THE PROCESS OF INTERACTION DESIGN

Group 02
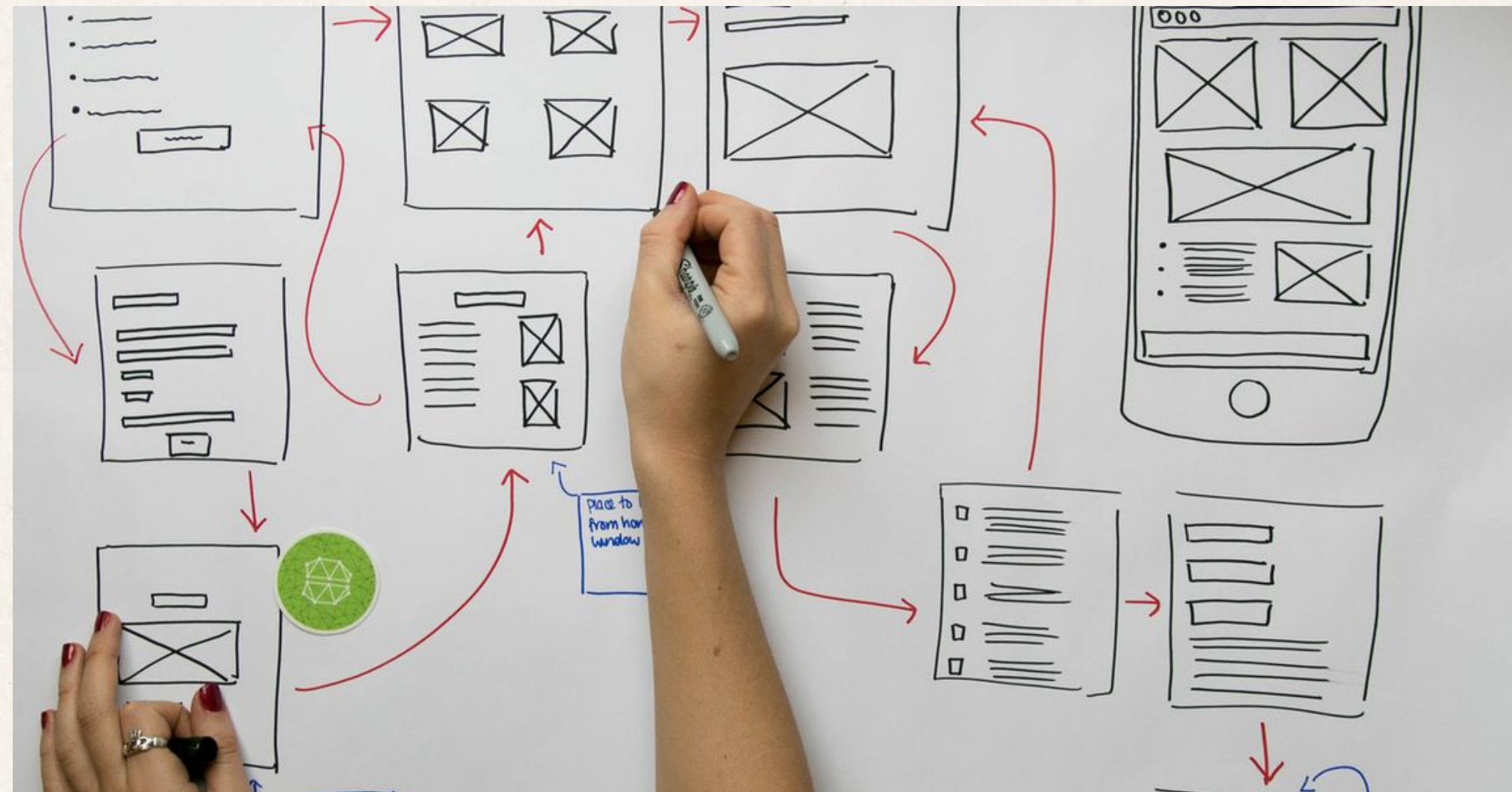
Overview

Introduction and Objectives

Introduction to Interaction Design

Interaction design involves specific activities focused on discovering requirements for a product, designing something to fulfill those requirements, and producing prototypes that are then evaluated.

Objectives of Interaction Design

- Interaction design involves activities focused on discovering product requirements.

- Interaction design emphasizes users and their goals.

