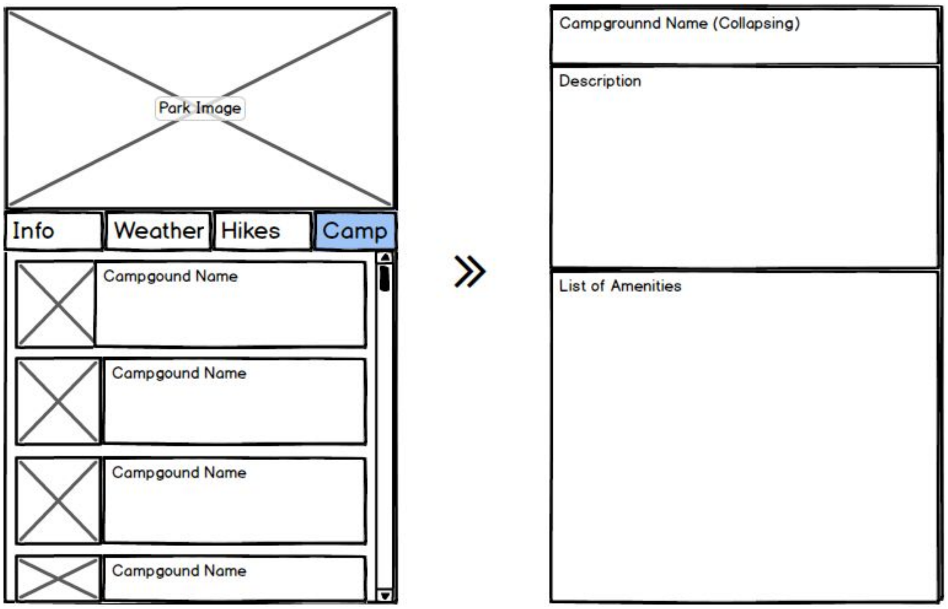
temp":289.5,
"humidity":89,
"pressure":1013,
"temp_min":287.04,
"temp_max":292.04},
"wind":{"speed":7.31,"deg":
187.002},
"rain":{"3h":0},
"clouds":{"all":92},
```

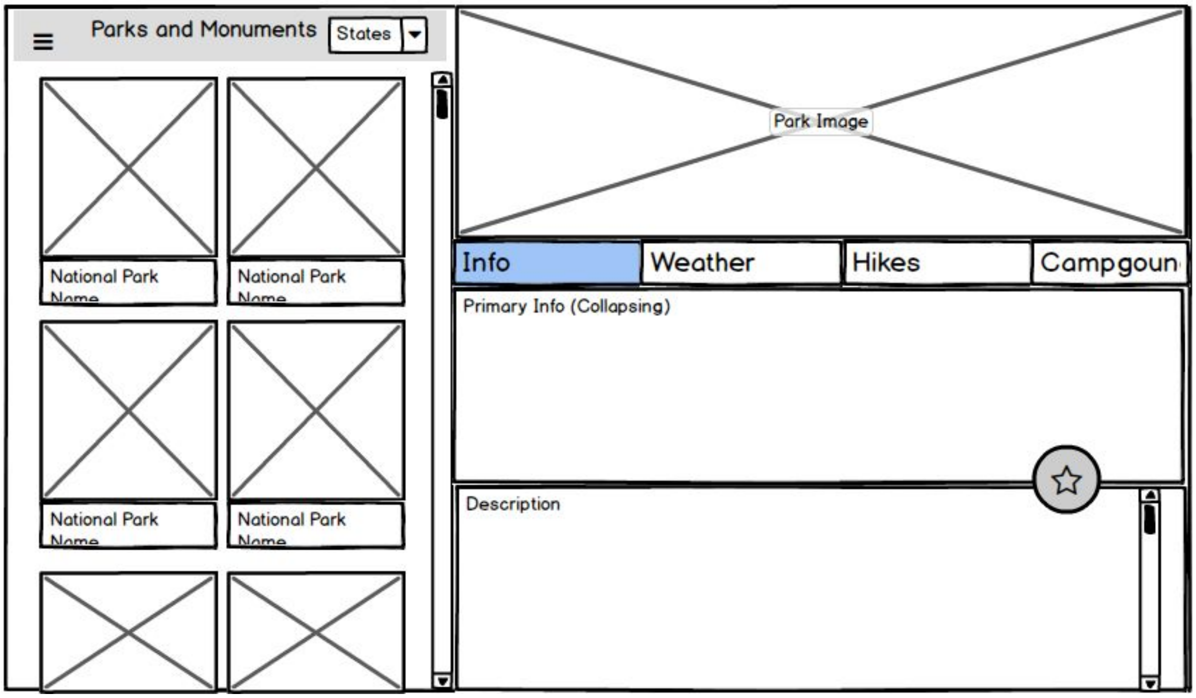
Hiking Trails List and Detailed Info View



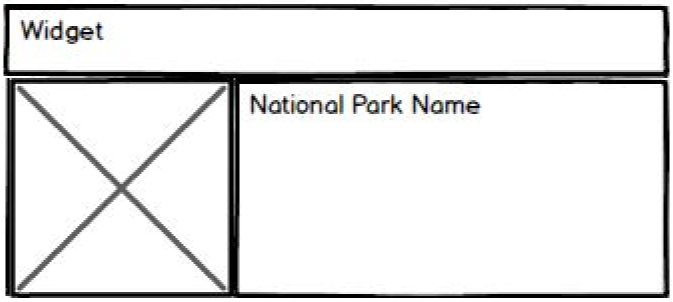
Campground List and Detailed Info View



Tablet Layout



Widget



Key Considerations

How will your app handle data persistence?

App will use a Content Provider and a Shared Preferences to maintain the local data.

Describe any edge or corner cases in the UX.

The application must not crash in unstable or missed network connection cases.
The application must handle all long running operations correctly considering possible configuration changes.
The application must not use the main thread for any resource consuming operations.

Describe any libraries you'll be using and share your reasoning for including them.

Glide: Loading and caching of images.
Retrofit 2: Network API request
Butterknife: reducing Boilerplate code
Stetho: Debug
Firebase Realtime Database
Firebase Analytics
Google Places API

Describe how you will implement Google Play Services or other external services.

This application will use Firebase Realtime Database, Firebase Analytics and Google Places API.

Next Steps: Required Tasks

Task 1: Project Setup

Creating a new project in Android Studio v3.1.2
Configuring libraries by adding all necessary dependencies using Gradle v4.4
App will be written solely in the Java Programming Language

Task 2: Implement UI for Each Activity and Fragment

- Build UI for MainListActivity
