



University of the Cordilleras
Innovation and Technology Transfer Office

Design Thinking

TECHNO100 Technopreneurship
Unit 2

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Introduction to Design Thinking



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Good v. Bad Design



User Experience

Process of creating products that provide ***meaningful and relevant experiences*** to a user

Good v. Bad Design



User Interface

Process used to build interfaces
in computerized devices,
focusing on looks or style

Solving Complex Problems in a User- Centric Way

Principles of Design Thinking

01

The Human Rule

02

The Ambiguity Rule

03

All Design is Redesign

04

The Tangibility Rule

The Human Rule

Approaching problem-solving with a deep understanding of the needs, behaviors, and experiences of the individuals who will be affected by the solution.

The Ambiguity Rule

Approaching problem-solving with a recognition and acceptance of the inherent uncertainty and ambiguity that often accompanies the design process.

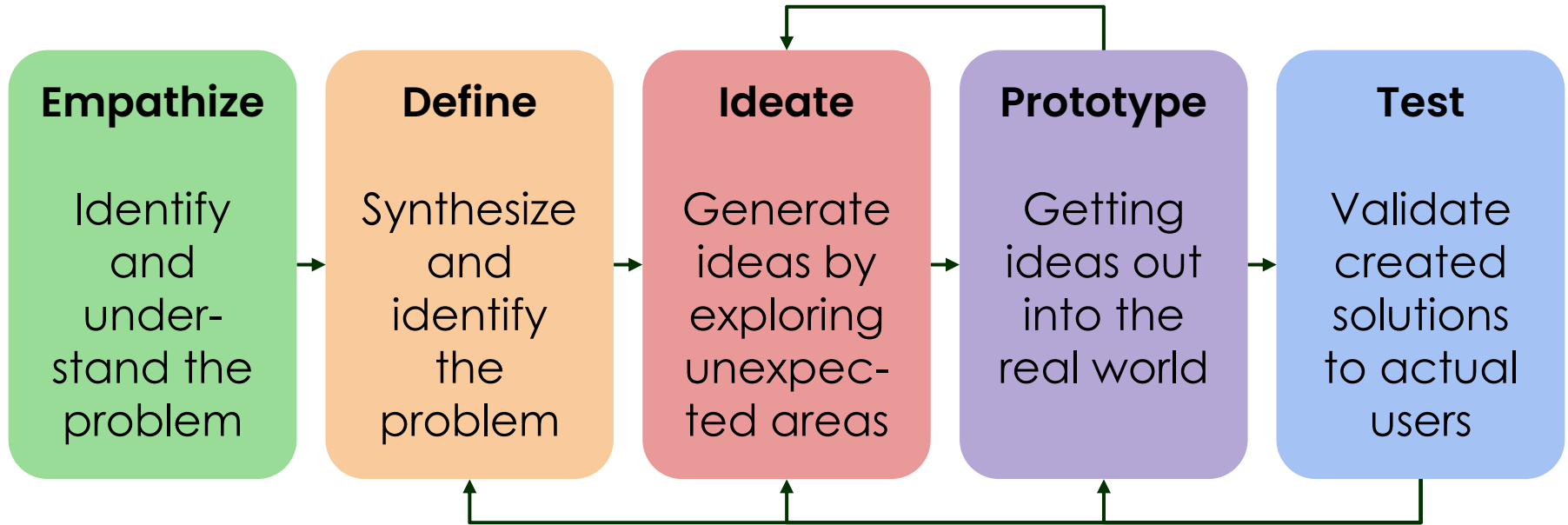
All Design is Redesign

Refers to the notion
that design is an
iterative and
ongoing process.

The Tangibility Rule

it emphasizes the importance of creating tangible representations or prototypes of ideas or solutions to facilitate understanding, communication, and collaboration with users.

Phases of Design Thinking



Step 1: Empathize



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Empathize

Identify and understand the problem

Drop assumptions, judgements, and biases when talking to the target users

How to Empathize with Users?

Observe

View users and their behavior in the context of their lives

Engage

Interact with and interview users through both scheduled and short 'intercept' encounters