- It employs a user-centered approach to investigate the artifact's use and target domain.

- Users are actively involved in the development process.

- User concerns, rather than just technical concerns, guide the development.

What is involved in Interaction design?

What is involved in Interaction Design?

- **Discovering Requirements**

    - Understanding user needs, goals, and context.

    - Identifying what the product should do through user research

      and data gathering.

- **Designing Alternatives**

    - Generating multiple design solutions.

    - Includes conceptual design (ideas and mental models) and

      concrete design (interface details).

What is involved in Interaction Design cont.

- **Prototyping**

  - Creating mockups or simulations to visualize and test the product.
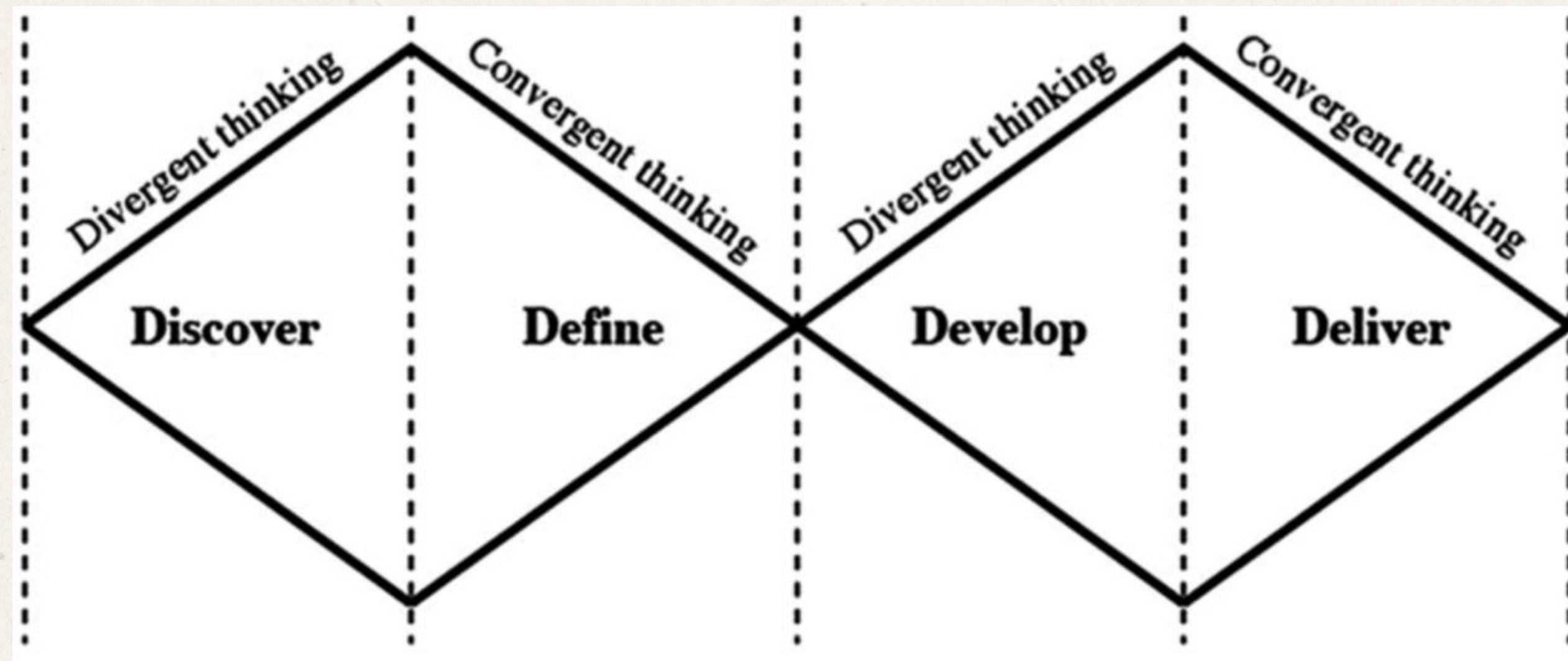
  - Can be paper-based or digital.

- **Evaluating**

  - Assessing usability and user experience.

  - Involves testing with users and refining based on feedback.

The Double Diomand Model

- A structured design approach developed by the UK Design Council.
- Focuses on problem-solving through a user-centered process.

