DESIGN THINKING PLAYBOOK

BATCH-03
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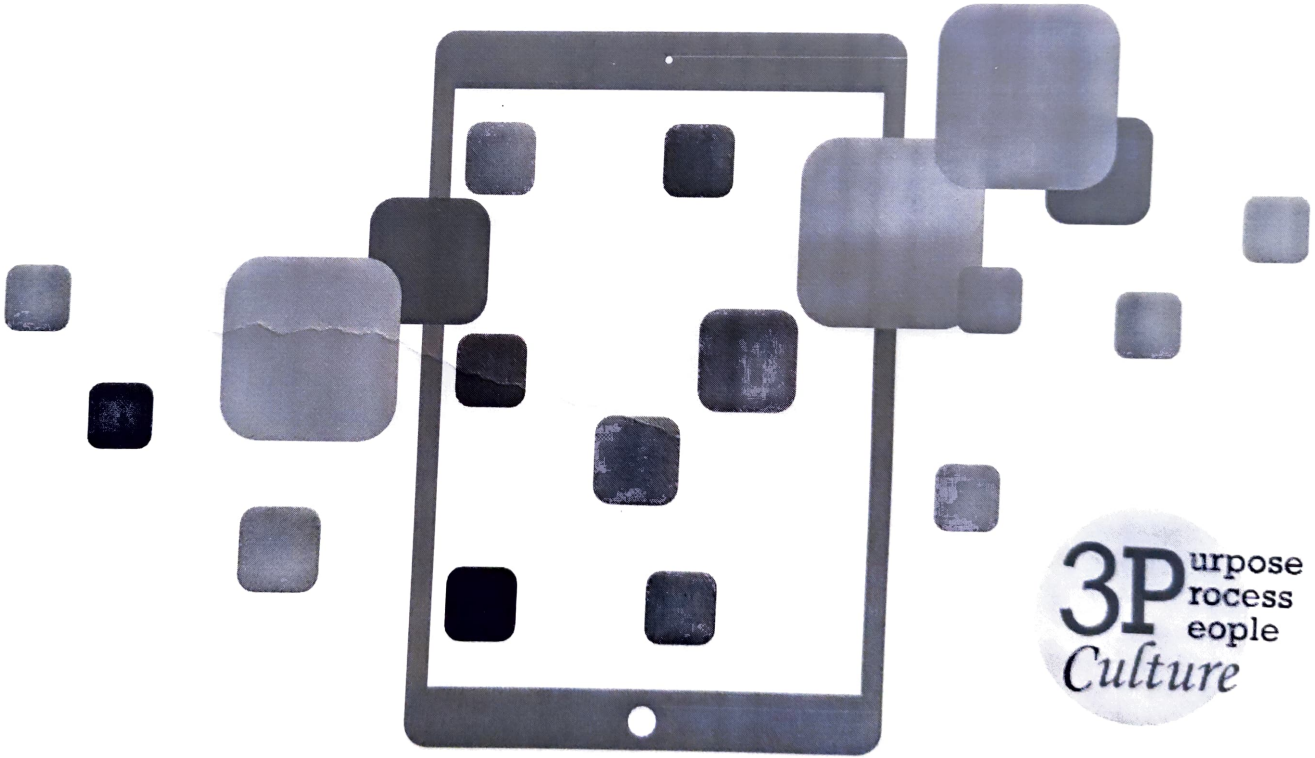

3P
urpose
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Culture

1	DT Playbook	Time to complete the project: _____
2		Problem Identification: 1300 + unicorns in the world / Y Combinators / Gen AI Elements
3		Project Checklist + User Empathy
4		Create cloning using FSD / LC / NC, AI Team Mgnt Guidance from CF
5		Pitch among peers Customer Sales Pitch (Online/ physical)
6		BMC Analysis Pitch Desk Preparation
7		Pitch with Mentors/ Industry/ Alumini/ SNS 15

8		Brand the Impact with Story in LinkedIn/ y tube using CGC Preparte a Casebooklet Update their Profile: resume, git, LinkedIn etc.
9		Final Pitch with Mgnt
		Declare winner seed fund of 25k-1L
10	Post Bootcamp	Hackathon
		Patent/ Journal
		Startup / Revenue Generation

Project Checklist

Provide ✓ to the completed stages during submission:

	Completed
Empathize: • Conduct user research to understand the needs, preferences, and pain points of your target audience.	
• Create user personas based on your research findings	✓
Define: • Clearly define the problem statement or opportunity you're addressing with your Product/ App.	✓
• Use tools like problem statements and opportunity maps to articulate this.	✓
Ideate: • Brainstorm potential solutions to the defined problem.	✓
• Encourage creativity and generate a wide range of ideas through techniques like brainstorming sessions or mind mapping.	✓
Prototype: • Develop prototypes or mockups of your product/app ideas.	✓
• Start with low-fidelity prototypes to quickly iterate and gather feedback before investing in high-fidelity prototypes.	✓

Project Checklist

Test: • Conduct user testing to gather feedback on your prototypes.	✓
• Use feedback to refine and improve your product/app design iteratively.	✓
Iterate: • Continuously refine and iterate on your Product/ App design based on user feedback and testing results.	✓
• Embrace a mindset of continuous improvement throughout the development process.	✓
Plan: • Develop a project plan outlining the key milestones, tasks, and timelines for each stage of the development process.	✓
• Assign responsibilities to team members and allocate resources effectively.	✓
Execute: • Implement the project plan, keeping track of progress and addressing any challenges or obstacles that arise.	✓
• Regularly communicate with stakeholders to ensure alignment and transparency.	✓
Evaluate: • Assess the effectiveness of your product/ app design and development process.	✓
• Gather feedback from users, stakeholders, and team members to identify areas for improvement.	✓

Welcome

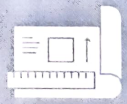
Great products start with great ideas. Your product/ app design journal will guide you as you empathize, define, plan, prototype, and evaluate your own product/ app idea to build something you care about.

Empathize & Define

Purpose
Ideas
Audience
Focus
Reiterate

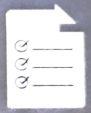
Plan

User Actions Input and App State
Choose Features
Inclusion
UI/UX



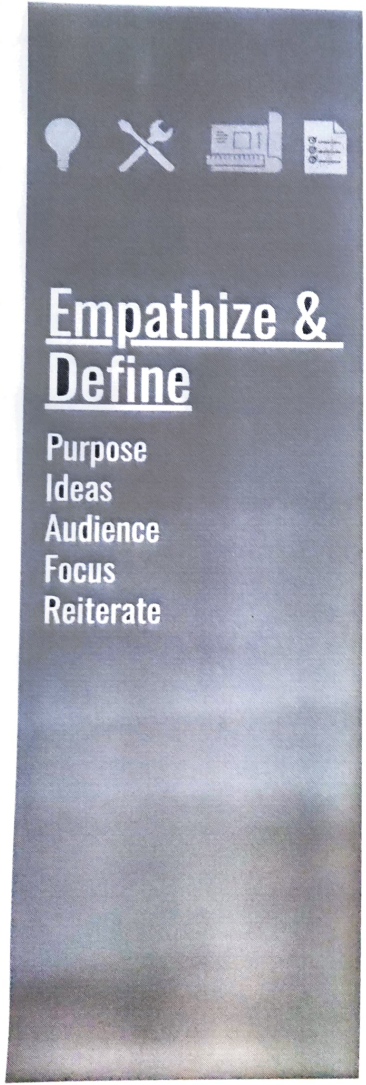
Prototype

Sketch Screens
Storyboard
Refine App Behavior
Design Style
Build
App Icon and Name



Evaluate

App Pitch
Prepare
Observation
Interview



Overview

Products/ Apps can be purely entertaining, and they can also help people discover new ideas, solve problems, connect with others, or create something amazing.