Immerse

Experience what your user experiences

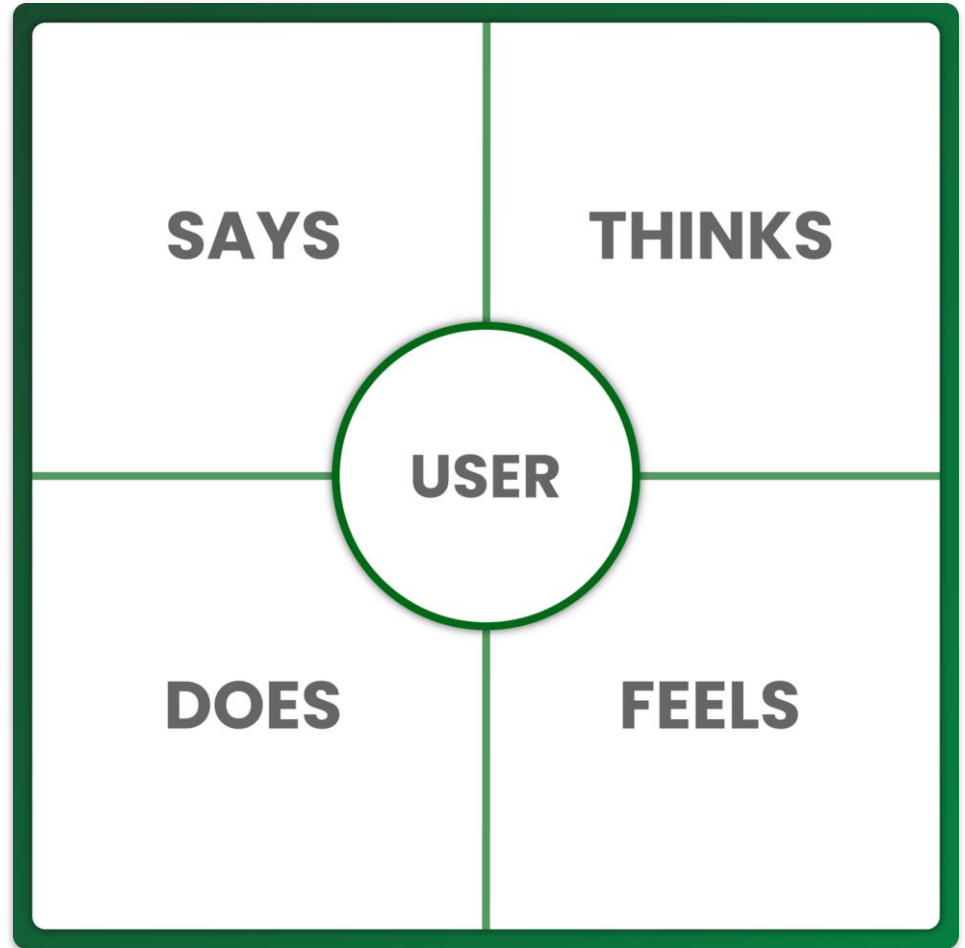
Qualitative Data

How do we collect
data from the target
users?

- Research
- Interviews
- Surveys
- Shadowing
- Documentary
- Journals
- Body Language

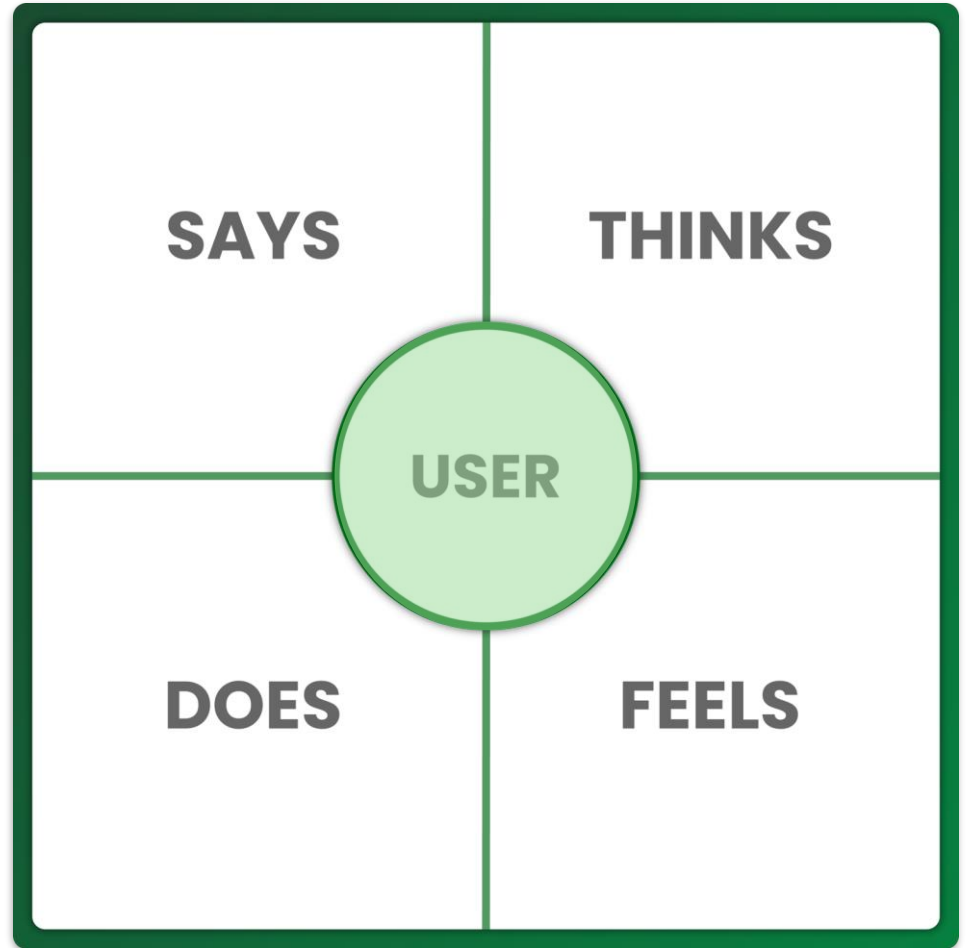
Empathy Map

a visual tool used in design thinking to understand and empathize with the target users or customers.



User Empathy Map

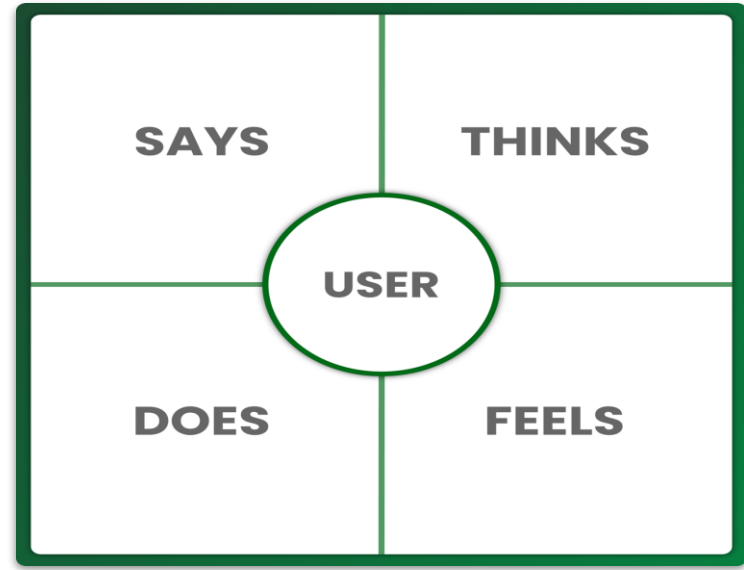
List down a target user;
have one empathy map
per user



