

7. FLOW DIAGRAMS

1. Introduction to Flow Diagrams

- A **flow diagram** is a **graphical representation of a process, workflow, or system**, showing the **sequence of steps, decisions, inputs, and outputs** using standardized symbols connected by arrows.
- Flow diagrams help in **visualizing logic, understanding processes, and communicating system behavior** clearly.

2. Importance of Flow Diagrams

Flow diagrams are important because they:

- Simplify complex processes
- Improve understanding of workflows
- Enhance communication among stakeholders
- Help identify errors and redundancies
- Support system analysis and design
- Improve efficiency and usability

3. Applications of Flow Diagrams

Flow diagrams are used in:

- UI/UX design (user flows)
- Software development
- System analysis
- Business process modeling
- Algorithm design
- Decision-making systems

4. Common Flow Diagram Symbols

Symbol	Name	Meaning
Oval	Terminator	Start / End
Rectangle	Process	Action or step
Diamond	Decision	Yes / No condition
Parallelogram	Input/Output	Data input or output
Arrow	Flow line	Direction of flow
Circle	Connector	Connects parts of flow

5. Types of Flow Diagrams

5.1 Process Flow Diagram

- Represents a sequence of operations
- Common in business workflows

5.2 User Flow Diagram

- Shows how users move through a system
- Used in UI/UX design

5.3 System Flow Diagram

- Shows interaction between components
- Includes hardware, software, and data

5.4 Data Flow Diagram (DFD)

- Focuses on data movement
- Shows input, processing, and output

5.5 Program Flowchart

- Represents logic of algorithms and programs

6. Steps to Create a Flow Diagram

Step 1: Define the Purpose

- Identify what process is being represented
- Define start and end points

Step 2: List All Steps

- Write down each action and decision
- Arrange in logical order

Step 3: Choose Appropriate Symbols

- Use standard flowchart symbols
- Maintain consistency

Step 4: Draw the Flow

- Connect steps using arrows
- Ensure logical direction

Step 5: Review and Refine

- Check for missing steps
- Remove unnecessary complexity

7. Characteristics of a Good Flow Diagram

- Clear and simple
- Easy to understand
- Logically ordered
- Consistent symbols
- Well-labeled steps

8. Example of a Flow Diagram

Example: Online Login Process

1. Start
2. Enter username and password
3. Validate credentials
 - If valid → Login successful
 - If invalid → Show error message
4. End

9. Difference Between Flow Diagrams and Flow Mapping

Flow Diagrams

General process representation UX-specific user journey

Can be technical

Flow Mapping

User-centered

Used in algorithms

Used in interaction design

10. Role of Flow Diagrams in UI/UX Design

Flow diagrams help to:

- Design intuitive navigation
- Visualize interaction logic
- Identify user pain points
- Improve usability

11. Advantages of Flow Diagrams

- Visual clarity
- Easy communication
- Error detection
- Improved documentation
- Better decision making

12. Limitations of Flow Diagrams

- Can become complex
- Time-consuming for large systems
- Difficult to update frequently
- May oversimplify complex logic

13. Best Practices for Flow Diagrams

- Start with high-level flow
- Use meaningful labels
- Avoid overcrowding
- Maintain left-to-right or top-to-bottom flow
- Validate with users or stakeholders

14. Tools Used for Creating Flow Diagrams

- Paper and pen
- Whiteboards
- Draw.io
- Lucidchart
- Miro
- Figma

15. Relationship Between Flow Diagrams and Scenarios

- Scenarios describe user behavior narratively
- Flow diagrams visualize the same behavior step-by-step
- Both complement each other in UX design

8. FLOW MAPPING

1. Introduction to Flow Mapping:

- ✓ **Flow Mapping** is a UX technique used to **visually represent the sequence of steps, actions, and decisions** a user takes while interacting with a system to achieve a goal.
- ✓ It shows **how users move from one screen or action to another**, including decision points and system responses.
- ✓ Flow maps help designers understand **user journeys, navigation structure, and interaction logic** clearly.

2. Importance of Flow Mapping:

Flow mapping is important because it:

- Visualizes the complete user journey.
- Identifies unnecessary steps and bottlenecks.
- Improves navigation and usability.
- Helps align designers, developers, and stakeholders.
- Reduces design errors before implementation.
- Supports efficient interaction design.

3. Role of Flow Mapping in UX Design:

Flow mapping is used:

- After personas and scenarios are created.
- Before wireframing and prototyping.
- During requirement clarification.
- While improving existing systems.
- For usability evaluation and optimization.

4. Types of Flow Maps:

4.1 User Flow:

- Shows steps a user takes to complete a task.
- Focuses on user actions and decisions.

4.2 Task Flow:

- Linear flow for a single task.
- No alternate paths.

4.3 Screen Flow:

- Shows navigation between screens.
- Useful for app and website design.

4.4 Process Flow:

- Shows system processes and logic.
- Includes backend interactions.

5. Elements of a Flow Map:

A typical flow map includes:

- Start and end points.
- User actions.

- Screens or pages.
- Decision points.
- System responses.
- Alternate paths.
- Error states.

6. Symbols Used in Flow Mapping:

Symbol	Meaning
Oval	Start / End
Rectangle	Process or screen
Diamond	Decision
Arrow	Flow direction
Circle	Connector

7. Steps Involved in Creating Flow Mapping:

Step 1: Identify the User and Goal.

- Refer to personas.
- Define what the user wants to achieve.

Step 2: Define Entry Point.

- Where the user starts (home page, login, etc.).

Step 3: List All User Actions.

- Clicks, inputs, selections.
- Sequential steps.

Step 4: Add Decision Points.

- Yes/No conditions.
- Alternate paths.

Step 5: Map Screens and System Responses.

- Navigation between pages.
- Success and error messages.

Step 6: Review and Simplify.

- Remove unnecessary steps.
- Optimize flow efficiency.

8. Characteristics of a Good Flow Map:

- Clear and logical.
- User-centered.
- Easy to understand.
- Covers edge cases.
- Scalable and flexible.

9. Example of Flow Mapping:

Example: Online Exam Registration:

1. Start
2. Login
3. Select exam
4. Fill registration form
5. Upload documents
6. Make payment
 - If payment successful → Confirmation page.
 - If payment failed → Retry payment.
7. End

10. Difference Between Flow Mapping and Scenarios:

Flow Mapping	Scenarios
Visual representation	Narrative description
Step-by-step flow	Story-based
Focus on navigation	Focus on context
Used for interaction design	Used for experience understanding

11. Relationship Between Flow Mapping and User Stories:

- User stories define **what** the user wants.
- Flow maps show **how** the user achieves it.
- Flow mapping translates stories into interactions.

12. Tools Used for Flow Mapping:

- Paper and pen
- Whiteboards
- Figma

- Miro
- Lucidchart
- Draw.io

13. Advantages of Flow Mapping:

- Improves usability.
- Enhances clarity in design.
- Prevents navigation confusion.
- Saves development time and cost.
- Improves user satisfaction.

14. Limitations of Flow Mapping:

- Time-consuming for complex systems.
- Can become cluttered.
- Needs frequent updates.
- Requires UX expertise.

15. Best Practices for Flow Mapping:

- Start simple.
- Focus on user goals.
- Use consistent symbols.
- Include error flows.
- Validate with stakeholders.