The brainstorming stage allows you to identify problems and come up with possible solutions. This section includes a few key topics for you to think through. Some topics have optional Go Further activities if you're interested in exploring more. Jot down as many ideas, notes and sketches that can help you design your ideas for solving a problem in your school or college.

Empathize & Define

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Reiterate

Define the opportunity, problem, or challenge

Think about things that you or others experience that you might want to improve, personalize, or just make more fun.

1. Brainstorm a list of opportunities, problems, or challenges you care about.

Crop health monitoring system
AI based agriculture
Automatic irrigation

2. Choose the most interesting idea from your list and try to explain it in just one sentence.

A prototype with AI based crop monitoring system and irrigation system

3. What do you know about the opportunity, problem, or challenge? What do you need to learn more about?

At present there is only IoT based irrigations and manual crop monitor (Supervisory).

4. Who cares about or is affected by this opportunity, problem, or challenge?

farmers, floral conservatories, large scale fruits and vegetable producers.

Empathize & Define

- Purpose
- Ideas
- Audience
- Focus
- Reiterate

Similar Products/ Apps

Think about the products/ apps that you use. Identify each product's/ app's purpose and why you use it. Which do you use most, and which did you stop using after just a few times? Why did you bought/ download them in the first place? Brainstorm a list of your favorite products/ apps, and identify their purposes and the features that make them good.

Product/ App purpose:	I like this product/ app because .
Improve agricultural efficiency	It is user friendly
Product/ App purpose:	I like this product/ app because .
Autonomous Irrigation	It saves the water Wastage
Product/ App purpose:	I like this product/ app because .
Product/ App purpose:	I like this product/ app because .
Product/ App purpose:	I like this product/ app because .

Empathize & Define

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Define the opportunity, problem or challenge

Before you can start to explore different features/ options for your product/ app, you need to be clear on what the opportunity, problem or challenge is.

5. What questions do you need to find answers to?

1. What methodologies to be followed?
2. Specifications of the devices used?
3. Components to be used
4. How to build the website?
5. What kind of data we require to train the module?

Empathize & Define

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Go further
Use pen and paper to sketch out a mind map of the problems and possible solutions.

My ideas

Brainstorm and create a list of products/ apps you'd like to build and how they'd help address the opportunity, problem, or challenge you identified. For example, they might solve or improve a specific issue, add personalization to some situation, or just be something silly. Browse the App Store for app idea / Statista, Nielsen, SurveyMonkey, Google Trends etc. for product development for inspiration. Keep adding to this list and revisit it, as some ideas might become more interesting.

My product/ app idea	How my product/ app will help
Keeping the web page minimal	→ user friendly interface
Real time data collection	→ Helps farmers make informed decision
uses random forest model	→ gives highest accuracy.

Empathize & Define

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Reiterate

My ideas

Brainstorm a list of products/ apps you'd like to build. These could be new ideas, products/ apps to solve specific problems, products/ apps you think you can improve or personalize, or just something silly! Browse online for inspiration. Keep adding to this list and revisit it, as some ideas might become more or less interesting in the future.

Add your ideas.

To provide correct and accurate production of crop sustainability in a given state for the particular soil type and climatic conditions.

To provide recommendation of the most effective suitable crops within the area in order that the farmer doesn't inaur any losses.

To provide fertilizer suggestion for crops supported chemical fertilizers.

Empathize & Define

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My product/ app idea

From your brainstorming list, select one product idea/ app idea to develop further and describe it below.

Products/ App name: AI based Crop monitoring System

Write a description of what the products/ app does.

* AI disease detection
* real time alerts
* Scalable
* mobile access.
* Sustainable farming Support.

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Pitch Among Peers

Pitching with peers before developing a products/ app is crucial. Peers can provide valuable feedback on the products/ app concept, helping to refine and improve the idea before significant resources are invested in development. They might point out potential flaws, suggest enhancements, or offer different perspectives (can duplicate the content whenever needed)

Feedback and Refinement:
To find the best technologies and ways to implement this idea.

Collaboration and Support
Establish partnerships for data access and testing
Join relevant communities for enjoy Support

Validate the concept
The project is validated through peer discussion highlighting a clear need for a reliable crop recommendation System.

Help in Resource Identification
useful data Sources like government agricultural databases, machine learning libraries and IoT Suppliers for Sensors

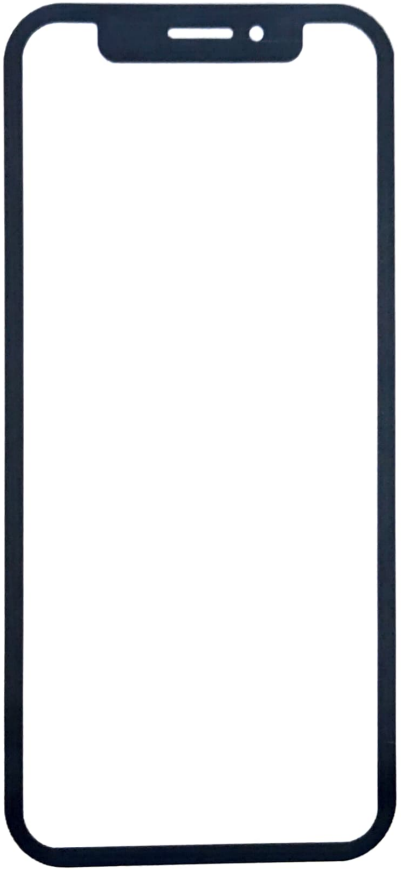
Confidence Building
Receiving encouraging responses reinforces the project potential and feasibility, boosting confidence in its successful implementation

Networking
Creates connection with individuals interested in similar domains, opening opportunities for collaboration, expert consultation

Go Further

Do a little research on your initial top ideas. Do your product/ app ideas already exist? Don't be discouraged if you find one or several that are like the product/ app you have imagined. It just means and maybe now that you've seen a bunch of similar products/ apps, you can see ways to improve them. For you favorite idea, find its top competitor on the online platform/ App store. If you can use the product or download the app. Then check it out to answer the questions to the right. If there are any user reviews on the online platform for product /App Store for app, be sure to read those carefully too. What are people finding difficult about the product/ app? What else do they wish the product/ app could do? Where are people getting confused? How would your product/ app address each of these concerns?

My product's/ app's top competitor



Add example of your product's/ app's top competitor here.
Is it easy to use? Why or why not?

It integrates sensors and AI offering intuitive crop recommendations making it user friendly for farmers

Can you list down the challenges while using the products/ app?

Connectivity issues in rural areas, data inaccuracies from sensors and complexity in handling real-time data integration

How could it be designed better?

Simplifying the user interface, improving connectivity with offline data options and using more robust.

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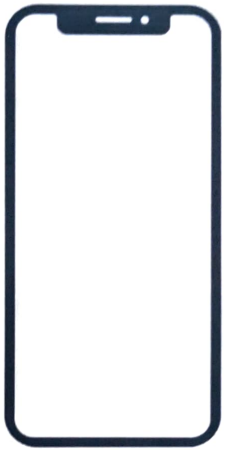
Explore products/ apps from different categories in the marketplace/ App Store. Take a look at the icons, screenshots and descriptions. Add example images here to keep track of your research.



1.It's important to design with a target audience in mind. Who do they want to use their product / app?

many agriculture apps like agriculture and farmers logs targets, farmers, agri businesses.

2.What have you learned about the audience those products / apps are meant for?

The target audience includes small to large-scale farmers seeking data driven insights, real time weather updates etc.

3.Did the developers do a good job communicating that?

Yes, apps like paarkrishi are clear descriptions emphasizies specialized tools, local climate support etc.

4.Judging from the screenshots or preview video, do you think the products / apps are appropriate for their intended audiences?