Says

Empathy Map

What a user says out loud; includes direct quotes and verbatim statements

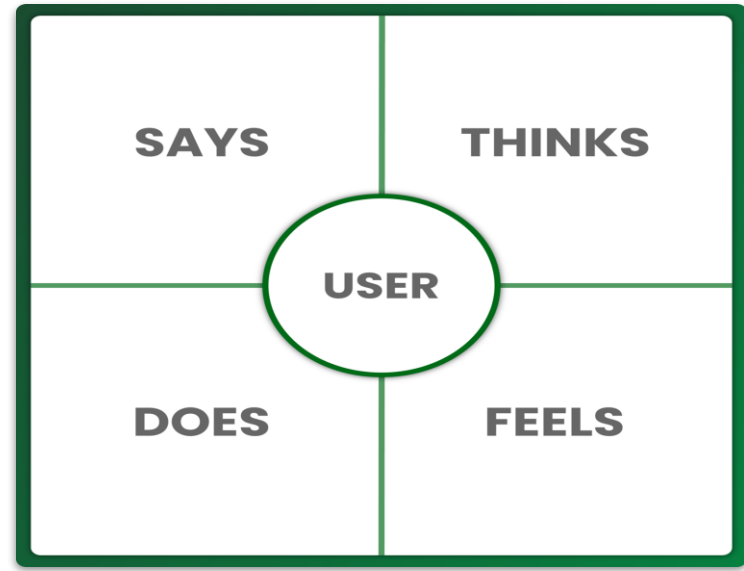


- "The mobile app is convenient for checking my account balance."
- "I wish the app had a feature to easily transfer money to my friends."
- "I find the app's customer support helpful when I have issues."

Thinks

Empathy Map

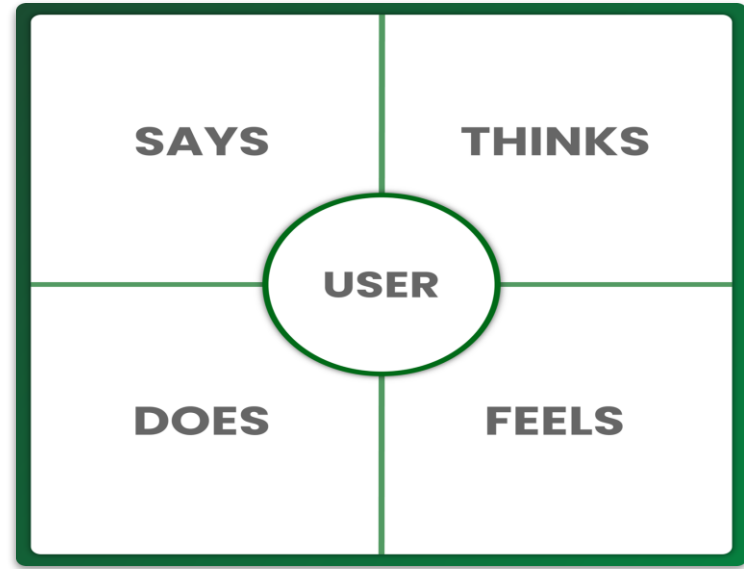
What the user might be thinking throughout the experience; things that may not want to vocalize



- "I want to have control over my finances and be able to track my spending."
- "I hope my personal information is secure when using the app."
- "I wonder if the app can provide personalized financial recommendations."

Does Empathy Map

Actions the user takes;
can be daily activities or
solutions that they have
attempted

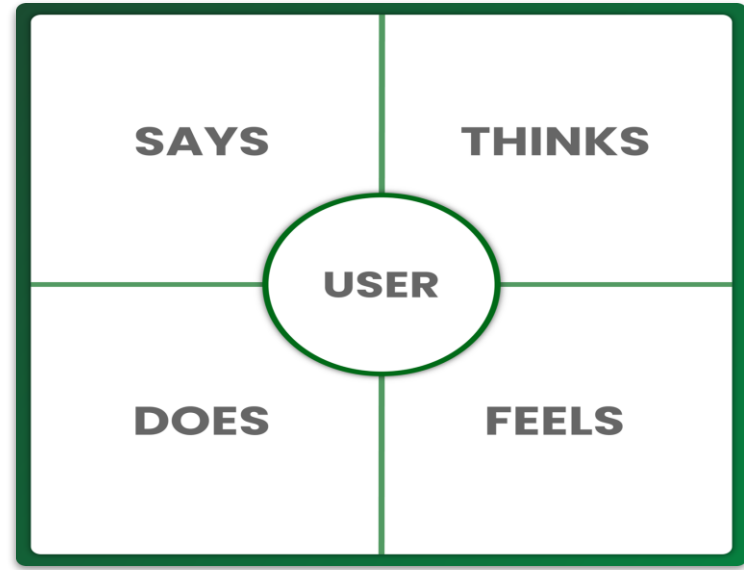


- Logs into the mobile banking app daily to check account balance and transaction history.
- Initiates frequent transfers between her accounts.
- Sets up notifications for transaction alerts and bill reminders.

