
Population 1.3 Billion

Rural (66%)

Urban (34%)

Farming 51%

Farming 10%

FARMING 61%


78 Cr. / 780 Millions


78 Cr. / 780 Millions

Diseases(40%) i.e. 31.2 Cr. i.e. 5.2 Cr. Per Family

Phone (84%) i.e. 4.42 Cr.

Smart Phone (83%) i.e. 3.66 Cr.

Based on statistical analysis

# Identification of Plant Diseases

Proto ID: 46067

Date: October 03, 2021

Panel No: 1

Sector: Agriculture & Rural Development

IPD

# 1. The Overview

Create a very high-level overview of your product or service

Students, now employees came together to bring change and ease through technological interference.

Agricultural employment- 50% Indian Population, 17-18% GDP

# 2. The Problem

What problem are you trying to solve? Is it really a problem?

Plant diseases have turned into a dilemma as it can cause significant reduction in both quality and quantity of agricultural products.

New age farmers or any producer

Works on an deep learning algorithm where through inputs and statistics the application will be able to learn to detect the general diseases. To detect the disease user has to just select the plant and point the camera opened through the application towards the infected area. The application will now work as a scanner and check the displayed area live to immediately show the result along with its cure.

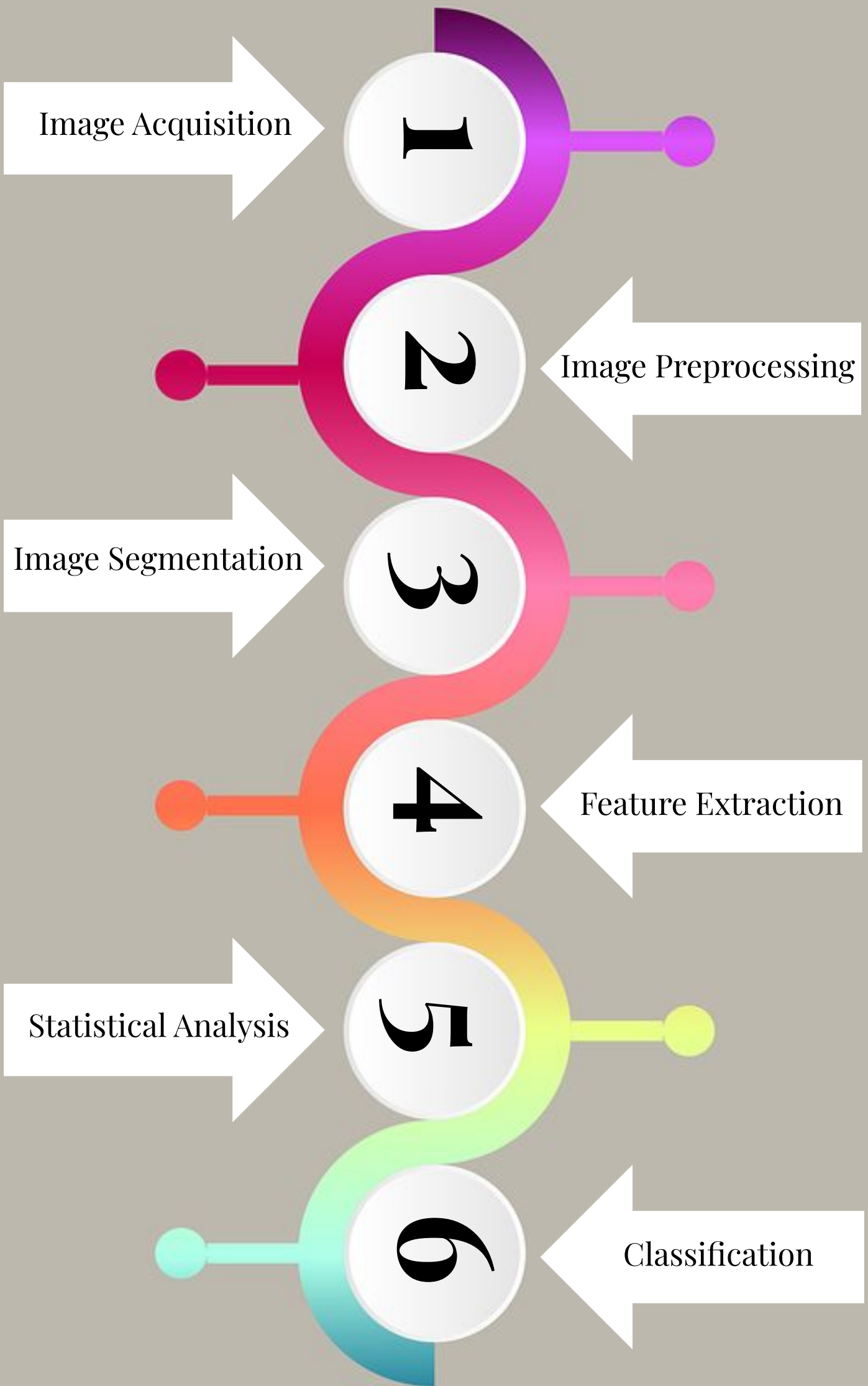
# 3.The Solution

Describe how are you planning to solve the problem

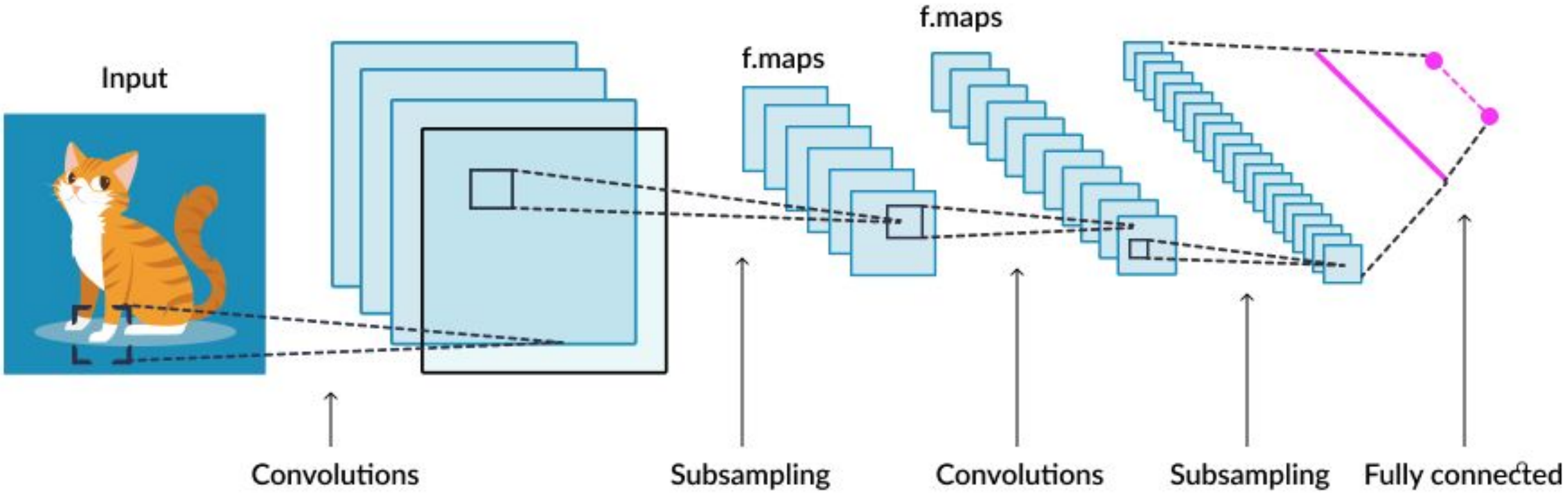
Collect images and identify the disease and suggest its cure.

Has a massive global niche market

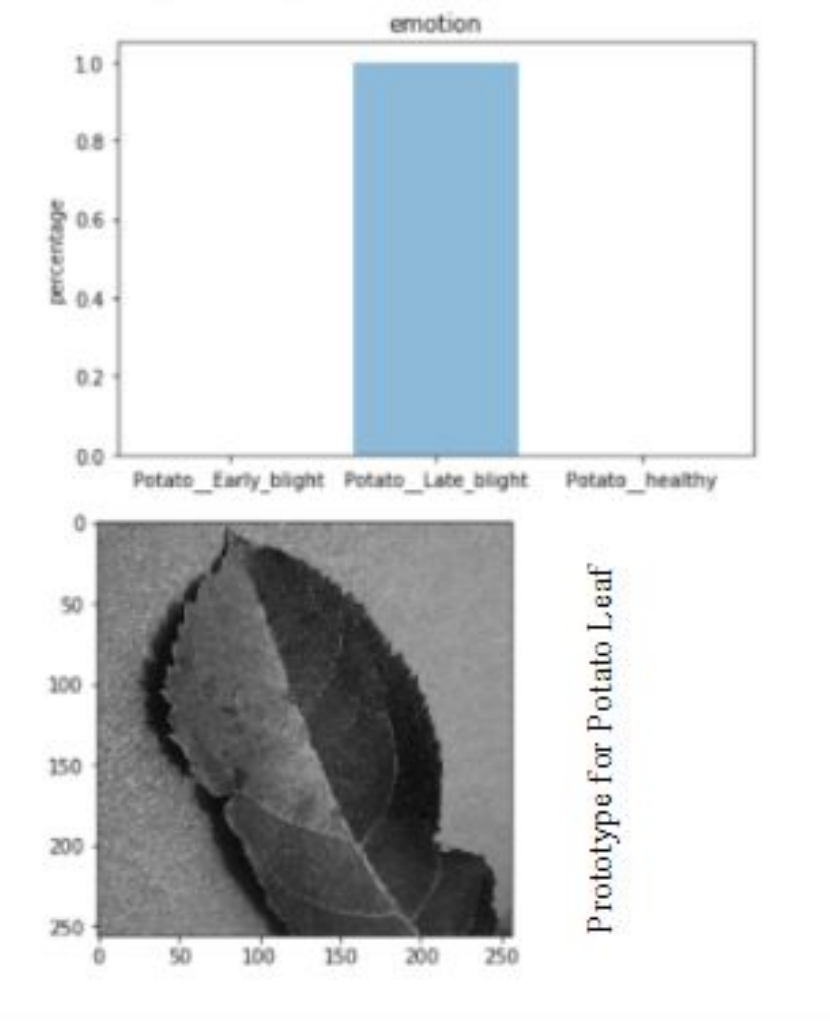
1. To satisfy a growing demand for food, global agricultural production must increase by 70% by 2050.
2. Pests and crop diseases put global food supplies at risk.


1
Image Acquisition
2
Image Preprocessing
3
Image Segmentation
4
Feature Extraction
5
Statistical Analysis
6
Classification

# Working of CNN



# Photographs: Team and Prototype

# 4. The Product/Service

Describe how are you planning to solve the problem

Image/Video Processing, Identification & cure of diseases, Less user interaction hence more user friendly, Quick results therefore time saving, Cost saving, Less Risk

Results in single click

The people in the market are keen for the product to reach market.

## Choose what describes you best

- I grow crops in my home garden
- I grow crops in fields
- I grow crops in pots

Skip question

Continue



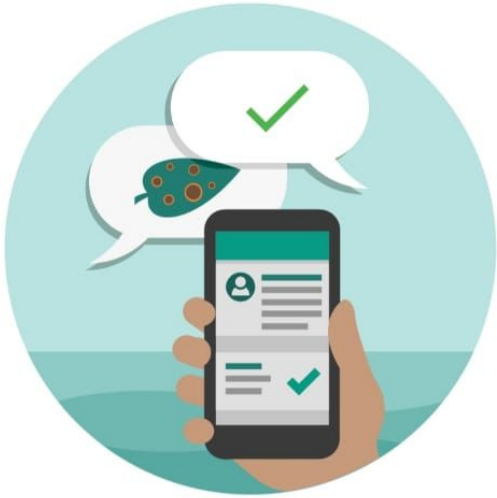
## Find out what's happening to your plant

Take a picture of your plant and we will provide you with instant solutions.