Understanding the Problem Space

Importance of Understanding the Problem Space:

- Critical first phase in the design process (Double Diamond Model).

- Often overlooked by beginners who jump into interface design too quickly.

Risk of Starting with Technology First:

- Jumping straight to designing interfaces (e.g., GUI, voice, AR) can:
    - Ignore user needs and context.
    - Overlook usability and user experience goals.

Example: AR & Holographic Navigation Systems in Cars

- Developed through years of research in:

  ○ Human factors (Campbell et al., 2016)

  ○ Driving experience (Perterer et al., 2013; Lee et al., 2005)

  ○ Tech suitability (Jose et al., 2016)

- Result: Safe, effective, and trusted solutions.

- Caveat: Some users still choose not to

  adopt the tech due to comfort or trust.

Four Approaches to Interaction Design

1. User-Centered Design (UCD)

• Involving continuous user involvement throughout the design process.

2. Activity-Centered Design (ACD)

• Focuses on tasks and behaviors rather than user goals.

3. Systems Design

• Focus is on the entire system (people, devices, objects, environments).

4. Genius Design (or Rapid Expert Design)

• Relies on the expertise and creativity of the designer.

Importance of User involvement

Importance of User involvement

- **Ensures Usability & Relevance:** Direct user input leads to products which more usable and aligned with real user needs.

- **Avoids Overreliance on Proxy Users:** Product owners and experts provide useful input but lack the perspective of actual users.

- **Improves Understanding of User Goals:** Regular user feedback helps developers grasp what users truly want to achieve.

- **Enables Better Communication:** Users involved early can see the product evolve

Degrees of User Involvement:

- **Direct User Involvement**

  - Users may join the design team as core contributors.

- **Online Involvement Opportunities**

  - Online Feedback Exchange (OFE): Engage large user bases to test early concepts.

- **Citizen Engagement**

  - Involves the public in civic or lifestyle-improving designs, promoting empowerment.

- **Participatory / Co-Design Philosophy**

User Involvement After Product Release:

- Involves real-world user data from day-to-day product use.

- Customer reviews are influential (Harman et al., 2012).

  ○ Help shape product success.

  ○ Highlight common user issues.

Example Study (Khalid et al., 2015)

- Analysis of mobile app reviews revealed 12 complaint types:

User Centered Approach

What is a User Centered Approach?

- Users and their goals are central—not just the technology.

- A good design:

  ○ Supports user tasks

  ○ Enhances human skill and judgment

  ○ Is relevant and non-restrictive?

Foundational Principles of User Centered Approach

1.Early Focus on Users & Tasks:

- Study user characteristics, behavior, and tasks directly.

2.Empirical Measurement:

- Observe and measure user reactions to early design artifacts.

3.Iterative Design:

- Identify issues, make improvements, and retest repeatedly.

Basic Activities of Interactive Design

Basic activities of Interactive Design

1. **Discovering Requirements :**

   • Includes understanding the target users and the support an interactive product could usefully provide.

1. **Designing Alternatives**

   • **Conceptual design:** describes an abstraction outlining what people can do with a product

   • **Concrete design:** Considers the detail of the product including the colors, sounds, and images.

Basic activities of Interactive Design cont...

3. Prototyping :

- Involves designing the behavior of interactive products as well as their look and feel.

4. Evaluating

- It is the process of determining the usability and acceptability of the product or design.

