

exp12 - Figma

figma.com/design/Kao5Z0OaeftjlyrGPV6bf5/exp12?t=qCwkHiW1jaUWDVY-0

Ask Google

Design Prototype 54%

Prototype settings

Android Expanded

Silver

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Flows

Flow 1

Removing a connection

To delete a connection, click and drag on either end.

Running your prototype

Use the play button in the toolbar to play your prototype. If there are no connections, the

Frame 1

Flow 1

EVOLUTION OF MOBILE COMMUNICATION.

Illustration: Vector for technology article. You can put your text here.

1 G 2 G 3 G 4 G 5 G

Frame 3

Evolution of 1G

On drag

Frame 2

The Evolution of Mobile Communications, From 1G to 5G

Frame 7

Evolution of 4G

While pressing

Frame 4

Evolution of 2G

Frame 5

Evolution of 3G

Frame 6

Evolution of 5G

File Assets

Pages

Page 1

Layers

Frame 7

Frame 6

Frame 5

Frame 4

Frame 3

Frame 2

Frame 1

Android Expanded - 1

Search

12:17 PM 12/29/2025

exp13 - Figma

figma.com/design/6w9wiSAEcH1dL0XnuvJ88/exp13?t=qCwkHliW1ijaUWDV-0

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Slide 4:3 - 1

### Mobile app vs Mobile web

Figure 1

	Mobile App	Mobile Web
Performance	Runs locally with quick loading & fast interaction	Internet requires media to viewer load & response
Cost	More investment due to resource & time demand	less investment as it's quicker & easier to develop
Maintenance	Updated through new versions for users to download	Relatively simple to maintain with faster updates
Compatibility	Separate versions required for each operating system	Easy creation of cross platform & browser versions
User Experience	Made for mobile screens, feels intuitive to use	Optimized from desktop website so less satisfying

G Design Prototype 68% Share

Prototype settings

Presentation 000000

Creating a connection

Select a frame or object in a frame and use the circular node to drag a connection to another frame.

Running your prototype

Use the play button in the toolbar to play your prototype. If there are no connections, the play button can be used to play a presentation of your frames.

The screenshot shows a Figma prototype titled "exp15" with six mobile screen components connected by a flow. The screens are as follows:

- Page 1 (Android Medium):** A landing page with a smartphone icon and the title "Issues in Mobile IP".
- Screen 2 (Android Medium):** A list of common issues: "These Are The Common Issues Faced By The Users In Mobile IP". It includes sections for "TRIANGLE ROUTING", "HANDOFF PROBLEM", "INTRA-DOMAIN MIGRATION", and "QoS PROBLEM".
- Screen 3 (Android Compact):** A detailed section on "TRIANGLE ROUTING". It explains that mobile IP faces routing issues when communicating between a mobile host and a foreign network. It involves a triangular relationship between the mobile host, foreign network, and home network.
- Screen 4 (Android Compact):** A detailed section on "HANDOFF PROBLEM". It discusses the challenge of maintaining connectivity during a mobile host's movement between different wireless networks.
- Screen 5 (Android Compact):** A detailed section on "INTRA-DOMAIN MIGRATION". It covers the movement of a mobile host within a single network while retaining its IP address.
- Screen 6 (Android Compact):** A detailed section on "QoS PROBLEM". It highlights the need for quality of service (QoS) to ensure reliable delivery of data packets, especially during handoffs.

The Figma interface on the right shows "Design" selected, "Prototype" settings for "Android Compact", and a preview of the mobile device. The bottom toolbar includes standard Figma tools like selection, search, and file operations.

**Wireless Ad Hoc Network** (network without infrastructure)

**challenges related to ad hoc wireless networks**

- All nodes in wireless networks are mobile and can change their position at any time.
- Mobile Ad Hoc Networks (MANETs) present unique challenges due to the lack of fixed infrastructure and decentralized nature. These challenges require the nodes to implement and maintain their own routing, addressing, and networking.

**Wireless Adhoc Network**

- Shared Physical Medium
- Energy-constrained Systems
- Limited security
- Less Human Intervention

**dissimilar topologies**

- MANETs have a dynamic topology as nodes move unpredictable. This dynamic topology makes it difficult to establish and maintain stable network connections.
- MANETs are often used in temporary or network topology require efficient routing protocols that can adapt to node changes.
- Limited bandwidth and energy

  - Devices in ad hoc networks often operate on limited battery power.
  - Communication protocols need to be designed to minimize energy consumption.

- Limited bandwidth is another challenge, requiring careful use of bandwidth for user transmission.
- Developing robust and efficient routing protocols for active nodes is challenging due to the dynamic nature of the topology.

**Topology Control**

- Maintaining over the entire network the most efficient ratios for resource management.
- Optimizing topology control involves adjusting transmission power and using appropriate routing protocols to optimize connectivity.