Next

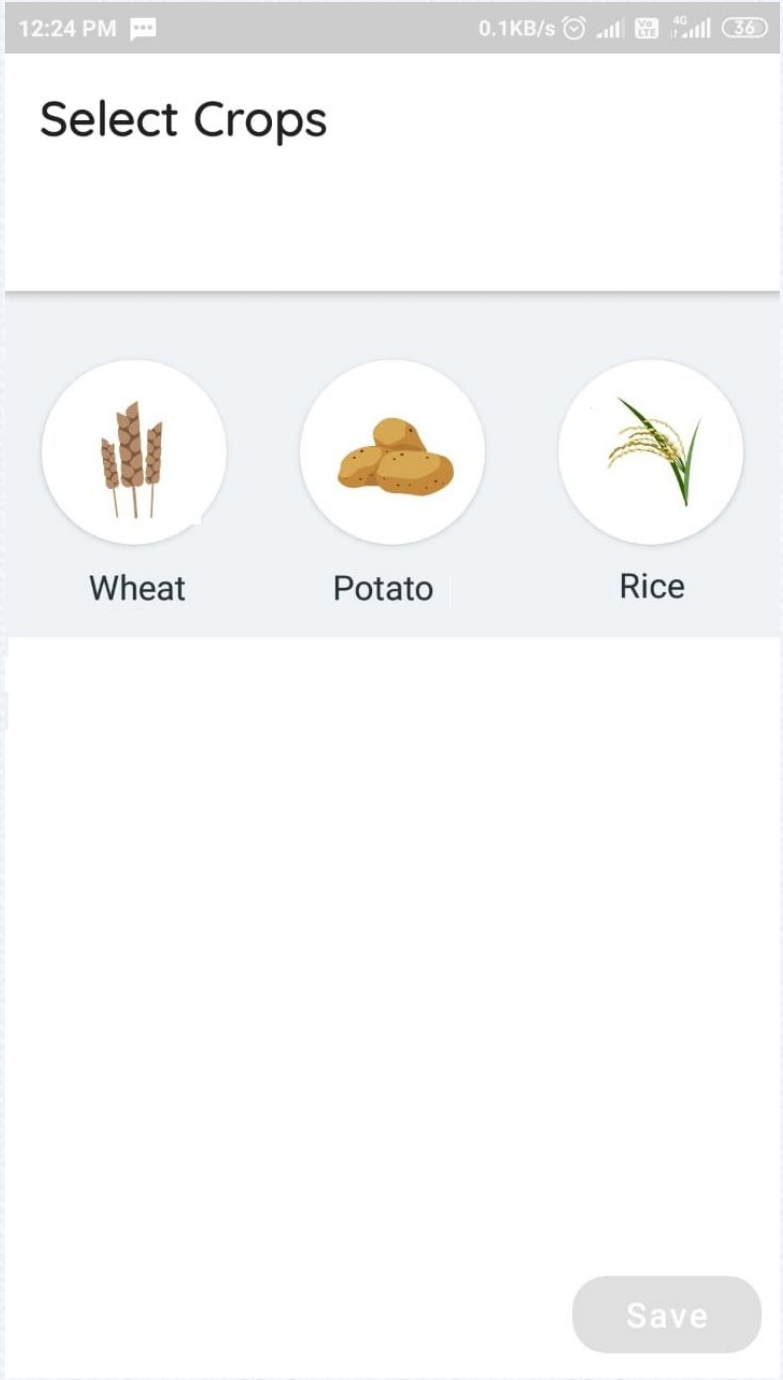


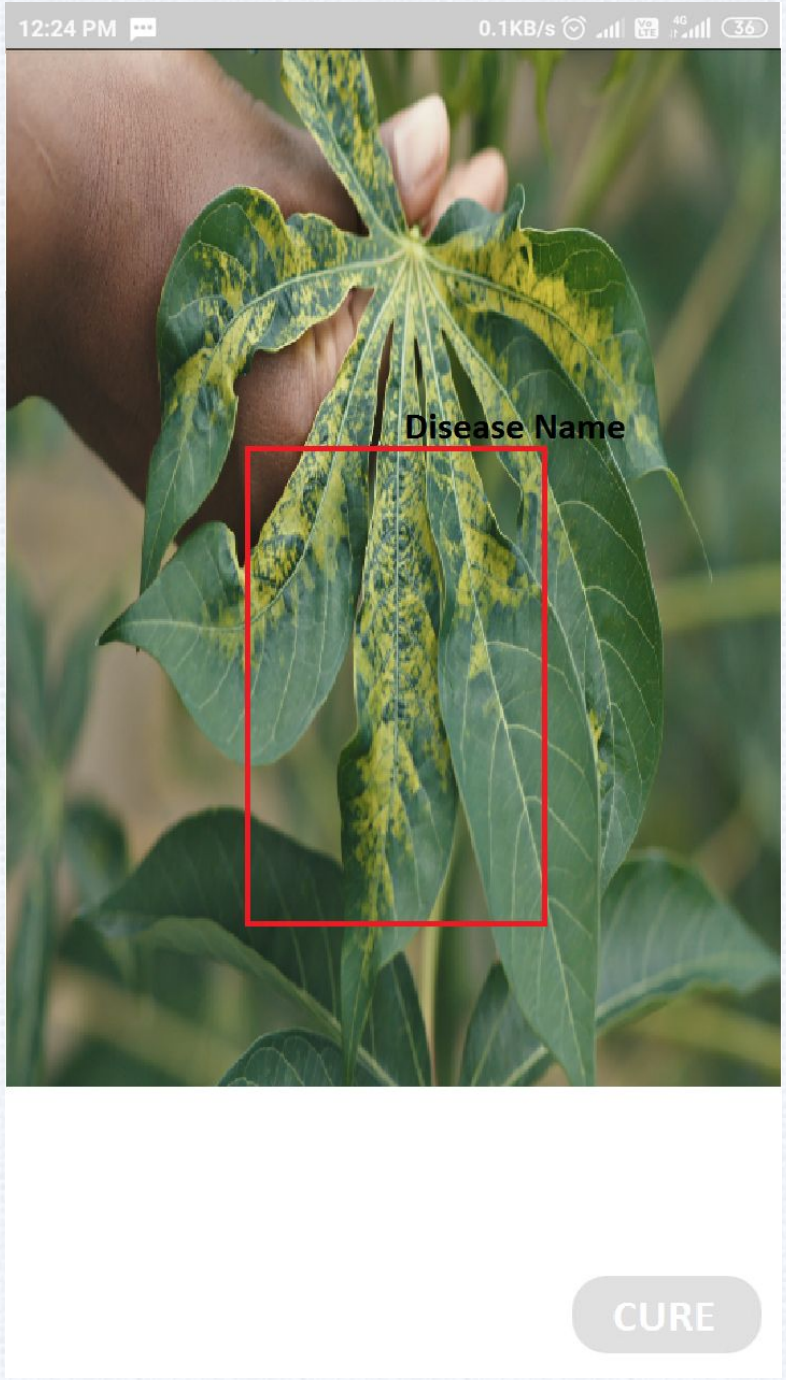
## Get in touch and exchange with your experts