Yes, visual elements like easy navigations, accessible data formats, and farming specific icons make them suitable.

5.It's important to design with a target audience. Who do you want to use your product / app?

Farmers

Agri Experts

Agri students & researcb

Go Further

For your products/ app idea, create a persona for each type of person who would use the product / app.Duplicate this page to outline each persona.

What does this person do?

cultivates crops and manages farm operations

How old is the person?

45 years old

Why is the person using the product/ app?

Prefer pictures for quick visual data insights

Does the person prefer pictures or words?

Prefer Picture for quick visual data insights

How often does the person use their product/app?

Daily, for crop guidance and market trends

Include other details.

Relies on weather forecasts

Relies on fertilizer advice

Interested in precision agriculture

Illustration or stock

photo of the persona
(optional)

Empathize & Define

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Focus

Before you commit to your product/ app, go back and review your list of product/ app ideas. Which ones seem most interesting? Focus on a few ideas for further brainstorming. What purposes do they serve and how do they solve issues? Who are the audiences? Write products/ app statements to clearly define each product's/ app's purposes. This can help you decide whether they're good ideas or not. Compare your new ideas to your similar product / app idea. Is it still your favorite?

What will your product/ app do?

My product/ app will . . .

Recommends suitable crops based on location, soil and weather

Why does this need exist?

because . . .

Helps farmers make informed crop and fertilizer decisions

What will your product/ app do?

My product/ app will . . .

Suggests fertilizer for optimal crop yield

Why does this need exist?

because . . .

Reduces crop failure by optimizing growing conditions

What will your product/ app do?

My product/ app will . . .

Provides real time data integration via IoT devices for crop management

Why does this need exist?

because . . .

provides easy access to agricultural advice and tools for sustainable farming

Go Further

For your product/ app idea, create a persona for each type of person who would use the product/ app.Duplicate this page to outline each persona.

To truly understand and serve our users, we must step into their shoes, listen actively, and immerse ourselves in their experiences

Engage with a diverse group of audience to capture varied experiences:

Take detailed notes of audience interactions and feedback:

Highlight key pain points, needs, and emotions:

Stay connected with audience for continuous feedback:

Avoid yes/no questions to gather detailed insights:

Reflect on the empathy process and seek ways to enhance it:

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Go Further
Search the Marketplace/ App Store for similar products/ apps. Look at user reviews to get ideas about how to make a better design or to discover features that would be nice to have.

My product/ app idea

From your brainstorming list, select one product/ app idea and try to write a purpose statement for your product/ app using the template below.

My product/ app will help [audience] with [opportunity, problem, challenge] by [what the app will do].

The app helps farmers select the most suitable crops and fertilizers based on soil, weather and location data to optimize yield

Get more specific about your product/ app idea. Write down any goals for your product/ app and describe what someone would do with it.

* provide real time crop recommendation
* offer fertilizer suggestion for different soil types
* farmers use the app to make informed farming decisions improving productivity.

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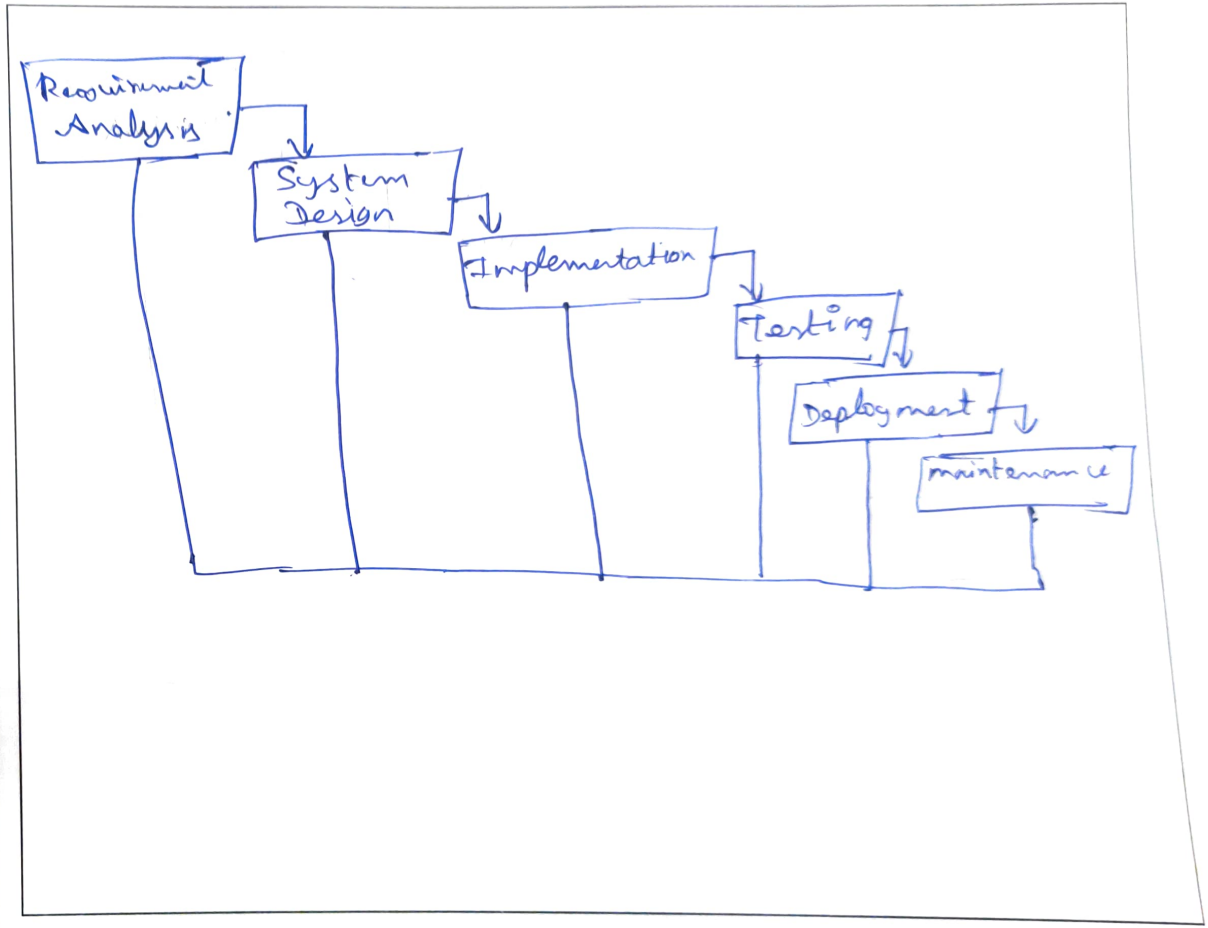
Go Further

- If required, the process flow can mention detailed steps to facilitate a thorough understanding.
- If required, the process flow can mention each stage in detail to ensure comprehensive guidance.
- If required, the process flow can mention the key checkpoints and actions needed for successful completion.
- If required, the process flow can mention any contingencies or alternative steps to cover potential scenarios.
- If required, the process flow can mention additional details to support efficient implementation.

The Process Flow

After finalizing the problem statement, the process flow serves as a critical blueprint for the development of applications, providing a clear and structured sequence of steps that ensures all aspects of the solution are systematically addressed. It helps identify key milestones, allocates responsibilities, and establishes timelines, thereby facilitating effective management. Additionally, the process flow outlines the interactions between various components, anticipates potential challenges, and incorporates feedback mechanisms, ensuring a cohesive and adaptable development process that aligns with the defined objectives and user requirements.



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Customer Sales Pitch

A customer sales pitch is a structured and persuasive communication designed to present a product or service to potential customers with the aim of convincing them to make a purchase. (can duplicate the content whenever needed)

Identifying Needs and Priorities:
Understand the farmer's crop challenges, soil Condition and climate needs for precision solution.