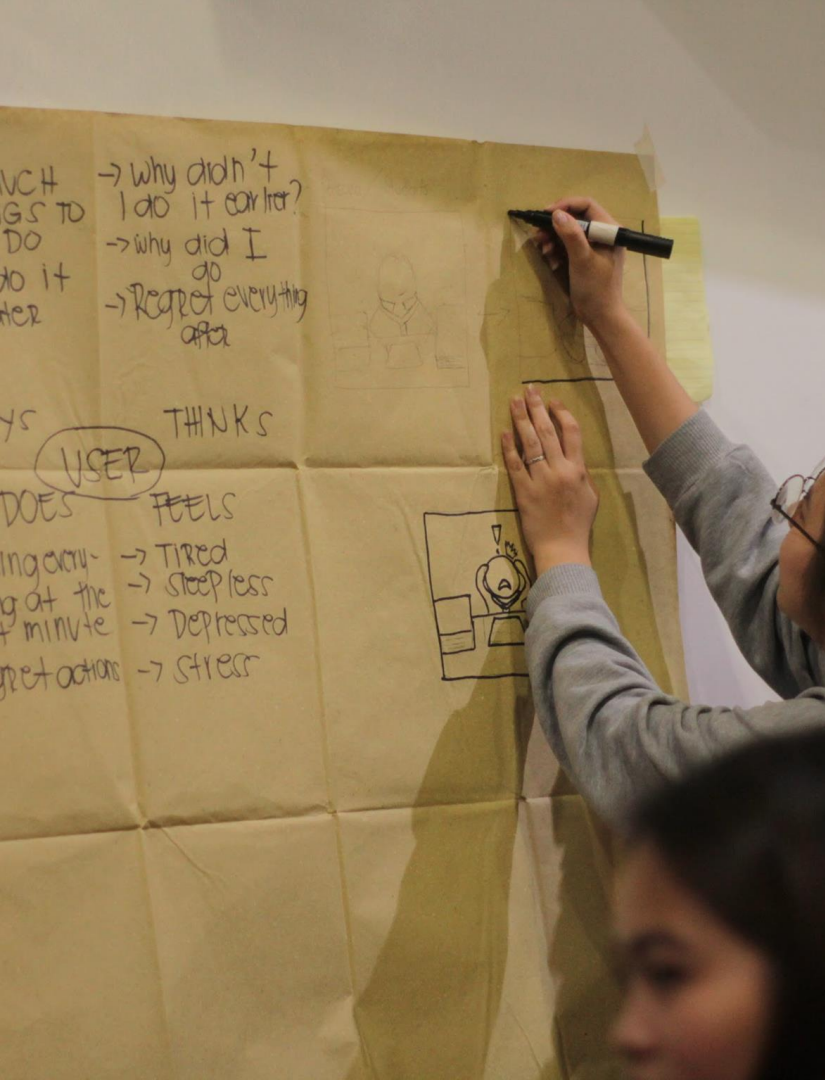
Feels

Empathy Map

Emotional states of the user; ask why they feel that way



- Feels secure and in control when managing finances through the app.
- Frustrated when encountering technical glitches or slow loading times.
- Appreciates the convenience and time-saving aspect of using the app.



Activity

Empathy Map

- Identify target users and scope
- Know if the problem really exists for the user
- Collect data from users, classmates, and the web
- Create an empathy map

Time: 30 minutes

Step 2: Define



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Define

Synthesize and identify the problem

Create an actionable problem statement from the information collected from the Empathize phase

Part 1

- Storytelling
- Capturing key points
- Identifying user roles
- Creating personas
- Creating a Storyboard

Part 2

- Clustering and prioritization
- Looking at the needs and motivations
- Point of View (POV)

Story-boarding

Tool used to visualize the experiences of the target user



Steps Storyboarding

Note important events of
the day-to-day life and
illustrate the problems
experienced even if there is
no dialogue



Persona

Fictional characters
created to represent user
types



Patricia Sta. Ana

Food Enthusiast

Patricia is a health conscious food enthusiast who enjoys dining out with her fiancé. They both share the love for health but even more for delicious food.

Patricia and her fiancé would dine out whenever they get the opportunity to, trying out every restaurant and every item on a restaurant's menu as take out or food delivery is always the last option - "It's about the experience", Patricia said.

They also have a membership at a local gym in Baguio City but due to the COVID-19 pandemic, Patricia and her fiancé has been forced in to lockdown and can no longer visit her favorite restaurants and explore new ones.

Although, some restaurants and hidden gems are now open, Patricia has difficulty in seeking out these places to eat.

| Demographics / Psychographics Age, Sex, Education, Marital Status, Hobbies | Story What is their background? | Expectations & Desires What do they expect? What are they seeking? |
|--|---|--|
| Female, 26 y.o., Engaged Filipino Has a comfortable monthly income, lives in apartment with fiancé Currently taking up her Master's Degree in Management Government Employee Foodie, enjoys eating out for the food and the experience at different restaurants Health conscious, had a gym membership before COVID-19, does home workouts | Born in Baguio City, moved to La Union for high school, father had a good job offer there Moved back to Baguio for college and took up Management in the Saint Louis University Met fiancé in college as she was seeking a serious relationship, they plan to get wed in a year's time Government employee at DSWD - CAR | Seeking her Master's Degree in Management Seeking more experience in her field Eats out whenever she can Enjoys enjoying the ambiance at various restaurants and cafes Goes out with her friends to various restaurants and cafes Expects safety, no creeps at restaurants, no unwanted pickup attempts |

Persona

Fictional characters
created to represent user
types

- Useful in considering the goals, desires, and limitations of the users to help guide design decisions.
- A way to put a personal human face on otherwise abstract data about customers.