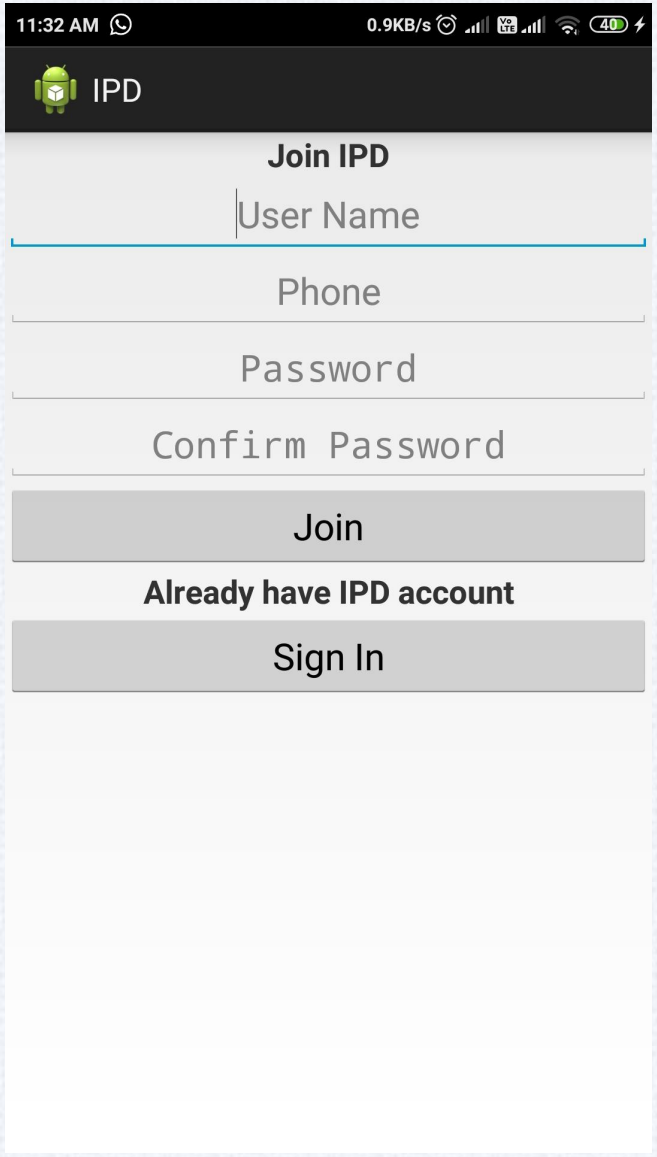
Next

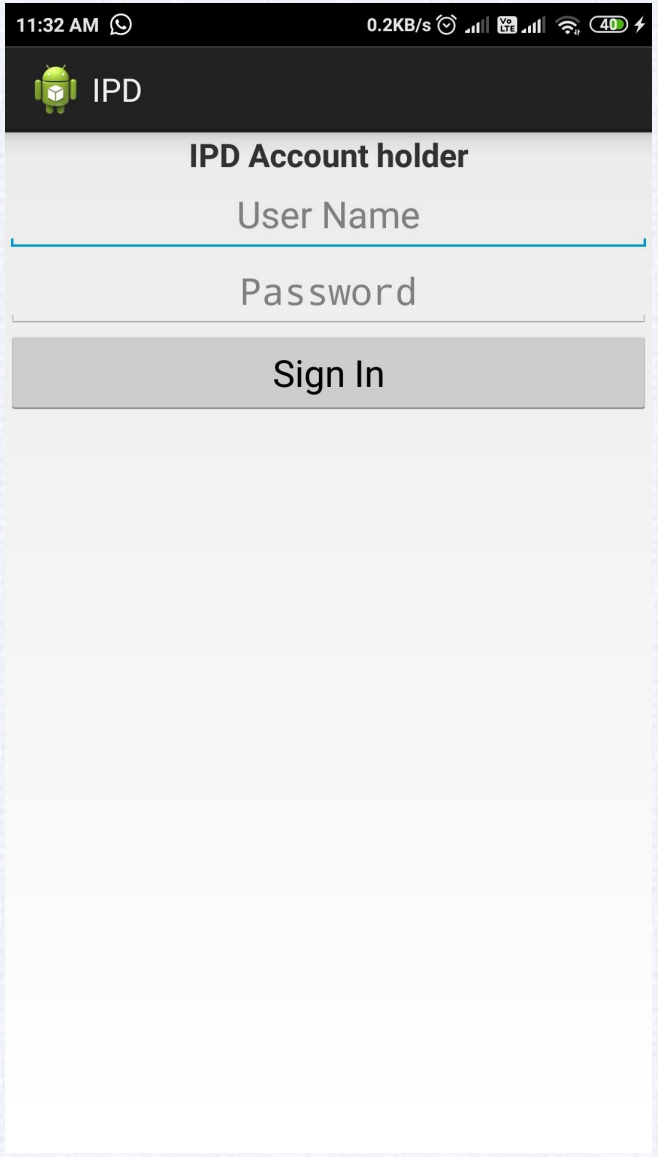
# Planned Designs

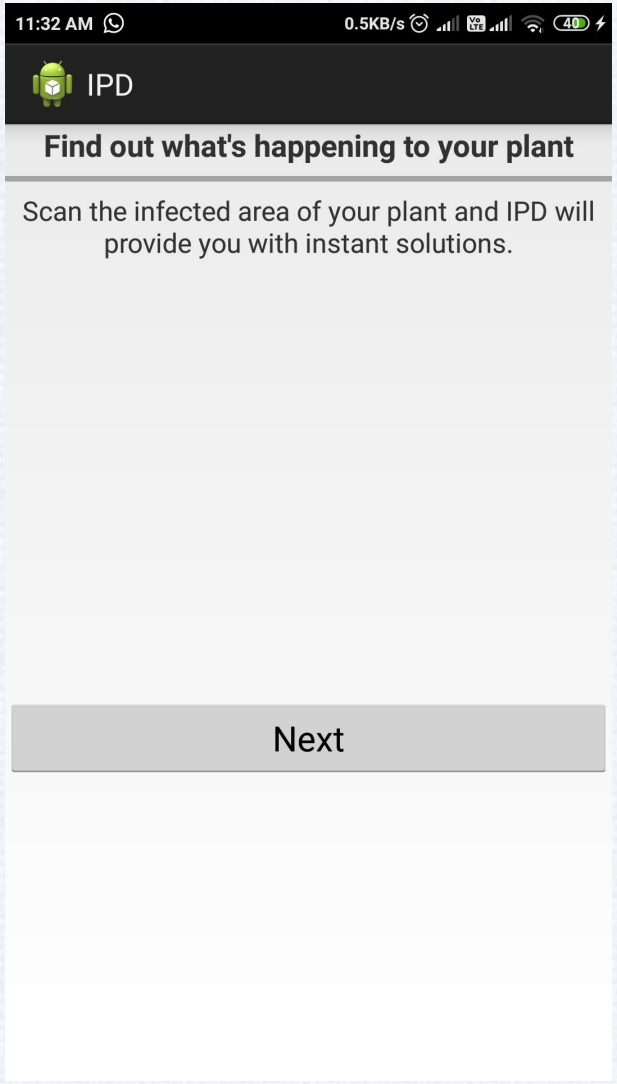


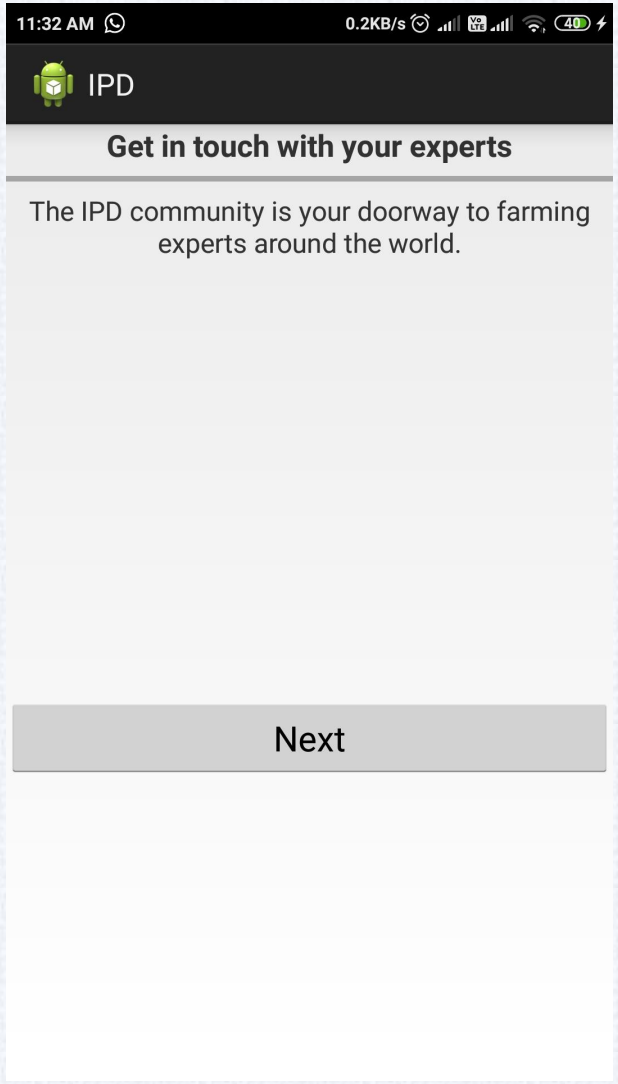



# Implemented Interface


11:32 AM
0.5KB/s
IPD
Find out what's happening to your plant