Assessing Current Solutions:
Analyze existing crop advisory tools and their limitations in addressing farmer-specific challenges

Evaluating Fit and Value:
Highlight how the app uniquely offers tailored crop and fertilizer recommendation for better outcomes

Solution Overview:
Present real time data driven crop insights fertilizer suggestions and IoT enabled precision

Market Fit:
Target small to large scale farmers seeking efficient, Scalable solution for modern agriculture challenges

Feedback and Questions:
Invite inquiries about features and usability and gather feedback to improve user experience.

BUSINESS MODEL CANVAS

Key Partners	Key Activities	Value Prepositions	Customer Relationships	Customer Segments
• Government agencies • agricultural experts • IOT Suppliers • Data providers	• Data analysis • user Support • App maintenance **Key Resources** • Agricultural datasets • IoT devices • Technical team	★ Accurate crop recommendation ★ Fertilizer Suggestions ★ Real-time data analysis	★ online support ★ Community forums **Channels** ★ Mobile app ★ web platform	★ Small farmers ★ Large-Scale farmers ★ Agribusinesses

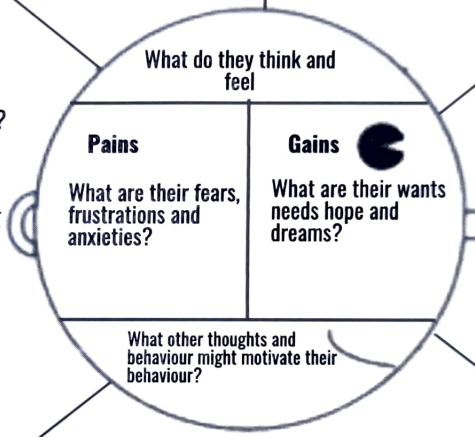
Cost Structures	Revenue Streams
★ Technology development ★ Data acquisition ★ maintenance costs ★ Marketing	★ Subscription fees. ★ Data licensing ★ premium features ★ Advertising.

EMPATHY MAP

1.Who are we empathizing with
2.Who is the person we want to understand
3.What is the situation they are in
4.What is their role in the situation

1.What do they need to do
2.What job do they want or need to get done
3.What decisions do they need to make
4.How will we know they were successfull

1.What do they hear
2.What are they hearing others say?
3.What are they hearing from friends?
4.What are they hearing from colleagues?
5.What are they watching and reading

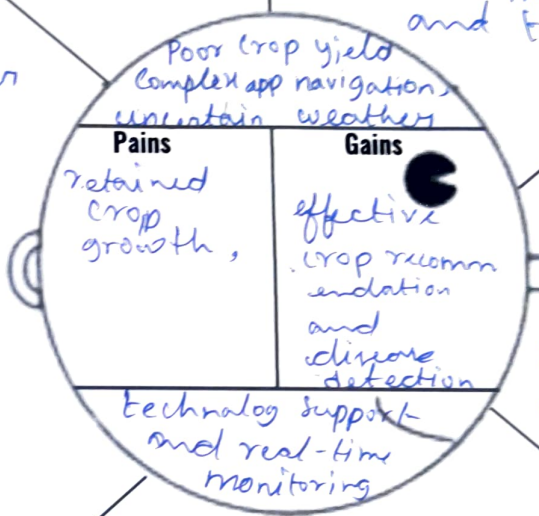


1.What do they see
2.What do they see in the market place?
3.What do they see in their immediate environment?
4.What do they see others saying and doing?
5.What are they watching and reading?

1.What do they say
2.What have we heard them say?
3.What can we imagine them saying?

1.What do they do
2.What are they do today?
3.What behavior have we observed?
4.What can we imagine them doing?

EMPATHY MAP



1. Farmers, agricultural experts
2. crops, farmers
3. crop health monitoring
4. Health monitor, Disease detection

1. retainted crop growth
2. random fertilizer usage.
3. To change the crop often.
4. No technical knowledge
5.

1. provide crop recommendation, disease detection
2. Identify the cause of disease and solution for it.
3. Identifying effective fertilizers
4. Continuous monitoring and testing

1. They use fertilizers that they have been using for years without knowing the actual requirement

1. They require some technology support to improve their yield and crop health

They use fertilizers that they have been using for years without knowing the actual requirement

Plan

User Actions
Input and Product/ App State
Choose Features
Inclusion
UI/UX

Overview

The planning stage is when you figure out what your products/ app will actually do to achieve the purpose you outlined. You'll consider what actions a user might need and how user input could trigger something to happen in your products/ app. You'll also choose possible features and find out how to design your product/ app with inclusion in mind from the start.

User actions in my product/ app

Based on your product/ app idea, list the different things a user will want to do in your product/ app. Add one user action in each box. Fill as many boxes as you need to for your product/ app. Some of the best products/ apps are very simple: They do only one thing, but they do that thing very well.

Features:

A user will need to

Input soil and environmental parameters : users can enter soil characteristics and weather details for crop suitabilities

A user will need to

Based on the selected crop, users can get specific fertilizer recommendations

A user will need to

users will receive a list of the most suitable crops for their region

A user will need to

users can connect IoT devices to receive live updates on soil and weather condition

A user will need to

A user will need to

Plan

User Actions
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User input and changes to my product's/ app's state

From the list you created on the User actions slide, identify ways users will interact with your product/ app. User actions — or inputs — might trigger changes in how the product/ app looks or what the product/ app does. This is called the product/ app state: The user does something, then the product/ app does something in response. User input could include typing, tapping a screen, or moving the device. Changes to the product design might include updates to the user interface, adjustments to functionality, or enhancements to performance. This is the first step in the process of product development. Changes to the app state might include images or text appearing on the screen, calculations using input, or storage of information. This is the first step to coding your app.

User input	**Changes to the app state**
Eg: A user aims the camera at a insect and taps a button	Eg: A photo is taken and saved
a user gives the nutrition content of the soil	The suitable crop recommendation is given
Eg: A user types the insect name into a search box	Eg: Different insect results appear on the search screen
Picture of the crop is taken	The possible diseases is given along with cure
Eg: A user presses a "new insect" button on the home screen	Eg: A new screen with the camera opens
The soil temperature and the crop details are given	The effective fertilizer is recommendated.
Eg: A user takes a picture of a insect	Eg: A new screen with several boxes to type information in pops up

Plan

User Actions
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Identify where each of the user action features would be utilized in your app/product

My app's features

Many features are available to help you design great apps. Look through the partial list below and add checkmarks for the ones you might need for your app. Are there any others not listed that you might need?

Drag a checkmark next to features you want to consider using in your app.

- [x] **Keyboard**
  Allows typing input
- [x] **Camera**
  Captures and processes images
- [ ] **Microphone**
  Captures and records audio
- [x] **Touchscreen**
  Allows users to interact through tap, swipe, and drag
- [ ] **Gyroscope**
  Measures how the device is rotated
- [ ] **Accelerometer**
  Measures how quickly the device is moving
- [ ] **GPS**
  Locates the device longitude and latitude
- [x] **Bluetooth**
  Communicates wirelessly with other devices
- [ ] **Map**
  Displays interactive maps
- [ ] **Augmented reality**
  Places virtual objects that users can interact with in their world
- [ ] **Speakers**
  Plays back audio
- [ ] **Haptics**
  Provides feedback through vibrating the device (iPhone only)
- [x] **Machine learning**
  Analyzes information and categorizes it for further use
- [ ] Other
- [ ] Other
- [ ] Other

Plan

User Actions
Input and Product/ App State
Choose Features
Inclusion
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Inclusive design in my product/ app

An inclusive product/ app is respectful in that it puts people first. It does this by presenting information and functioning in ways that everyone can access and understand. This is a process that you can continue to improve as you prototype and get user feedback.