**Antennas**

- In various environments, antenna placement and orientation for the shared medium can impact the performance of the network.
- Designing efficient medium access control (MAC) protocol for the shared medium and reduce collisions is a challenge.

**Efficient resource management and energy conservation**

- It is crucial for the network's performance and longevity.
- Developing resource usage methods to ensure the efficiency of the network is a significant challenge.

**Efficiently handling node mobility is critical**

- Protocols must handle the movement of nodes in the network caused by node movement while maintaining connectivity and minimizing disruptions.

**Flows**

- Flow 1
- Flow 2

**Removing a connection**

To delete a connection, click and drag on either end.

**Running your prototype**

exp 17 - Figma

figma.com/design/3ixm8wFUSaZ2L1X6GrUqLm/exp-17?t=qCwkHiW1jaUWDV-0

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exp 17

Drafts Free

File Assets

Pages Page 1

Layers

iPhone 16 Pro Max - 1 iPhone 16 Pro Max - 2 iPhone 16 Pro Max - 3 iPhone 16 Pro Max - 4

Operations Of Proactive & Reactive Routing

proactive routing reactive routing

In Mobile IP, the communication between mobile nodes and their correspondent nodes (CNs) occurs over an Internet infrastructure. Proactive and reactive routing protocols play vital roles in ensuring efficient communication within such networks.

Proactive Routing

- INITIALIZATION PHASE:  
NODES EXCHANGE INFORMATION ABOUT THEIR NEIGHBORS AND ESTABLISH A ROUTING TABLE.  
- EACH NODE MAINTAINS A TOPOLOGY MAP OF THE NETWORK.
- PERIODIC UPDATES:  
NODES PERIODICALLY EXCHANGE CONTROL MESSAGES TO UPDATE ROUTING TABLES.  
- THESE UPDATES ENSURE THAT ROUTING INFORMATION REMAINS CURRENT DESPITE CHANGES IN NETWORK TOPOLOGY OR NODE MOBILITY.
- EFFICIENCY:  
- PROACTIVE PROTOCOLS ARE EFFICIENT FOR NETWORKS WITH RELATIVELY STABLE TOPOLOGIES.  
- THEY PROVIDE QUICK DATA TRANSMISSION AS ROUTES ARE ALREADY ESTABLISHED.

Reactive Routing

- ROUTE DISCOVERY:  
- WHEN A NODE NEEDS TO COMMUNICATE WITH ANOTHER NODE, IT INITIATES A ROUTE DISCOVERY PROCESS.  
- THE SOURCE NODE BROADCASTS A ROUTE REQUEST (RREQ) PACKET TO ITS NEIGHBORS.
- ROUTE ESTABLISHMENT:  
UPON RECEIVING THE RREQ, INTERMEDIATE NODES RECORD THE ROUTE BACK TO THE SOURCE.  
- THE DESTINATION NODE OR AN INTERMEDIATE NODE WITH A ROUTE TO THE DESTINATION SENDS A ROUTE REPLY (RREP) BACK TO THE SOURCE.
- EFFICIENCY:  
- REACTIVE PROTOCOLS ARE SUITABLE FOR DYNAMIC NETWORKS WHERE NODES FREQUENTLY CHANGE POSITIONS.  
- THEY CONSERVE NETWORK RESOURCES BY ESTABLISHING ROUTES ONLY WHEN NEEDED.

Flows Flow 1

Removing a connection

To delete a connection, click and drag on either end.

Running your prototype

Use the play button in the toolbar to play your prototype. If there are no connections, the

ENG IN 12:23 PM 12/29/2025

The diagram illustrates the operations of proactive and reactive routing in mobile IP. It shows four iPhone 16 Pro Max devices connected by arrows labeled "Flow 1". A central callout box describes the difference between proactive and reactive routing. The proactive routing section details the initialization phase, periodic updates, and efficiency. The reactive routing section details route discovery, route establishment, and efficiency. Arrows point from the text descriptions to the corresponding sections in the diagram.