Scan the infected area of your plant and IPD will provide you with instant solutions.
Next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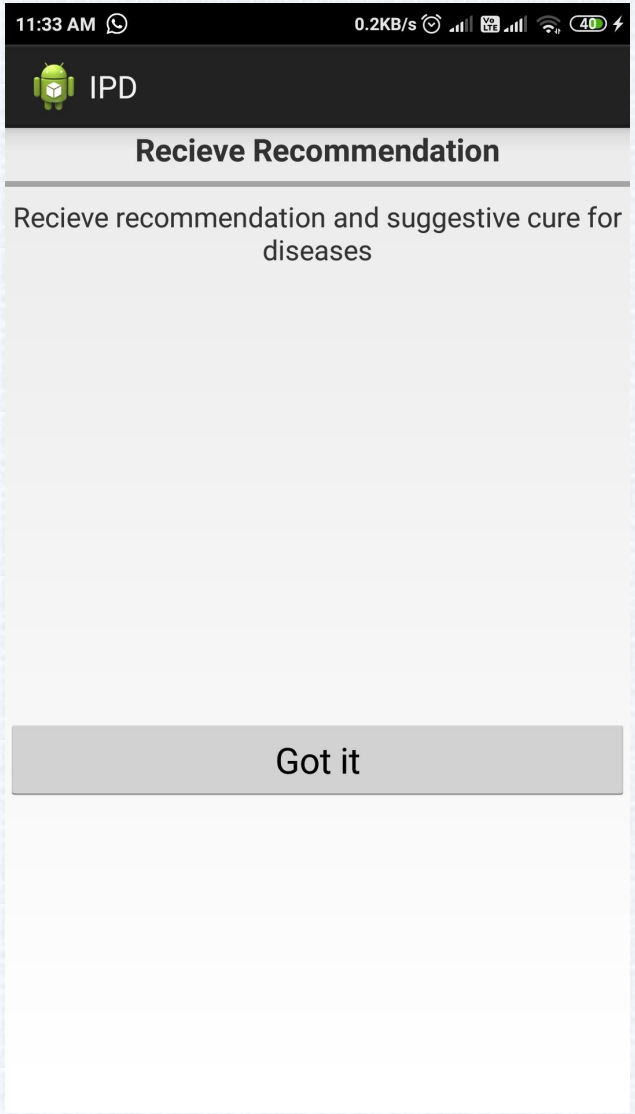
IPD
Get in touch with your experts
The IPD community is your doorway to farming experts around the world.
Next