Try to think about your product/ app through different perspectives. How will your product/ app support a wide variety of users?

★ provides fertilizer recommendation to farmers.
★ Gives crops recommendation.
★ Real time crop monitoring
★ provides methods cure crop diseases.

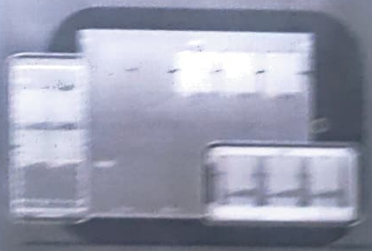
Consider how to make your product/ app approachable and welcoming to all. What will you need to do so that users can fully access the accessibility features in your product/ app?

Drag a checkmark next to elements that you need to consider for your product/ app.

- ✓ **Cognitive Support**
  Use motion, fonts, color, and sound carefully to avoid sensory overload and to help people — including those with learning challenges —focus on what's important.
- ✓ **Accessibility Descriptions**
  Include alternative text for visual elements and accurately label buttons to provide context for people who are blind, have low vision, or use a screen reader.
- **Accessible Content**
  Add captions, transcripts, or sign language support for video or audio elements and haptic alerts for people who have hearing loss or want a silent device.
- **Alternate Input**
  Provide multiple ways to complete gesture-based (like swiping) or typing actions that can support someone with limited mobility.

Plan

User Actions
Inputs and Products/ App
States
Choose Features
Implement
UX/ UI



UX/UI

A great product/ app should be easy to use. That's where the user interface (UI) design comes in. A well-designed UI makes for a "good" user experience (UX). Think back to the first time you used some of your products/ apps, or try using a new product/ app. What was the experience like? Did you get confused navigating them? Review elements such as material quality, ergonomic design, and the overall user interaction with the product. Even the smallest detail can significantly impact how someone experiences your product. Review elements like font size, icon shape and placement, and the navigation from screen to screen in app. Even the smallest element makes a difference in how someone experiences your product/ app. Be sure to review in Android Design Guidelines- https://developer.android.com/design/

Go back to your list of similar products/ apps and choose one to review. Think about the features that make it easy to use.

★★★★★

Review of similar product/ app

- It automates only irrigation process
- It does not provide real time data,
- Crop recommendations is not effective
- Crop diseases detection is not available.

Go Further

Now consider the rest of the list of your similar product/ apps. Rank them in terms of their UI design. Which products/ apps are easy to use and seem to just work? Write down the reasons that some products/ apps are easier to use than others. Did you know what to do immediately? How many steps did it take to start using the product effectively? How many taps did it take to get going on the app? (The answer should be 'very few'.) First impressions count. Compare your notes with other students. Did you agree on the reasons?

1. cropin
2. agri app
3. Smart Crop Advisor
4. Farmlogs
5. Farmer's friend

Prototype

Sketch Screens
Storyboard
Refine Product/ App Behavior
Design Style
Build
Product Feature/ App Icon and Name
Models, Views & Controllers

Overview

Building a prototype helps you figure out exactly how your product/ app will work and what the user experience will be. This section will guide you through the process of sketching out what a user will see and do in your product/ app and creating a unique style for it. You'll then build a Designing for product development or working prototype in UI/UX Tools (Figma for app development) so that you can test out your ideas before doing any coding for app development.

Prototype

Sketch Screens

Storyboard

Refine App Behavior

Design Style

Build

Product Feature/ App Icon and Name

Models, Views & Controllers

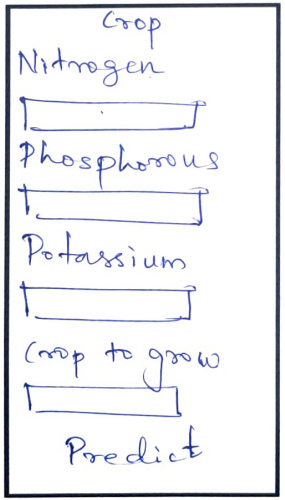
My product flow chart/ app's screens

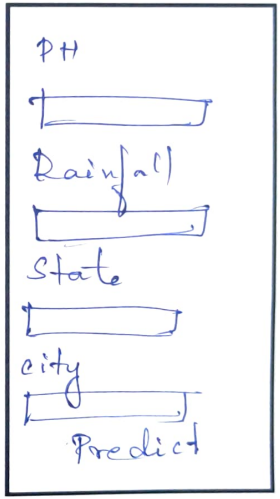
Choose one user activity to prototype from the list you created on the User Actions slide.

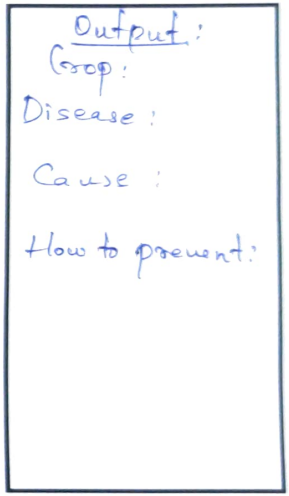
Describe the user activity in more depth.

eg: for product development- A user will evaluate a new kitchen gadget they've received. First, they'll assemble the gadget and test its functionality to see if it meets their needs. Once satisfied with the performance, the user can record feedback and suggestions for improvements. They can also add details about how and where they used the gadget, and any issues they encountered during its use.
eg: for app development- A user will choose to take a photo of a new insect they found. Then they'll take a photo and decide if they like it or want to retake it. Once they like the photo, the user can save it and add information about the insect. They can add the type of insect and where it was found.

Use pen and paper or a drawing app to sketch between one and three screens that show the user activity you chose. Quickly test ideas by sketching ideas and layouts (one by one ideas). Take photos of each phase/ screen you sketched.







Prototype

Sketch Screens

Storyboard

Refine App Behavior

Design Style

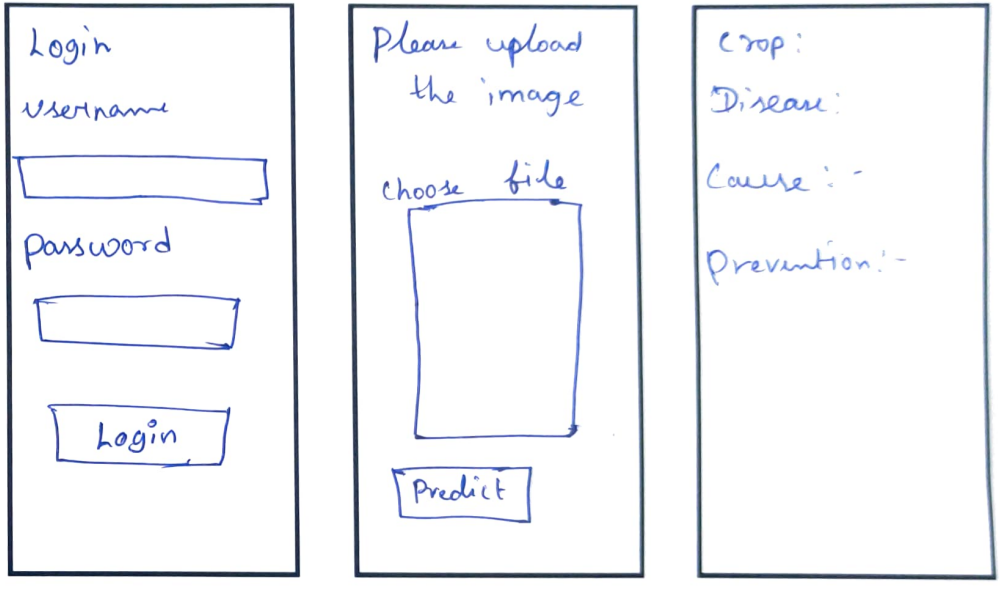
Build

Product Feature/ App Icon and Name

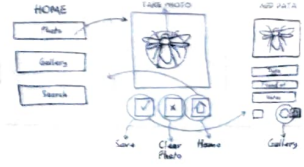
Models, Views & Controllers

My product's/ app's storyboard

Copy and paste your product/ app sketches from the Sketch Screens slide, then draw arrows to show the interactions between product components/ interactions between screens. Refer to your ideas on the Input and product/ App State slide to remind yourself how your product's/ app's look or function will change with user actions, such as "'activating a new feature' or 'initiating a new function'/ 'triggering a new screen'."