Parts Persona

Name and picture

Demographics

Needs and tasks

Expectations and desires



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Point-of-View

User + Need + Insight

One sentence that summarizes what the problem that you are trying to solve for the user

2

POV Template

Write your definitions into a Point Of View template like this one:

| User | Need | Insight |
|-------------------------------------|--|---|
| An adult person who lives in a city | To use a car for 10-60 minute trips 1-4 times per week | The user would not want to own his own car as it would be too expensive compared to his needs. He would like to share a car with others who have similar needs, however, there are no easy and affordable solutions for him. It's important for the user to think and live green and to not own more than he truly needs. |

[User . . . (descriptive)] needs [Need . . . (verb)] because [Insight . . . (compelling)]

_____ **needs to** _____ **because** _____ .
[user] [user's need] [insight]

Activity

Persona + POV

- Synthesize results from the Empathize stage
- Create a persona with a name, demographics, photo, needs, and desires
- Create a POV to summarize the problem

Time: 20 minutes



Step 3: Ideate



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Ideate

**Generate ideas by exploring
unexpected areas**

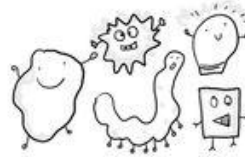
Develop as many ideas to solve the problem synthesized in the Define phase beyond your comfort zone

Ideation

- Goal: generate as many ideas as possible
- Do NOT check for feasibility and viability at the beginning of ideation

BRAINSTORMING
things to remember

ENCOURAGE **WILD** IDEAS



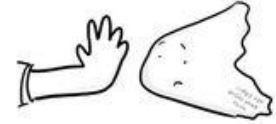
STAY FOCUSED ON THE TOPIC



BE VISUAL



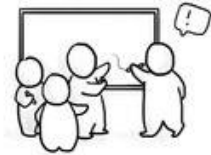
DEFER JUDGMENT



BUILD ON THE IDEAS OF OTHERS



ONE CONVERSATION AT A TIME



GO FOR QUANTITY

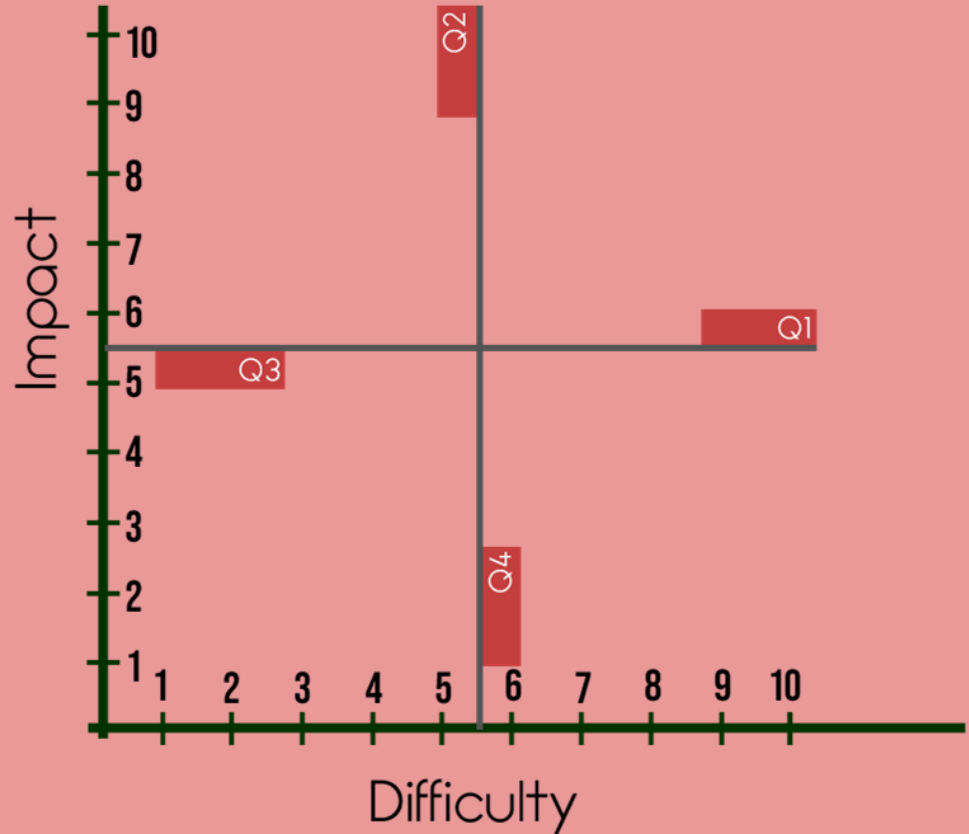


Ideally, all ideas from
this phase is turned
into a prototype.

Obviously, that may not be realistic. Therefore, it is necessary to
prioritize the ideas that will be prototyped.