11:33 AM
0.2KB/s
IPD
Recieve Recommendation
Recieve recommendation and suggestive cure for diseases
Got it

11:33 AM 0.6KB/s

IPD

Choose what describe you best

- I grow crops in my home garden
- I grow crop in fields
- I grow crops in pot

Skip

Continue

11:33 AM 0.1KB/s

IPD

**Select Crops**

Select the crop you are interested in

Save

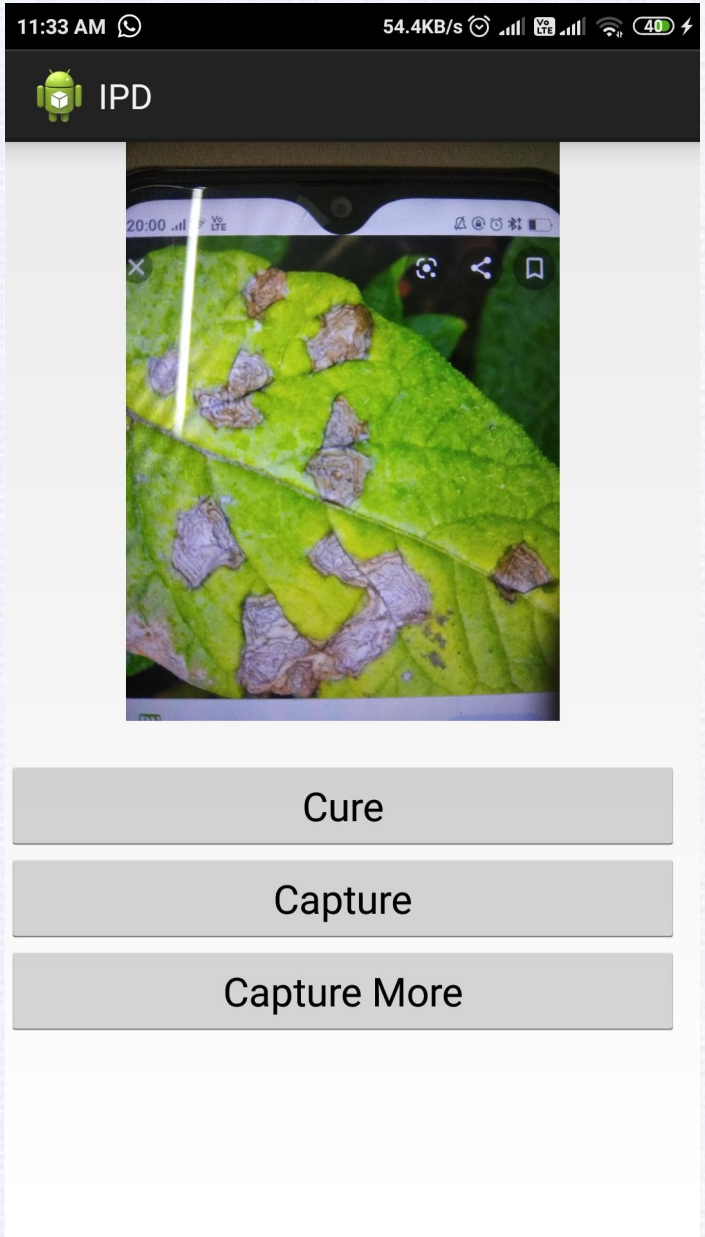
11:33 AM 0.3KB/s

IPD

Cure

Capture

Capture More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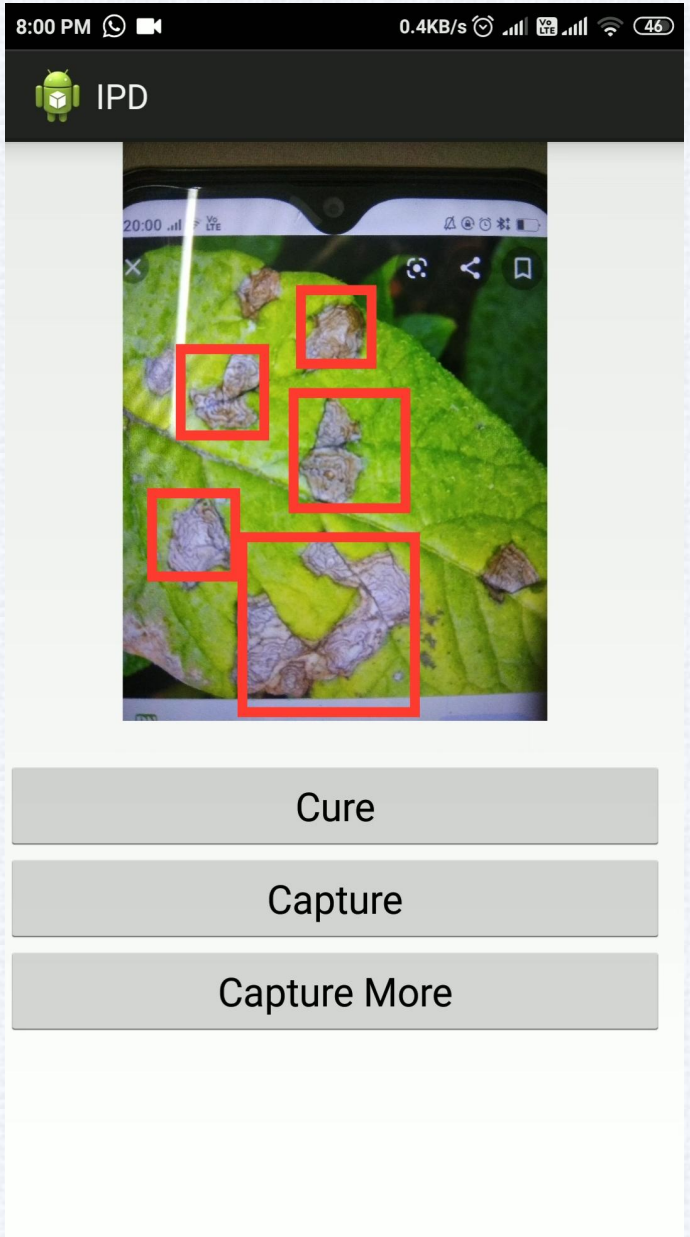
54.4KB/s
IPD
Cure
Capture
Capture More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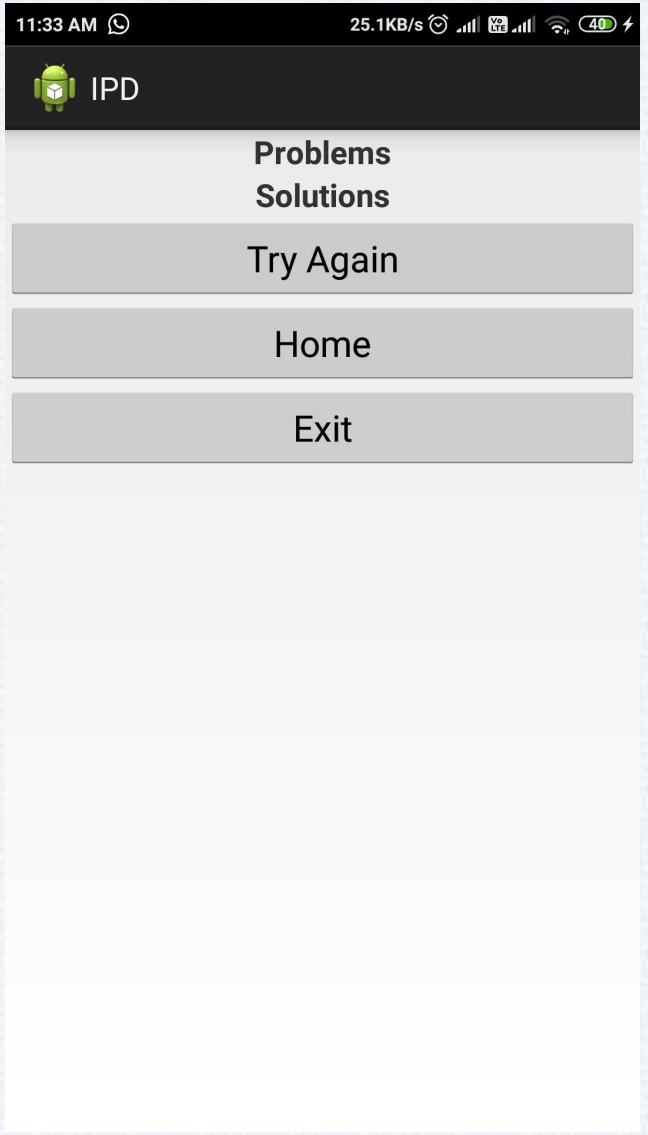
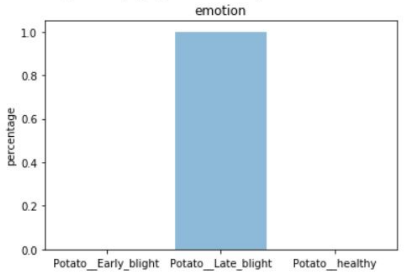
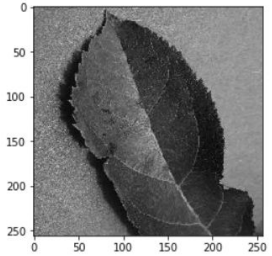
IPD
Cure
Capture
Capture More

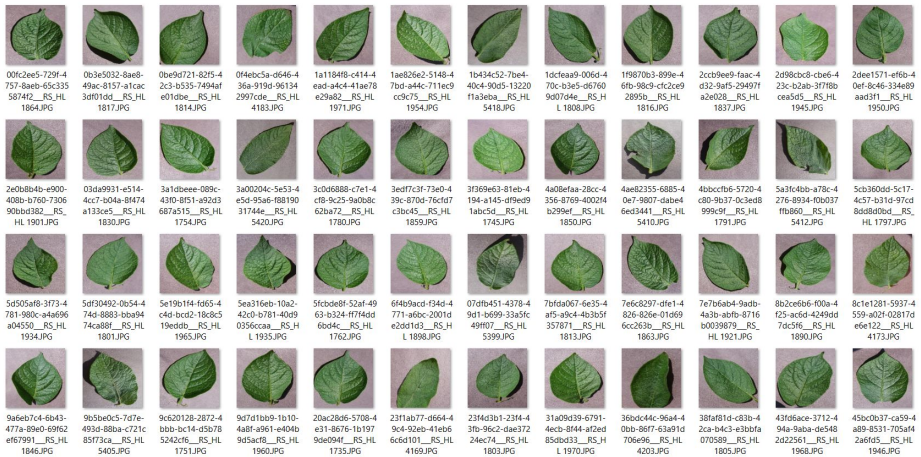

11:33 AM
25.1KB/s
IPD
Problems
Solutions
Try Again
Home
Exit

# Working Model

```
/usr/local/lib/python3.6/dist-packages/keras_preprocessing/image/utils.py:104: UserWarning: grayscale is deprecated. Please use color_mode = "grayscale"
  warnings.warn('grayscale is deprecated. Please use '
```



# 5. Market & Opportunity

Know, or at least attempt to predict, the size of your target market

1. To satisfy a growing demand for food, global agricultural production must increase by 70% by 2050.
2. Pests and crop diseases put global food supplies at risk.
3. Worldwide, yield losses caused by pests and diseases are estimated to average 21.5% in wheat, 30.0% in rice, 22.6% in maize, 17.2% in potato, and 21.4% in soybean; these crops account for half of the global human calorie intake.
4. Climate change and global trade drive the distribution, host range, and impact of plant diseases, many of which can spread or re-emerge after having been under control.

