



SKYNET TECHNOLOGIES

CASE STUDY

# The Most Coveted Global User- Based Plant Identification Mobile App Is Accelerating User Acquisition!



# Project Details



## Industry

Environment



## Services

Mobile Application Development



## Project Size

Small



## Platform

Flutter

## The Brief

An in-house mobile app that recognizes the information associated with gardening or garden plants. The app ought to serve an enormous number of users and help them to flourish their terrace gardens. It must be a one-stop solution for plants' information, sowing, their health, soil for them, and much more. The app ought to be sensitive enough to recognize the plants by their leaves, fruits, bark, flowers, and any other parts.

The requirement was a plant identification app that can be used on any smartphone device just like the other apps, by allowing basic access, for example, location, gallery, etc. The target audience was everyone including a gardener, a passionate layperson about plants, or a plant/ wildlife explorer. Flowers, fruits, vegetables, aqua plants, wild plants, edible, and medicinal plants, and what not, they wished to incorporate every small and big plant's information in the app.

The hypothesis behind this app was to make people recognize more plants, which will increase their interest in planting and gardening. Eventually, it will be in the favour of the environment.



# Our Objective Setting and Approach

- We have used Flutter to development cross platform application for both Android and iOS platforms.
- A design that enables users to detect plants by just scanning the pictures.
- The detected images must get saved to evade the re-processing of the same image.
- Collect tropical plants' information.
- Included app content: An application understands distinct types of plants available in the environment, such as trees, grasses, conifers, herbs, etc. Currently, the app can recognize approx. 37,817 vascular plant species. This number will increase in the future.
- Create a library of all the researched plants.

## Biggest Challenges

- It was complex to cover immense plant varieties (for plant recognition with images) in a single model within the app.
- The process of image recognition is a part of machine learning; in which, defining data models with enormous data resources of distinct plants and their varieties for accurate identification was tough.
- For machine learning models, there are myriad provided resources like TensorFlow that are difficult to install and maintain in an app. Only those ML models can work which are built for apps, that too with native support. Additionally, it requires a huge chunk of data to create these ML models and prepare the data sets for plant identification.



# The Solution

- For the data model, we implemented machine learning (ML) using web APIs to include the plant recognition feature to the app, based on the uploaded images.
- We compressed the app size processing and reduced the app memory calculation. Therefore, capturing images and detecting them become a faster process.
- For tropical plants and vegetables, we chose to display the pre-defined detailed information to users, which reduces the chances of data inaccuracy.

# The Available Features of the Application

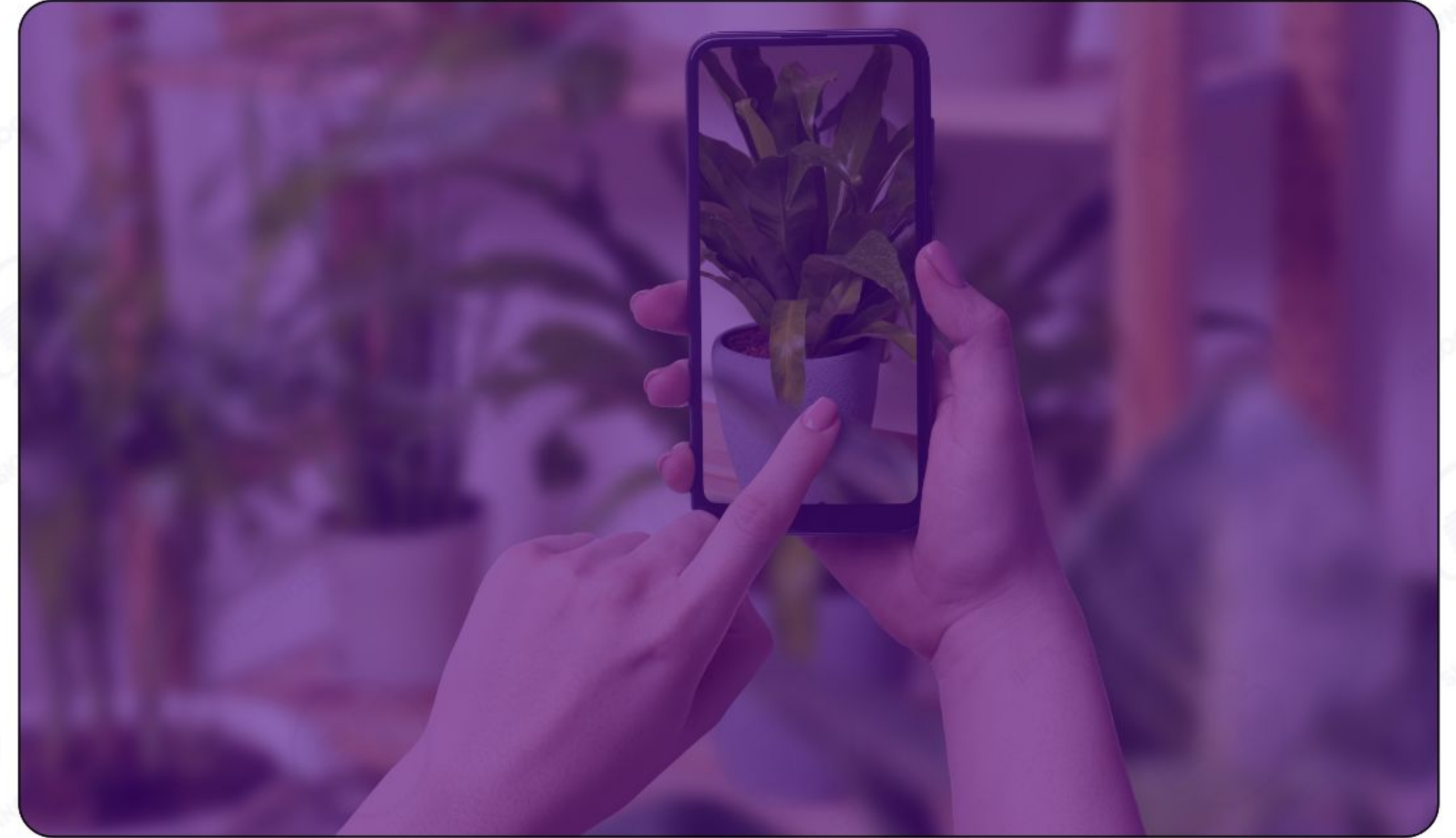
- Capture the desired plant's picture and identify it.
- Multiple identification suggestions based on the matched results.
- Display the scientific names of the plants, common names, scientific descriptions, etc.
- Save recognized images as Favourites.
- Provide access to identified images without re-scanning them.
- Furnish every minute information about plants. Instructions for sowing the seeds, the space required for plants, harvesting, plants compatibility, culinary hints, culinary preservation, and much other critical information.
- Show tropical fruits and vegetables information with Bot name, Oth name, propagation, what are their usage, suitable soil and climate for them, their health, and much more.