exp 18 - Figma

figma.com/design/1hxP6WUH3PLPMbBfZkhem/exp-18?t=qCwkHlW1jaUWDV-0

Ask Google

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Prototype settings

iPhone 16 Pro Max

Black Title

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Flows

Flow 1

Removing a connection

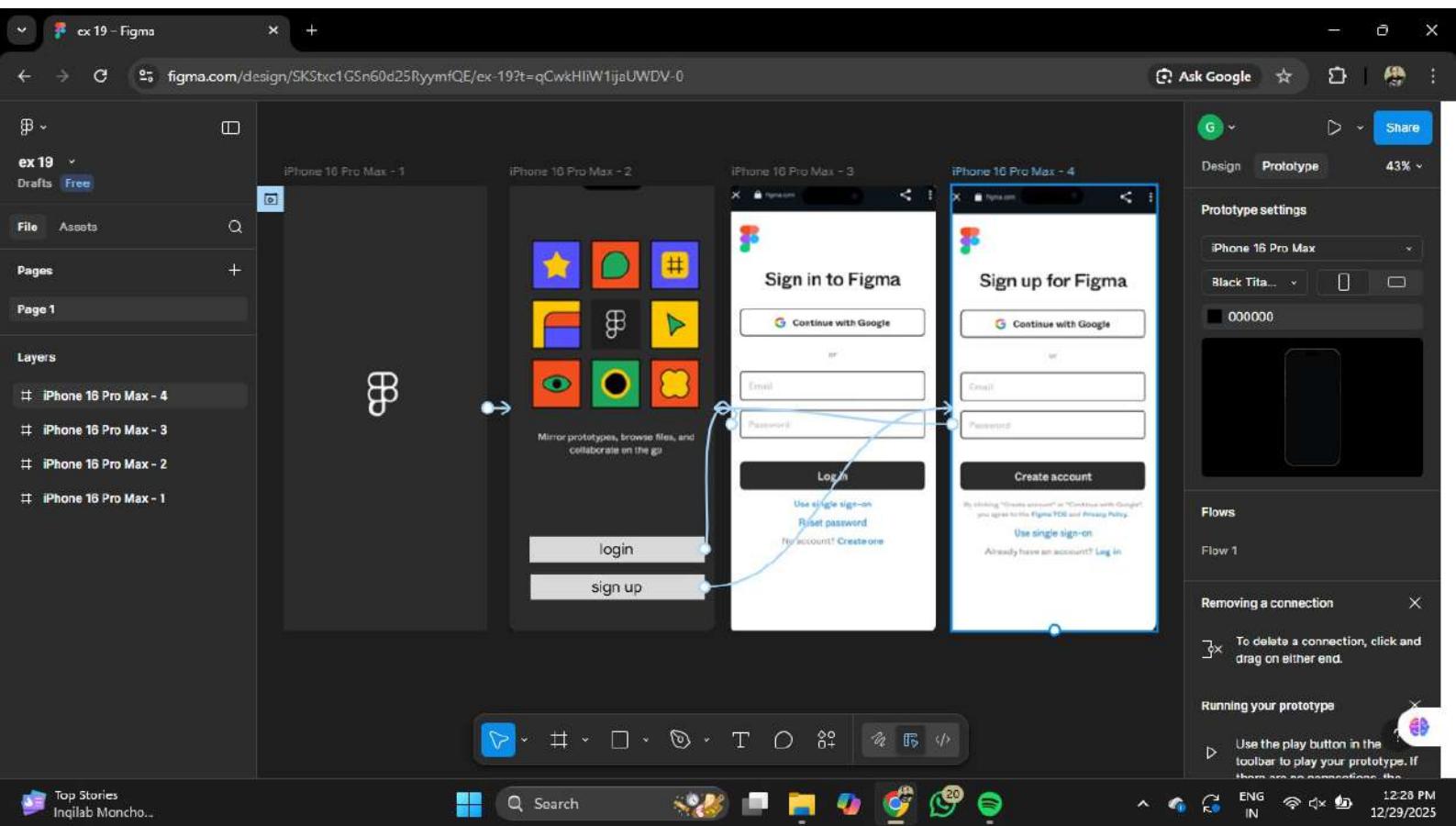
Use the play button in the toolbar to play your prototype. If there are no connections, the