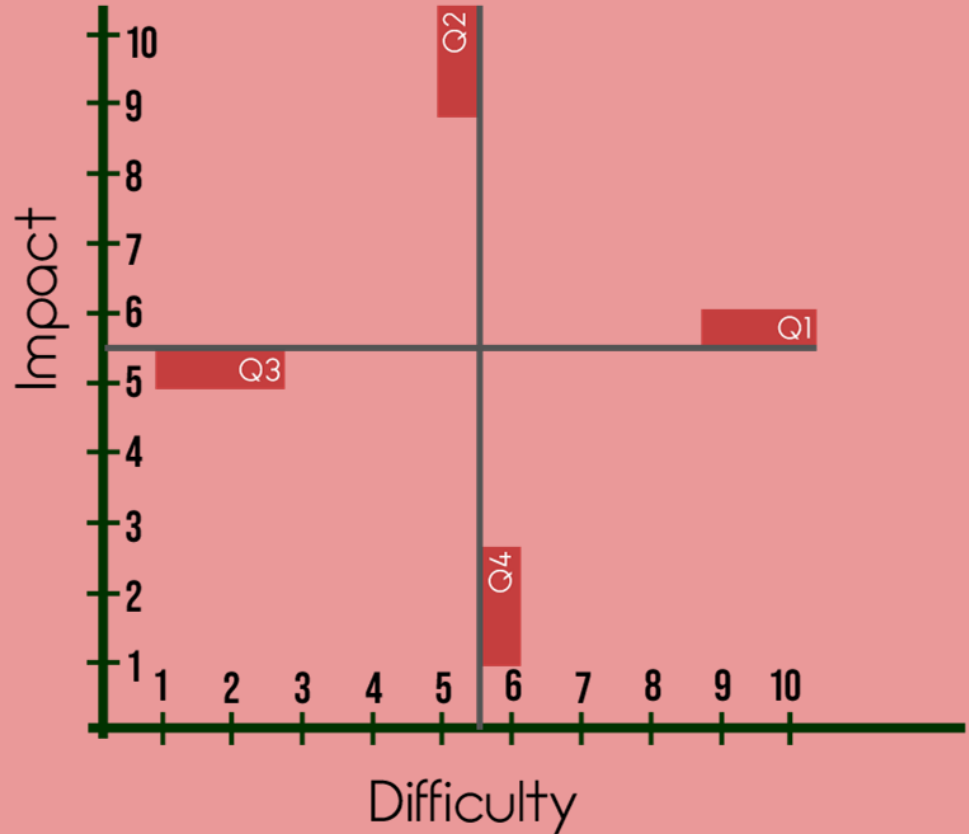
Impact- Effort Matrix

Tool used to help
prioritize the ideas to be
turned into prototypes



Impact-Effort Matrix

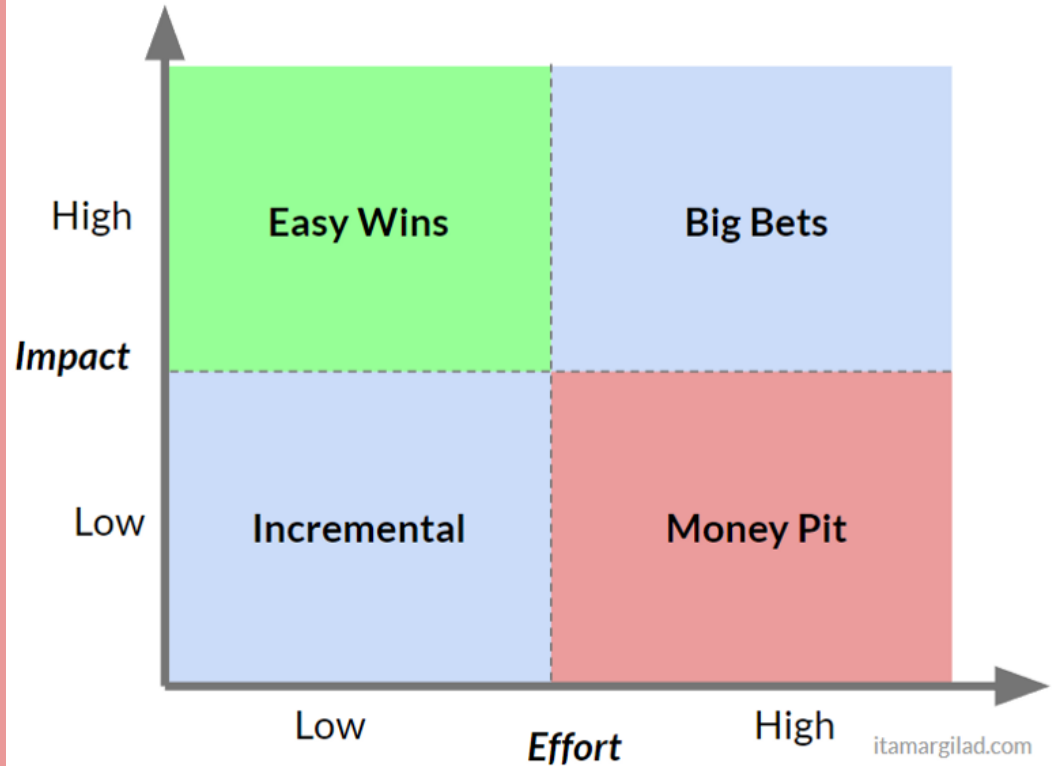
Identify the impact and effort based on your team's capabilities