Simple Lifecycle Model for Interactive Design

A simple lifecycle model for Interactive Design
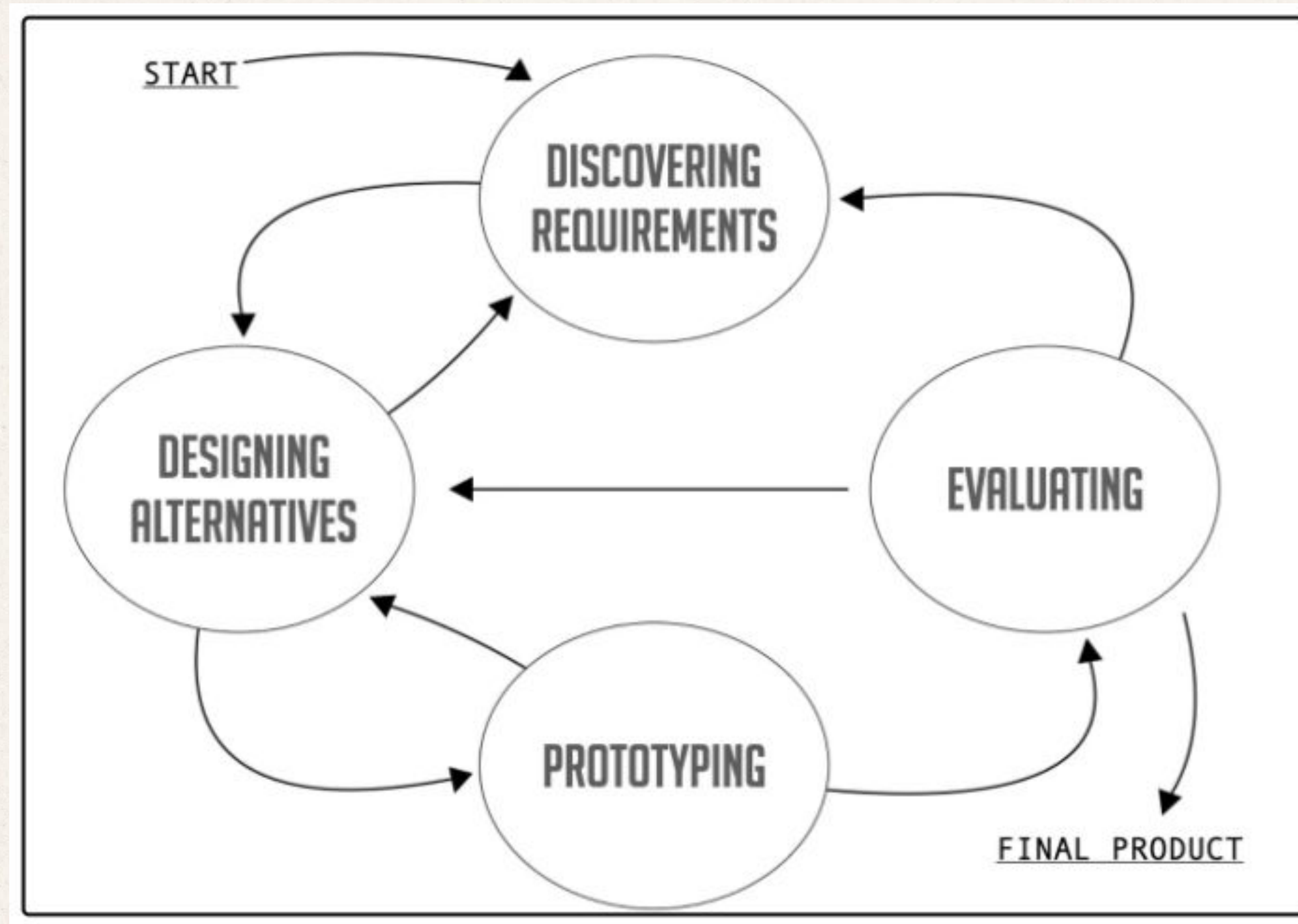
Purpose:

- Help understand and manage design activities and how they relate.

- Useful for organizing work in projects of any size.

Interactive Design Process:

- *Involves repeated cycles of design and evaluation.*

- *Prototypes are created and refined based on user feedback.*
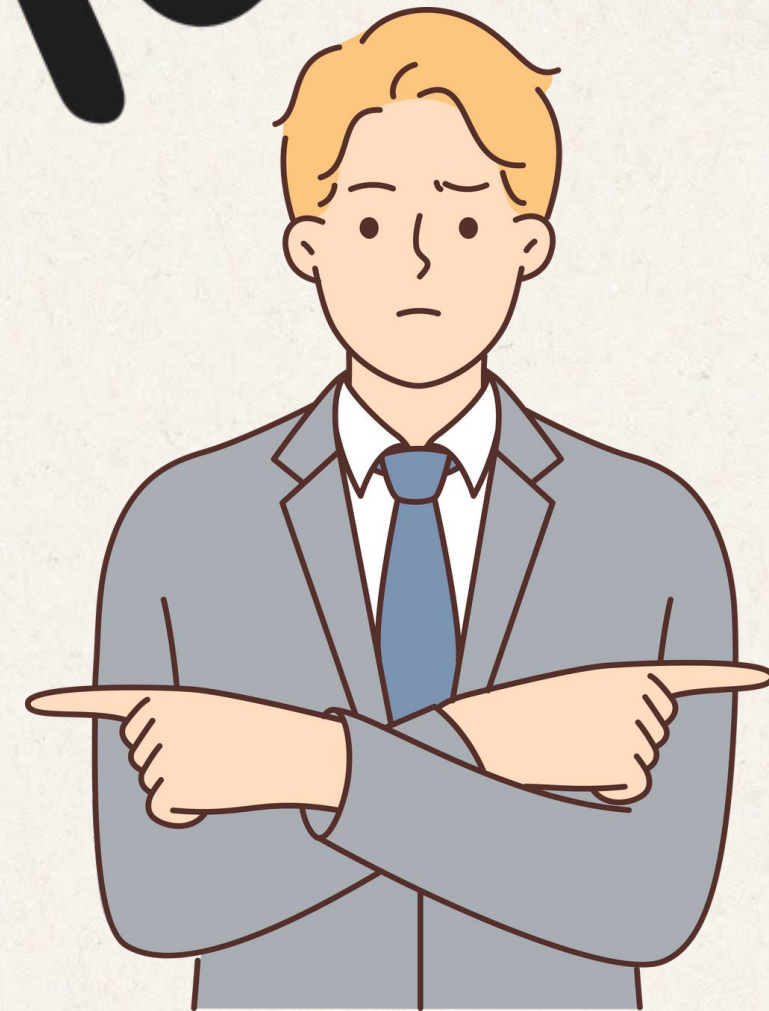
Key Features of the Model

Practical Issues

1. How to find out what people need

- People don't always know what they need (e.g., no one asked

  for smartphones).

- Solution:

  ○ Watch users, test ideas early, and focus on their goals.

How?

2. How to Decide What to Design

- Don't start with technology—first understand the problem.

- Ask:
  - What's wrong now? How can we make it better?

- Example: Car navigation systems improved by studying drivers.

3. How to Generate Alternative Designs

- Get ideas from:
  - Other products (e.g., phones got cameras from cameras).
  - Brainstorming tricks (like SCAMPER: swap, combine, or remove features).

- Be inspired, but don't copy illegally!

4. How to Choose Among Alternatives

- Test with users.

- Measure quality: Is it fast? Easy? Fun?

- Example: Websites test two layouts to

  see which works better.

5. How to Integrate with Other Lifecycles

- Design and coding must work together.

- Agile teams (like Scrum) need quick

  feedback and simple designs.

- Tip: Designers and developers should

  talk daily.