- Build UI for ParkInfoActivity
    - Implement Weather Fragment
    - Implement Alert Fragment
    - Implement Hikes Fragment
    - Implement Events Fragment
    - Implement Campground Fragment
- Build UI for MapView

Task 3: Implement Network Sync for all API services

- Fetch data using Retrofit2, SyncAdapter for NPS API and AsyncTask for other APIs.
- Create data classes which help to handle all response data provided by API calls.

Task 4: Local Storage and Firebase Realtime Database

- Implement Google login for storing user's favorites in Firebase Realtime database.

Task 5: Implement Widget

- Implement widget for Favorite national park.
- Build UI for widget
- SQLite Local storage/Shared Preference for displaying information on Widget
- Uses ContentProvider and Loader to move data to its views

Task 6: Polish UI

- Modify layout for both phone and tablet
- Visualize historical data of cryptocurrency
- Design and implement the theme
- Polish layout, color, font, etc
- Using material design features if needed

Task 7: Testing

- Write basic testing cases using Junit and Expresso
- Fix bugs if needed

Task 8: Take the app production ready

- Improve the app visuals using some Material Design techniques (shared element transitions, parallax scrolling, animations etc.)
- Provide RTL support.
- Provide accessibility support.
- Provide content descriptions for meaningful UI elements
- Manage resources and plan for localization (move all strings into strings.xml)

Task 9: Prepare for release

- Create app icon (square and round variations)
- Remove or disable debug messages and info
- Follow steps from Android Developers Launch Checklist.