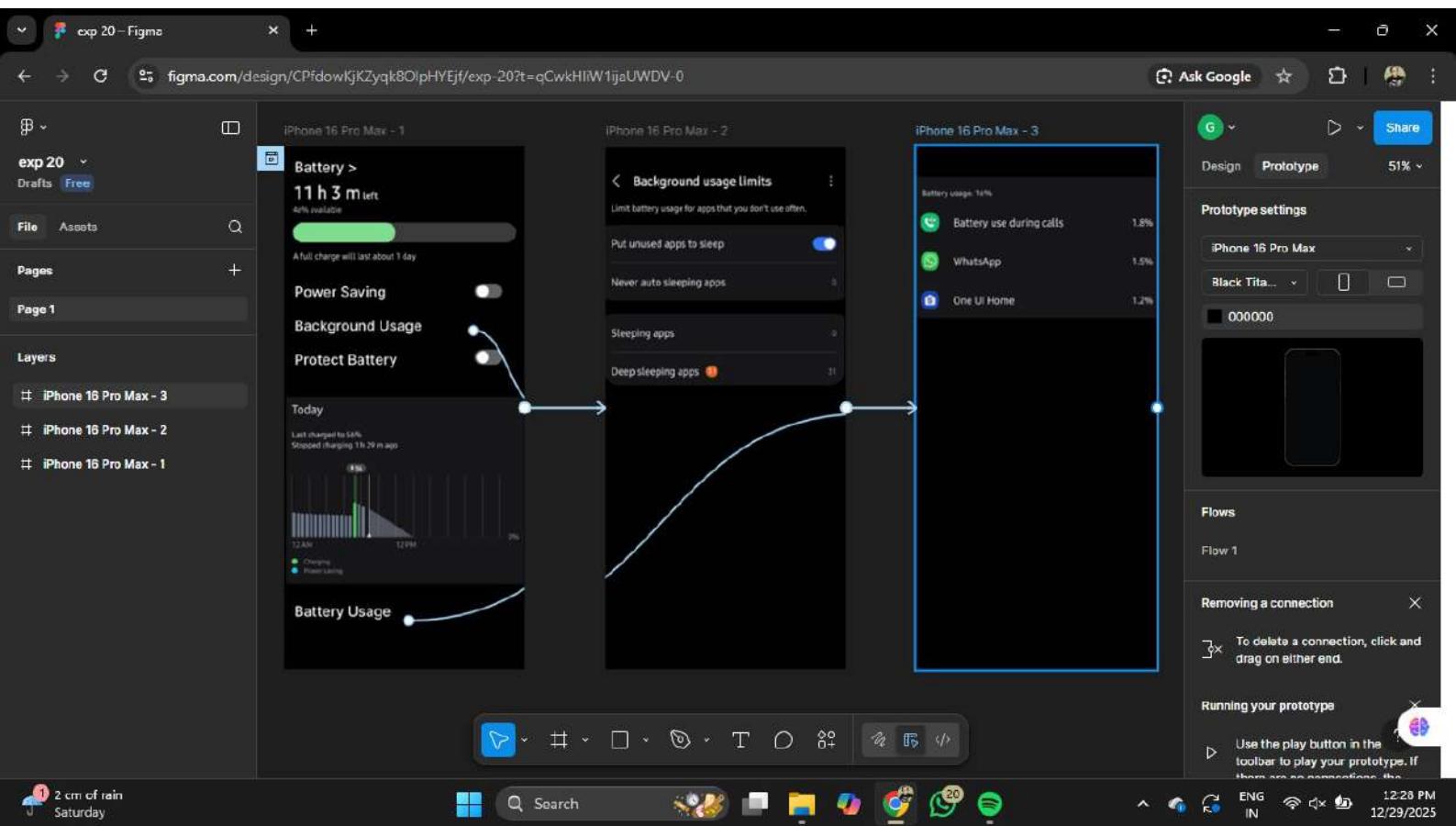
ENG IN 12:24 PM 12/29/2025

The screenshot shows a Figma prototype titled "exp 18" with a dark theme. It consists of five screens connected by arrows:

- Comparing & Contrasting:** A green screen with icons for Android, iOS, and Windows, and a play button icon.
- Android:** A green screen with three cards: "android", "ios", and "windows".
- iOS:** A green screen with three cards: "1. OPEN SOURCE AND CUSTOMIZABILITY", "2. APPLICATION-SANDBOX", and "3. UNIFORM EFFECTS".
- Windows:** A green screen with three cards: "1. CLOSED ECOSYSTEM", "2. KERNEL AND SECURITY", and "3. OBJECTIVE-C/SWIFT".

Arrows indicate a flow from the first screen to the second, then from the second to the third, and so on. The "iOS" and "Windows" screens have curved arrows pointing back to the first screen, indicating a loop or a return path.





exp 21 - Figma

exp 21

Drafts Free

File Assets

Pages

Page 1

Layers

iPhone 16 Pro Max - 3

iPhone 16 Pro Max - 2

iPhone 16 Pro Max - 1

exp 21 - Figma

Ask Google

Share

Design Prototype 54%

Prototype settings

iPhone 16 Pro Max

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Flows

Flow 1

Removing a connection

To delete a connection, click and drag on either end.

Running your prototype

Use the play button in the toolbar to play your prototype. If there are no connections, the

1 cm of rain Saturday

Search

12:29 PM 12/29/2025

The screenshot displays a Figma prototype for a Recipe App across three iPhone 16 Pro Max screens. The first screen is a splash screen with a light yellow background, orange polka dots, and the text 'Recipe App'. The second screen is the main interface, titled 'Welcome Back !!', featuring a 'Search' bar, a large image of a 'Fruit Sandwich' (French toast with blueberries and banana), and a 'Food List' section with thumbnail images of various dishes. The third screen is a detailed view of the 'Fruit Sandwich' recipe, showing a large image of the sandwich, a list of ingredients (Bread, Banana, Wine, Honey), and a list of tools (Toaster). Navigation arrows connect the screens, and the Figma interface shows various tools and settings on the left and right sides.