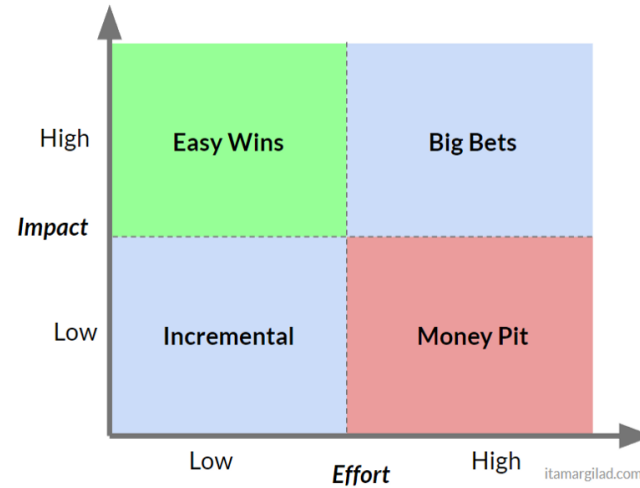
Impact-Effort Matrix

“Big Bets” and “Incremental” are prioritized for prototyping

“Money Pit” ideas are scrapped

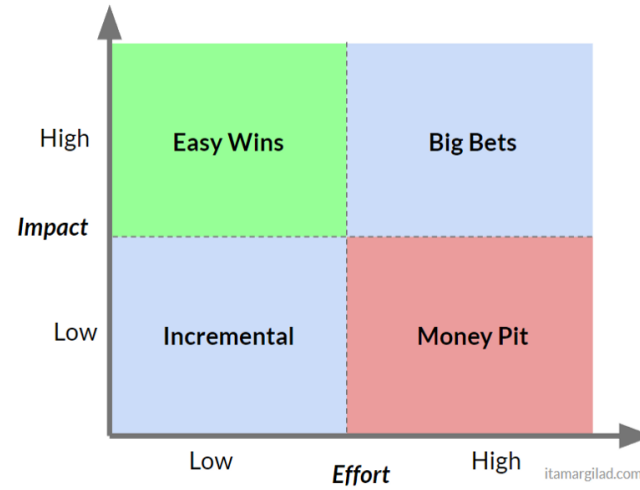


Big Bets



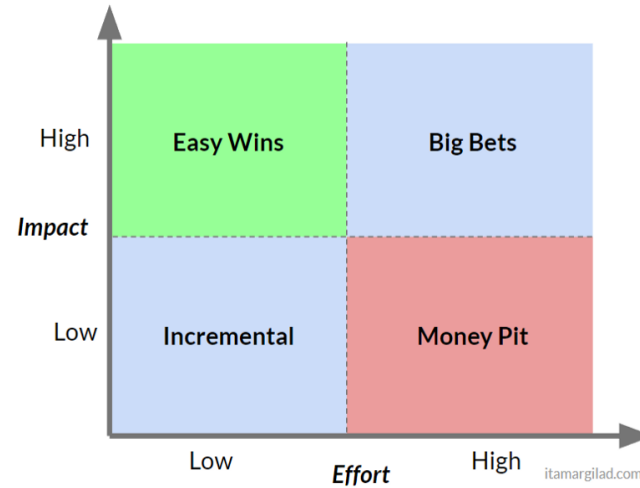
These initiatives are considered high-risk/high-reward and may involve more extensive planning, investment, and time commitment.

Incremental



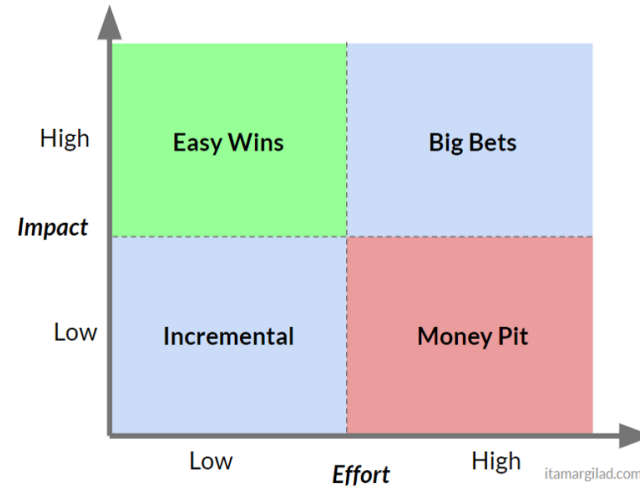
These initiatives involve making iterative improvements or gradual changes to existing processes, products, or services.

Easy Wins



These are quick wins or low-hanging fruits that can be implemented relatively easily and quickly.

Money Pit



These initiatives are often resource-intensive, time-consuming, or complex, but their potential benefits or outcomes may not justify the investment.

Activity Impact-Effort Matrix

- Identify as many solutions as possible
- **Don't be afraid to get out of your comfort zone**
- Map the solutions in an impact-effort matrix

Time: 20 minutes

Step 4: Prototype



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Prototype

Getting ideas out into the physical world

Turn the ideas from the Ideate stage into physical objects that can be validated during the Test phase

Prototype

A first or preliminary
model of something

Show what something
looks or feels like, or how
it operates

Make things tangible



Types of Prototypes

Low-Fidelity

Shows
functionality, look
and feel of
solution using
traditional
materials

Mid-Fidelity

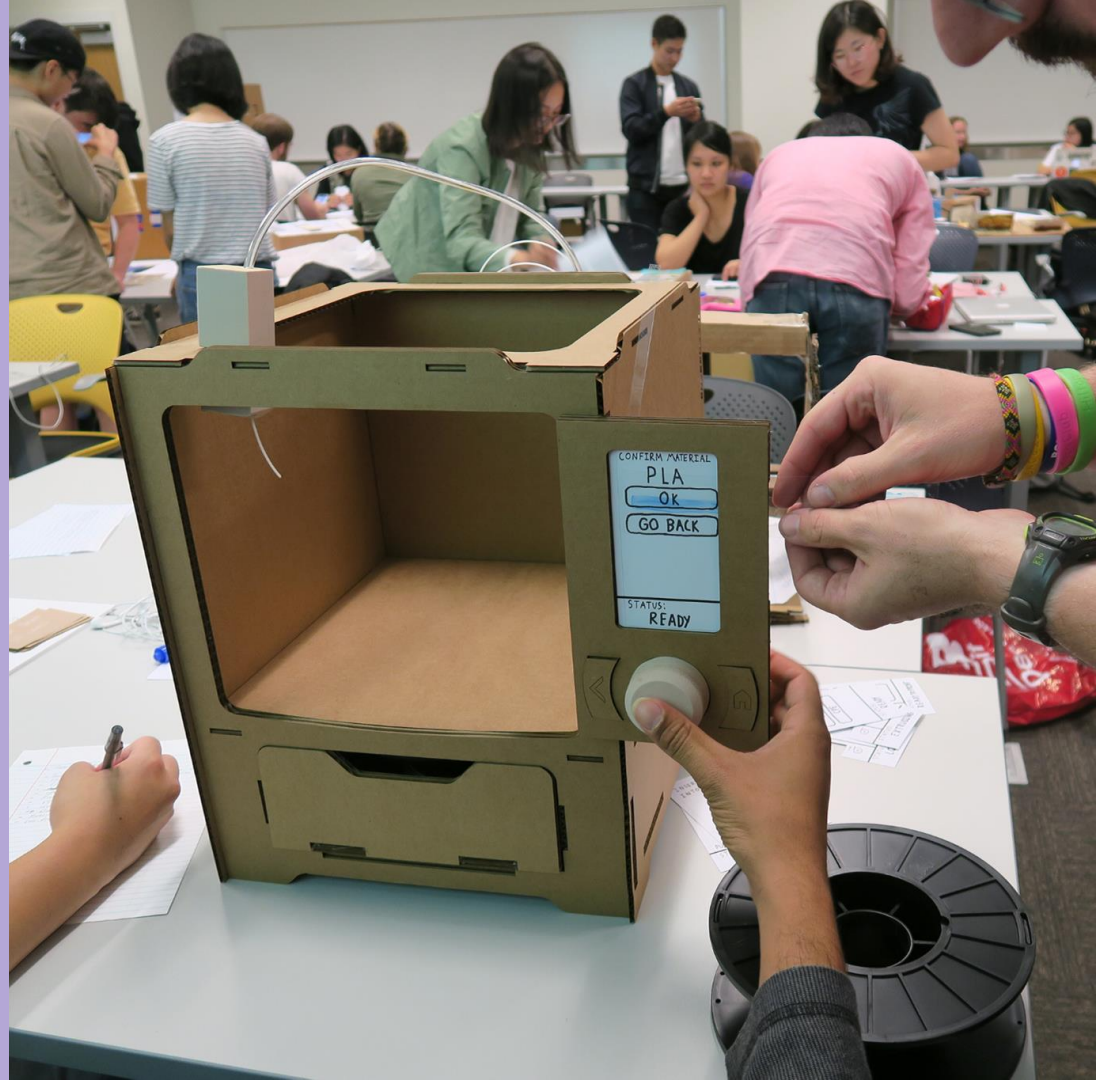
Build to think and
spark additional
ideas