Conclusion

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The conclusion of the interaction design process is that the exact steps taken to create a product will vary from designer to designer, from product to product, and from organization to organization. The sketches can capture only some elements of the design, and other formats are needed to capture everything intended.
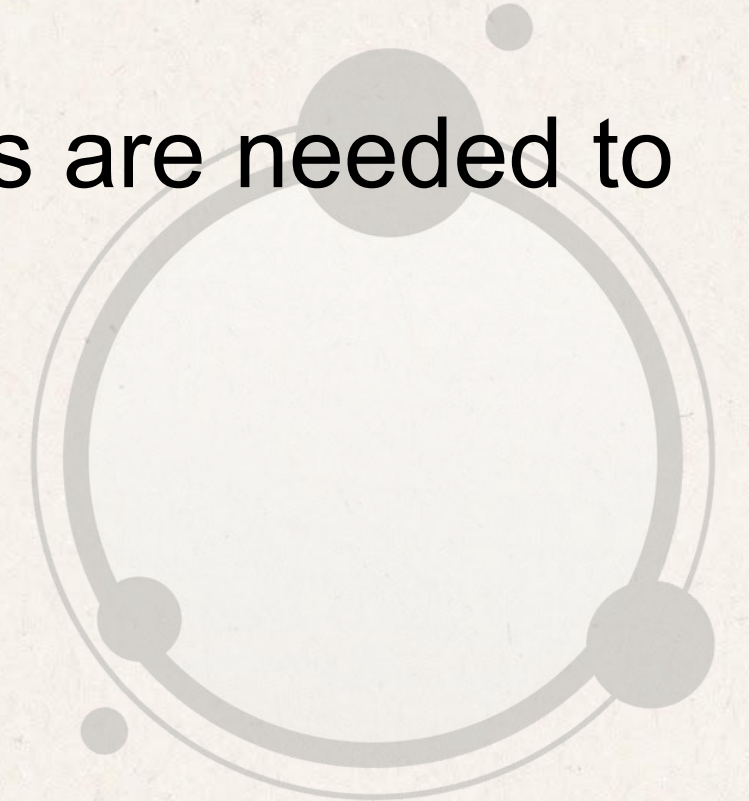
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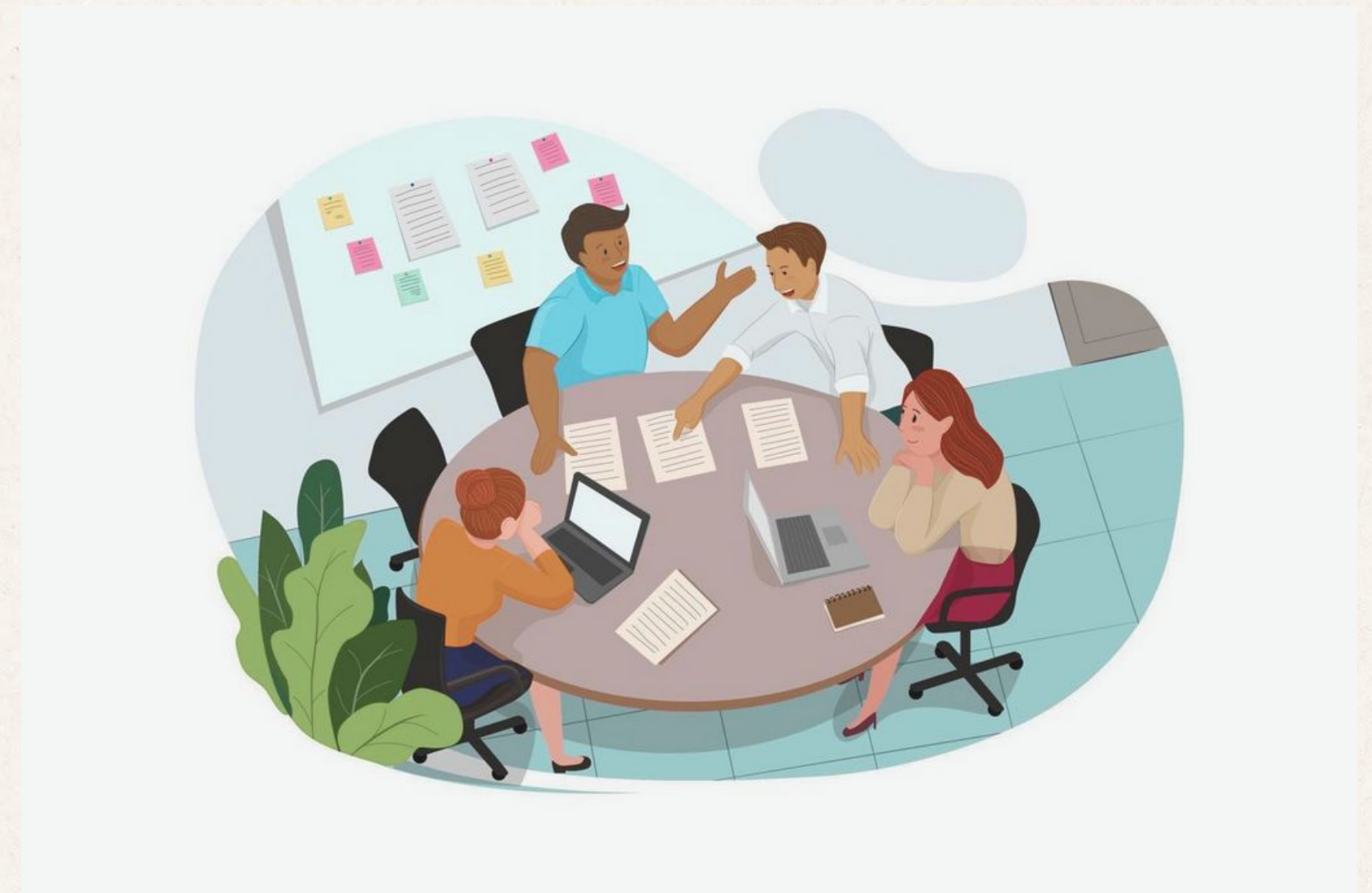
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Thank you !