Hence, increase in throughput is necessary to satisfy the global needs in coming decades therefore application like ours will help producers to increase the yield in both aspects quality as well as quantity.

Post application usage results : Increase in production hence economic growth, less crop failures, reduction of producers in debt/suicide, instant diagnosis and cure, increase in plant health awareness.

# 6. The Technology/Innovation

Describe how are you planning to solve the problem

TRL 2 : Technology formulation. Concept and application have been formulated.

More user friendly

Road Map - Next Slide

# Implementation Plan with Timeline to convert the Innovation/Solution to a Venture/Startup

Collection/Preparation of diverse dataset

↧

Carrying Research on varied species

↧

Implementation of pilot project

↧

Defining further economics of the application

↧

Hosting beta version of the application

↧

Launching & Maintenance

# Future Addition Action Plan

- Call and visit facility with Agri-Scientists
- Online ordering of fertilizers, manures, pesticides,etc
- Open community for users & bulletins
- Live weather reports
- Detection of diseases via stem, fruit and root
- GPS area prone disease detection
- Live crop rates and govt. policies
- Crop advisors and planner
- Crop failure schemes

# 7. Competitive Landscape

What are the alternative solutions to the problem you are trying to solve?

Our applications disease detection interface is quite simple as it will work like a QR code scanner, in other applications we need to explicitly add images.

More friendly UI, less interaction

1. Research Institutions
2. Government Data Providers
3. Suppliers for farm input
4. Farming Consultants

# 8. Business Model

How are you planning to make money? Show a schedule when you expect revenues to pour in

1. Number of downloads of application
2. Commission for promoting suppliers & other applications on the platform
3. Membership
4. Premium Doctors facility
5. Government schemes & policies
6. E-Commerce Portal*

We have target market of 1-3Cr (approx.) min users who suffers due to plant diseases & lack of knowledge and have smartphone with them, so definitely the presented solution is feasible.

# 9. Marketing & Sales Strategy

Address how you're going to get the market share you proposed in the last slide

We will explain our services to producers through mandi meetups, farm hoardings and billboards, influencers, suppliers for farm input, Farming Consultants, Radio & Television, Apps like Hago, Like, Play Store

2.5 - 5 Lac INR

# 11. Financials

Scope for showing potential RoI (Return on Investment)

| Initial Investment (Capital Expenditure) | | Monthly Fixed Cost in 1st year | | Monthly Variable Cost in 1st year | |
|---|---|---|---|---|---|
| **Particulars** | **Amount (Rs.)** | **Particulars** | **Amount (Rs.)** | **Particulars** | **Amount (Rs.)** |
| Initial Research | 100,000 | Cloud Storage | 5,000 | Future Participations | 3,333 |
| Product Development | 75,000 | Resources | 33,333 | Commission/Incentives | 5,000 |
| Market Research | 10,000 | Promotion | 25,000 | Legal Fees | 2,500 |
| Registration and Consultation | 15,000 | Salary | 15,000 | Others | 10,000 |
| | | Rent | 5,000 | | |
| | | Utilities | 3,000 | | |
| | | Electricity/Gas/Water | 2,000 | | |
| | | Office Supplies | 2,000 | | |
| | | Internet/Mobile | 5000 | | |
| | | Disposable | 1000 | | |
| | | | | | |
| | | | | | |
| | | | | | |
| **Total** | **200,000** | **Total** | **96,333** | **Total** | **20,833** |

# 13. Funding Requirements

What is your planned budget? What kind of money are you looking for?

10-15 Lac INR

1.5 - 2 Yrs

Launch of App + Website with min 5-10 crops

# 12. Resource Mobilisation Plan

What is your Resource Mobilization Strategy and What you have done sofar?

Production Plan - Next Slide

Resource Requirement – Human & Technology & Infrastructure/ facility

Bootstrapping till now

# 12. Resource Mobilisation Plan

What is your Resource Mobilization Strategy and What you have done so far?

| Sr. No. | Major Activities | Time Period (Weeks/Months) | Milestones |
|---|---|---|---|
| 1 | Prototype Draft - 1 | 30 | Develop prototype for one crop with all its available diseases and provide its cure |
| 2 | Testing & accuracy check of prototype 1 | 5 | Testing and analysis of developed prototype |
| 3 | Dataset Collection | 45 | Gather dataset for various other available crops |
| 4 | Analysis of dataset | 10 | Analysis collected of dataset |
| 5 | Research/study of diseases and cure for it | 90 | analysis of disease patterns and study it deeply and get its feasible and easy cures. |
| 6 | beta testing of prototype 1 | 5 | Beta Testing |
| 7 | Other crops model creation | 90 | Development of other crop models |
| 8 | Consolidation of all the models and perform classification | 30 | Development of Common model |
| 9 | Frontend Development | 20 | UI |
| 10 | Connecting Frontend with backend | 20 | Development of connections between front end and backend |
| 11 | Developed website testing alpha + beta | 30 | Testing |
| 12 | Development of Android app | 30 | App development |
| 13 | App testing | 5 | App testing |

# 14. Way forward Strategy

What is your exit strategy in midterm and long-term?

Short term if any?
Incubation Support

Mid term if any?
On-boarding Angel and VC partner

Long term if any?
IPO

# 15. The Team

Show the people behind the idea and briefly describe their role

Co - Founder
Sarthak Parakh
B. Tech - CSE (2017-21)
Research and development, Product design
Entrepreneurial Skill, Management Skills
Technical Skills (JavaScript, Python, Machine Learning)

Co - Founder
Shivam Goyan
B. Tech - CSE (2017-21)
Research and development, Product design and development, Management Skills
Technical Skills (JavaScript, Python, Machine Learning)

Started as an academic project, but seeing the massive niche market and need to serve the country’s one of the largest dependency, willing to convert it into a venture .

# 16. Contact

Leave your contact details and let people know how to reach you quickly

+91-9303639400
+91-8518821009

sarthakparakh@gmail.com
shivamgoyan2@gmail.com

Thank*you*

# QnA