eg:



Prototype

Sketch Screens
Storyboard
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Build
Product Feature/ App Icon and Name
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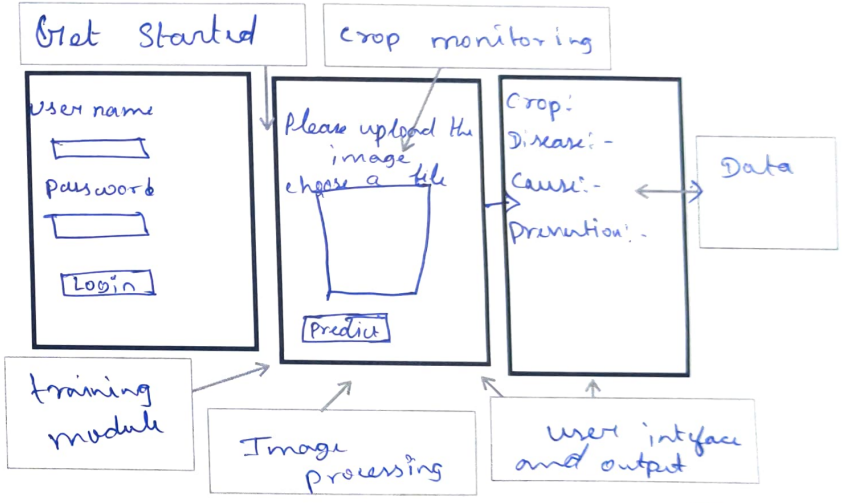
My product's response to a user

There are two main categories of how the product state can change with user input:
Physical Interaction:
Changes to the physical state, such as a part moving, a button being pressed, or a mechanism being activated.
Performance Output:
Changes in the product's function, such as an improvement in efficiency, activation of a feature, or recording of user data.

Take a screenshot or diagram of the product layout or design blueprint and add it to this slide. Drag a box that corresponds to the type of change in the product state down to each user interaction in your blueprint. Draw lines to connect each user interaction to the box and write a short description of the change in the product state.



eg:

Prototype

Sketch Screens
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Example

My app's response to a user

There are two main categories of how the app state can change with user input:

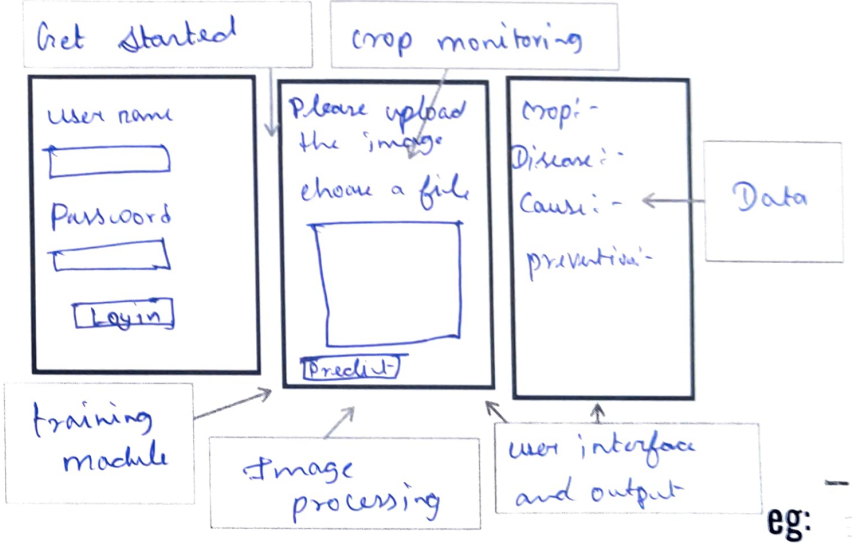
Onscreen: change from crop recommendation to disease identification

Changes to the interface, such as a new screen, button, or text that appears.

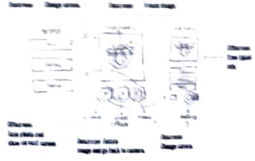
Offscreen: Changes in the routes

Changes to information behind the scenes, such as a calculation, saved user input, or a photo filter.

Take a screenshot of the outline for your app and add it to this slide. Drag a box that corresponds to the type of change in the app state down to each user input in your storyboard. Draw lines to connect each user input to the box and write a short description of the change in the app state.



eg:



Prototype

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Go Further

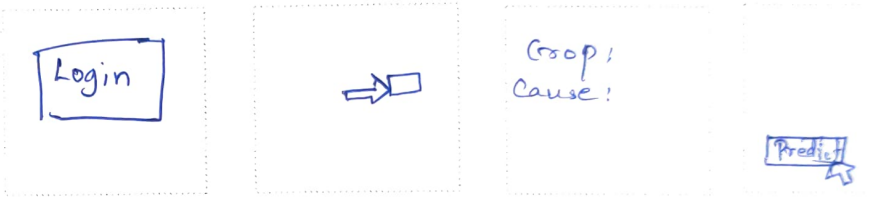
Try creating your own sounds from Garageband Add a new slide to create a mood board using screenshots that inspired your design. Read more about accessible use of color and contrast

My product's/ app's design

Give your product/ app some style and personality. Remember to keep your product's/ app's purpose and audience in mind, and think about how your design choices can make your product/ app inclusive and accessible to your users.

Choose a color scheme.

Sketch details of user interface (UI) elements such as buttons, navigation tools, or other visuals. If your product/ app uses color to show information, sketch features/ icons to support colorblind users, too. Then take pictures and add them below.



For each visual UI element, practice writing alternative descriptions for a person who's blind by selecting the image, clicking or tapping the Image tab in the Format sidebar, and adding text to the Description field.

What fonts will your app use?

Times new roman

Add sound files or describe the sounds your app will use to notify users of something, immerse them in a game atmosphere, or enhance the app's mood.

NA.

Prototype

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Bug Buzz Example

Take a look at this example design style. Check out how the UI elements are detailed and focused on alignment with the user action and the overall feel of the app.

Example

My product's/ app's design

Give your product/ app some style and personality. Remember to keep your product's/ app's purpose and audience in mind, and think about how your design choices can make your product/ app inclusive and accessible to your users.

Choose a color scheme.

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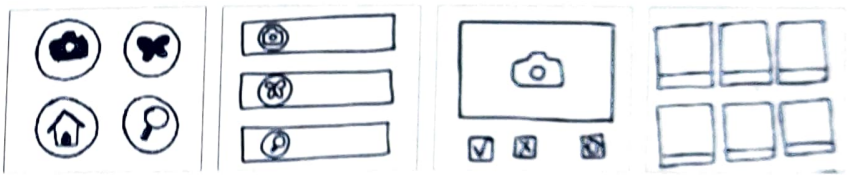

For each visual UI element, practice writing alternative descriptions for a person who's blind by selecting the image, clicking or tapping the Image tab in the Format sidebar, and adding text to the Description field.

What fonts will your app use?

Phosphate and Lucida Sans

What features will your product have?

Crop recommendation, disease detection

Add sound files or describe the sounds your app will use to notify users of something, immerse them in a game atmosphere, or enhance the app's mood.

No audio files are needed.