High-Fidelity

Test ideas without
investing too
much time and
money

Low-Fidelity Prototype

Low-fidelity prototypes are quick to create and focus on conveying the core functionalities and overall layout of the design.



Mid-Fidelity Prototype

Mid-fidelity prototypes are usually created using design software or prototyping tools, allowing for more realistic interactions and visual representation.

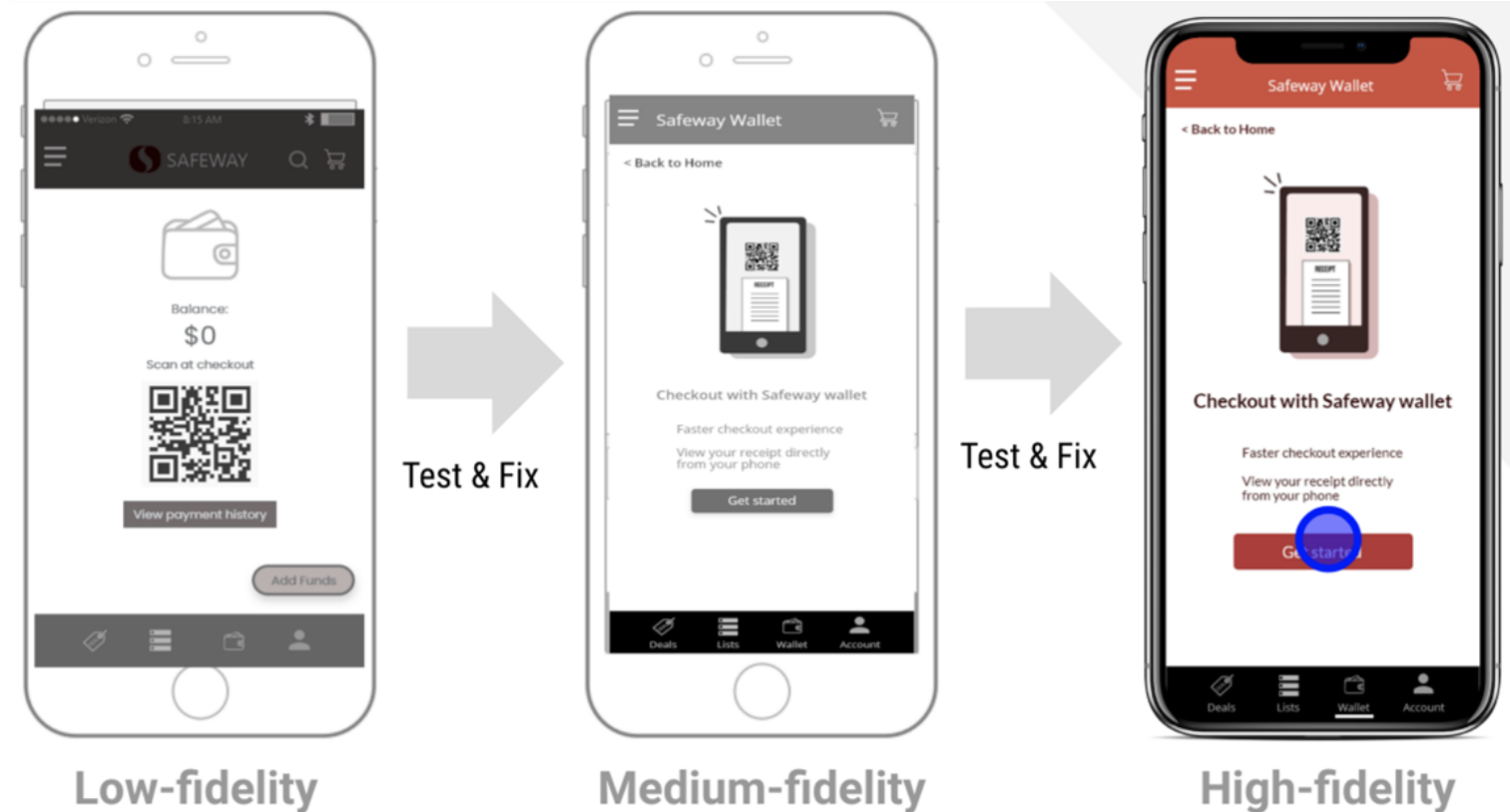


High-Fidelity Prototype

A high-fidelity prototype is a highly detailed and polished representation of a design concept or solution. It closely resembles the final product or interface in terms of aesthetics, functionality, and interactions.



Types of Prototypes



Step 5: Test



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Test

Validate created solutions to actual users

Know what your users actually think of your solutions by allowing them to interact with your prototypes