SKYNET TECHNOLOGIES

## The Result

- The app is reaching various categories of people for terrace or garden plants information and assistance. Free plant encyclopedia and plant identifier is available to everyone at their fingertips.



### Custom Flutter App Development

We have built custom and result driven Flutter mobile applications to elevate your business. We love Flutter because it reduces the application's individual development time and cost on Android and iOS separately. We are specialized in developing efficient applications with our 5+ years experienced and creative team of Flutter developers. We deliver result-oriented solutions as per all industries' requirements and standards.

Contact us at [hello@skynettechnologies.com](mailto:hello@skynettechnologies.com) or submit your request free quote for more information.



SKYNET TECHNOLOGIES

Thanks for your time. Any questions?  
You can connect with us at:



[www.skynettechnologies.com](http://www.skynettechnologies.com)



+1 - (810) - 358 - 8040



[hello@skynettechnologies.com](mailto:hello@skynettechnologies.com)

## Contact Information



### USA - KENTUCKY

SKYNET TECHNOLOGIES USA LLC.

#### Independence

3265 Summitrun Drive,  
Independence, KY, 41051.

Phone: (810)-358-8040



### USA - NEVADA

SKYNET TECHNOLOGIES USA LLC.

#### Las Vegas

304 S. Jones Blvd,  
Las Vegas, NV, 89107.

Phone: (725)-222-4706



### USA - FLORIDA

SKYNET TECHNOLOGIES USA LLC.

#### Gainesville

9045 SW 79th Avenue  
Gainesville, FL 32608

Phone: (502)-237-3375



### INDIA

SNTG IT SERVICES PVT LTD

#### Jamnagar, Gujarat

258, 259, 260, 2nd Floor,  
NEO Square, Near Ambar Cinema,  
P. N. Marg, Jamnagar, Gujarat, 361008.

Phone: +91 288 2557292



### INDIA

SNTG IT SERVICES PVT LTD

#### Ahmedabad, Gujarat

401, 4th Floor, Wing B, Mondeal Heights,  
SG Highway, Near Wide Angle Cinema,  
Ahmedabad, Gujarat 380015

Phone: +91 79 49396881



### INDIA

SKYNET TECHNOLOGIES

#### Pune, Maharashtra

Virtual Development Center

Phone: +91 93590 89306



### AUSTRALIA

SKYNET TECHNOLOGIES AUSTRALIA PVT LTD

ABN# 27 640 775 588

#### Melbourne

Level 8, 805/220 Collins St,  
Melbourne VIC 3000  
(8th level of building 220)

Phone: +61 73-053-8090