Prototype

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Example on next slide >

My product/ app prototype in UI/UX Tool.

Create a new project. Download the template. Use the ideas from your sketches and design elements to create screens in your UI/UX Tool prototype. Build each screen on a different slide.

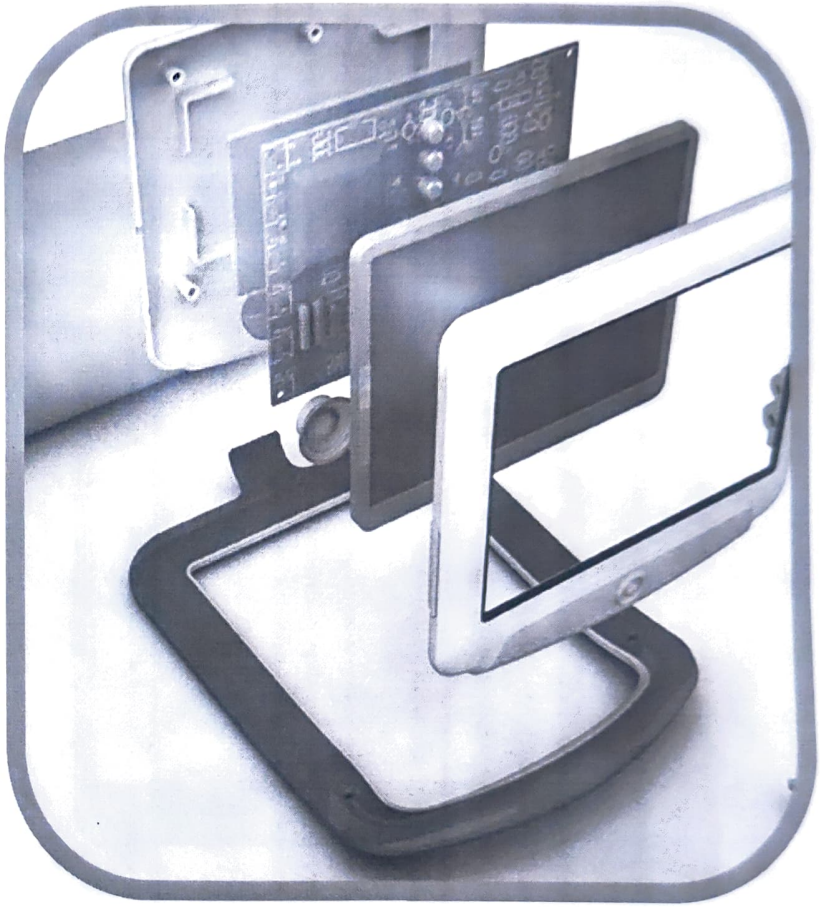
Make interactive links to mimic product/ app behavior. For product development- use your notes from the Product Development Strategy slide to establish connections between different sections of the document. This will enable you to navigate between various stages of development and trigger updates or responses as you would with integrated features in a product.

For app development- use your notes from the Refine App Behavior slide to add links between the slides so that you can navigate between screens and trigger responses as you would with code. To do this, select the object or text you want to link, select the option to add a link, then choose the appropriate slide. To make sure that the slides change only when the user taps the buttons, check that Presentation Type is set to Links Only in the Document sidebar.

Example of a Chair Prototype

Take a look at this finished prototype for inspiration. Remember that this is a prototype of a completed product. You're working on only one part at a time, but through several iterations, you can get to a fully functioning product too.

Example of Product prototype



Bug Buzz Example

Take a look at this finished prototype for inspiration. Remember that this is a prototype of a completed app. You're working on only one part at a time, but through several iterations, you can get to a fully functioning app, too.

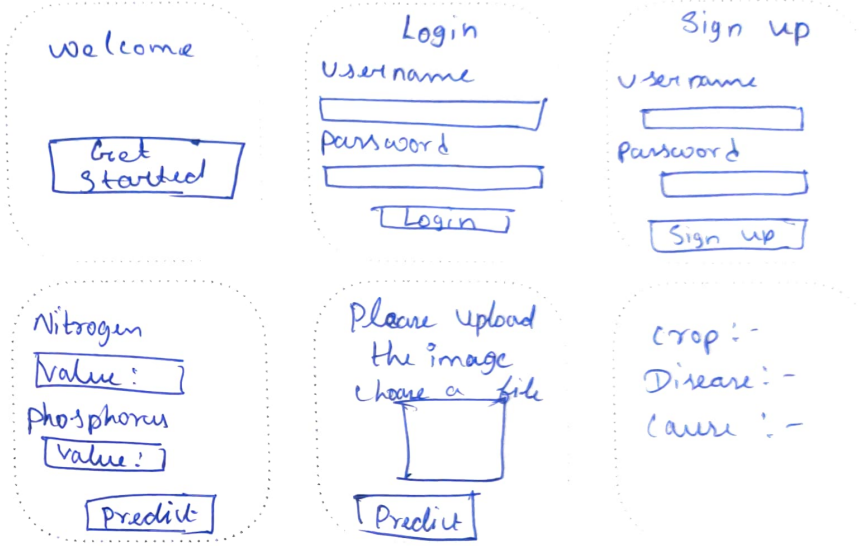
Example app prototype

Prototype

- Sketch Screens
- Storyboard
- Refine App Behavior
- Design Style
- Build
- **Product Feature/ App Icon and Name**
- Models, Views & Controllers

My product's features and name/ My app's icon and name

Use pen and paper or a drawing app to sketch a few features/ icons for your product/ app. Add them here and put your top choice first.



Come up with a few different names for your product/ app. Put your top choice first.

Intelligent crop monitoring

Gen AI for crops

Agri tech

AI in agri

Tulir

GenAgri

Prototyping in UI/UX Tools

1.Set Up Your Document- Create a new project and set the canvas size to match your target device or screen.

2.Design Elements-Choose colors and fonts. Design navigation buttons and other UI elements.

3.Create Screens-Design each screen on a separate artboard or frame.

4.Add Interactions-Use the tool's prototyping features to create links between different screens.

5.Set Transition Effects-Choose transition types and configure animation settings.

6.Test Your Prototype-Enter the presentation or preview mode to test interactions and transitions.

7.Share Your Prototype-Share a link to your prototype with stakeholders for feedback.

8.Iterate and Refine-Gather feedback and make necessary adjustments.

As you refine your product, consider aligning your design with current industry standards and best practices. This will ensure that your product not only meets user expectations but also adheres to proven design principles that enhance functionality and user experience

As you experiment with your own UI, you might also want to design apps that match the iOS/android design language.

For each version of your prototype, think about the following:

For Product

- Can users choose to interact with the product in different ways?
- Can you present the same information in different formats?
- What's the first experience (view) users encounter with the product? What features or controls are immediately visible? What follows after?
- How many interactions will it take for users to access essential information or features?
- How will users move between different parts or features of the product?
- What are some effective ways to convey the product's features without relying on text?

For App

- Can users choose to engage with the content in different ways?
- Can you provide different representations of the same data?
- What's the first screen (view) that the user sees? Which buttons are visible? Then what happens?
- Decide what kinds of graphics and icons your app will display and where they'll appear.
- How many taps will it take for users to find out what they need to know?
- How will users navigate between views?
- What are some simple ways to communicate the features of your app without using words?

Prototype

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Deeper Dive: Detailing MVC
Once you've defined how your app will flow in your prototype, think about how to organise different parts of your code. The MVC pattern helps accomplish this while keeping your code organised.

App Development: Use the following questions to help build a list of models, views and controllers that your app would need if you began building the prototype with code.

Models

What data do you need to build your features? Where does the data come from? Does the user supply it or does it come from a web service? Do you need to store the data on the device for offline access?

Data's are obtained from :- kaggle, government websites, open whether map, Soil grids.

Views
Are there particular views you want to show on multiple screens? Did you include any customised gestures?

No, multiple Screen features.

Controllers
How many view controllers does your app need? What controllers will help manage the data? Does your app have customised transitions that need a controller?

Controller :- ESP 32.
random forest module - machine learning

Prototype

Sketch Screens
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What sections of your app might you want to write code for first? Outline a plan for building your app. Look back at your storyboard.

Which views are most important and need to work first?

code using flask

UI designing (Html /css)

embedded systems.

Which views might you want to save to build at the end?

we need to save views for user input crop recommendation, fertilizer suggestion, data visualization, user setting and feed backs options

Pitch with Mentors/ Industry/ Alumni/ SNS 15/ CFs

Pitch with Mentors/ Industry/ Alumni/ SNS 15/ CFs:

When pitching your product/ app development idea to mentors, industry professionals, or alumni, it's important to approach it with a strategic and professional mindset. Here's a guide to help you prepare and deliver an effective pitch

- Research and Preparation- Know Your Audience, Prepare Your Pitch Deck & Practice Your Delivery
- Problem Statement- State the Purpose, Define the Problem & Highlight the Impact
- Solution Overview- Present Your Product/ App, Showcase Value, Execution Plan & Explain the Business Model
- Feedback and Next Steps- Be Concise and Focused, Ask for Feedback & Discuss Next Steps

Refine the product/ app as needed to ensure it meets the highest standards and addresses user needs effectively.

Brand the impact with story in LinkedIn/yTube followed by preparing a Case Booklet- It is a comprehensive document that outlines the rationale, planning, and execution details. It serves as a reference guide and a strategic tool throughout the development process. A case booklet helps ensure that all aspects of the product/ app development are thoroughly planned and documented, serving as a roadmap for the project and a reference for stakeholders.

Evaluate

Product/ App
Pitch
Prepare
Observation
Interview

Overview

All right, you have a working prototype! Now it's time to get some feedback. Though you have only a partial product/ app, it's good to test often. Have your classmates, family, and others try it. Try to find testers who fit your product's/ app's target audience and pitch them your product/ app. Then plan to observe users as they try the prototype and get their feedback.

Evaluate

App Pitch

Prepare

Observation

Interview

My product/ app pitch

One way to test your product/ app idea is to develop a pitch and share it with others. Make a three-minute presentation or video of your pitch. A good pitch will tell a strong and clear story that makes people want your product/ app.

Your pitch should include:

- **Why**: The problem your product/ app is trying to solve
- **Who**: A description of who your product/ app is for
- **What:** An overview of the product/ app or a demonstration of the prototype
- **How:** Details about user experience and user interface, including the design, features and improvements you've made

What feedback did you receive about your product/ app idea?

→ Simplify the interface for ease of use among all farmer demographic

→ Incorporate localized data.

Evaluate

App Pitch
Prepare
Observation
Interview

Prepare a test for your prototype

Another way to test your prototype is to develop a test for users to try out. Prepare a plan for a user to test out your prototype.

Describe the activity you want your tester to accomplish with your prototype. Think about what you'd like feedback on and tested.

The tester will validate crop recommendations, fertilizer suggestion, IoT sensor integration and app usability.

Write a script that you'll read to your testers to introduce the task and product/ app. Try using a part of your product/ app pitch to help write this script.

welcome! your task is to test the crop recommendation monitoring app. please input soil and weather data and verify crop and fertilizer suggestion and use image for disease detection

How many people will you test with?

Typical range of 5 to 10 testers initially.

How will you reach out to people so that you can test with a diverse group?

use social media, local agri forums, farming networks and partner with agri organizations

Evaluate

App Pitch
Prepare
Observation
Interview

Observation of someone using my product/ app

Use your evaluation plan from the Prepare slide to test your prototype. Describe a goal you want them to achieve, then watch them try to accomplish the task. Ask them questions and record their answers.

Did the user know what button to tap?

Yes

Did the user know how to use the interface?

Yes

Was the user ever confused? At what point?

No

Did the user enjoy the product/ app?

Yes

Did the user smile or laugh at specific points?

Yes

Did you observe anything else?

Yes

Evaluate

App Pitch
Prepare
Observation
Interview

Interview

Interview the user when they finish testing your product/ app to better understand their experience. Here are a few questions to get you started:

What did you like and not like about the product/ app?

Like the personalized crop recommendation
didn't like the values was harder to obtain

Is the product/ app useful? Would you use an product/ app like this?

Yes

What else might you want to see in this product/ app?

Adding wheather forecasting

Reiterate

Remember, this is a design cycle and it's time to go back to the brainstorming stage. As you repeat the design cycle, think about what you learned from your evaluation. Did problems come up, and if so, how can you fix them? How can you improve your product/ app? Another important question to ask yourself is whether you're still excited about your product/ app idea. If not, it might be time to go back to your list. Not all ideas pan out. One objective of the design cycle is to help you test concepts and determine what's worth pursuing. Do you still want to continue with your idea? If so, write the name of your product/ app below, give it a star rating and write an product/ app review.

★★★★★

Review of my product/ app

Great crop suggestions and fertilizer recommendation, But, getting values of the soil is not beginner friendly

Go Further

Revisit the criteria you noted in the Purpose topic for what makes an product/ app great, then answer the questions to the right.

Continue to revisit the different topics throughout the design cycle. Revise your prototype accordingly, testing and retesting until you have the next great product/ app.

Is your product/ app innovative?

Yes

Does it do something that existing product/ apps don't do?

Yes, giving real time data and helps in disease detection and gives solution to it.

Is it a product/ app someone would use over and over again?

Yes.

How can you improve your product/ app?

By integrating advanced technologies.

Brainstorm

Plan

Prototype

Evaluate

Reiterate using feedback

Now it's time to reflect on your product/ app. Ask yourself what's exciting about your product/ app idea. If nothing comes to mind, try returning to your list on the Ideas slide. Not all ideas work out.

potential to revolutionize farming with data driven crop recommendation, personalized fertilizer advice.

If you decide to continue with your original product/ app idea, think about what you learned from your evaluation. What did your product/ app do well? What could you improve?

The project provided accurate crop recommendations and fertilizer suggestion based on real time data. Improvement enhance UI

Think about what you'll do next. Do you want to iterate on and improve the feature you designed? Are you ready to design the next feature of your product/ app? Or do you want to do both?

Yes, istering and improving the features is essential to enhance user experience and accuracy.

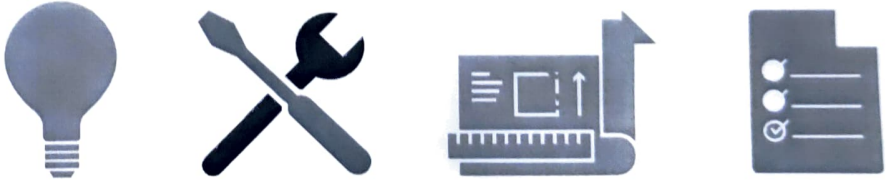
Revisit the parts of the design cycle that will help you make changes to your product/ app. Copy and paste new slides to use as you design the next user action and incorporate feedback.

App Pitch

You've tested and improved your product/ app idea. Now it's time to polish it up and share it! Make a three-minute presentation or video of your pitch. A good pitch will tell a strong and clear story that makes people want your product/ app.

Your pitch should include:

- Why: The problem your product/ app is trying to solve
- Who: A description of who your product/ app is for
- What: An overview of the product/ app
- How: Details about the UX and UI, including:
  - -The design
  - -The features
  - -The coding concepts it uses
  - -The prototype and any visuals
  - -Improvements made based on user testing



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Update your Resume, GitHub, LinkedIn etc. with a Demo Video followed by Case Booklet