EXPERIMENT 4

ITA0305-Mobile Computing For App Development

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4. Create a visual representation in Figma highlighting the key elements of mobile network protocol stacks.

Aim: -

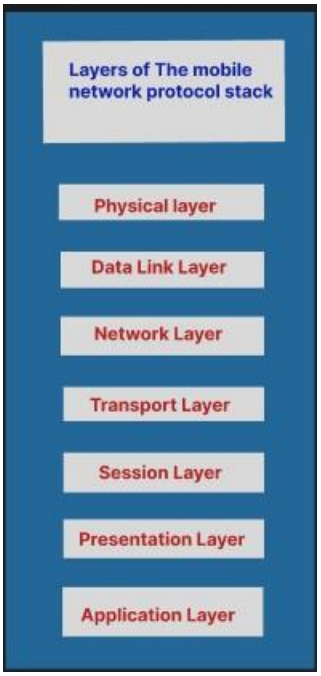
Design a visual representation in Figma highlighting the key elements of mobile network protocol stacks.

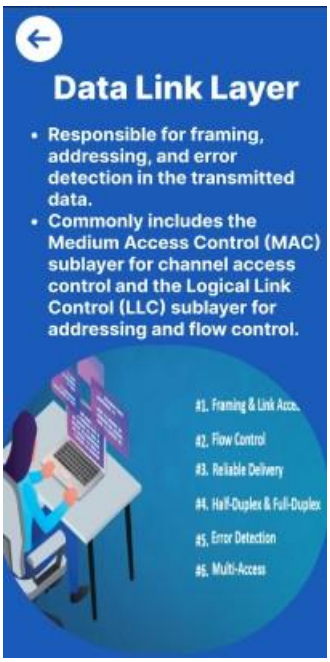
Procedure: -

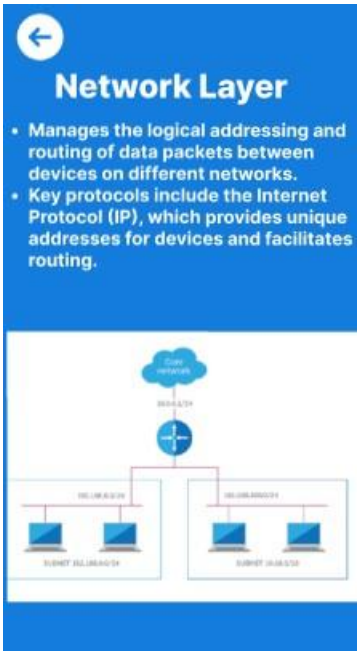
1. open Figma
2. Create a new file
3. Select the Frames
4. Fill in the content that is required for presentation
5. Design Visual Elements
6. Make it Interactive
7. Add Annotations and Explanations
8. Incorporate Multimedia
9. Storyboard Animation
11. Review and edit the Prototype
12. Save and Share

Design: -

Network Protocols
The mobile network protocol stack

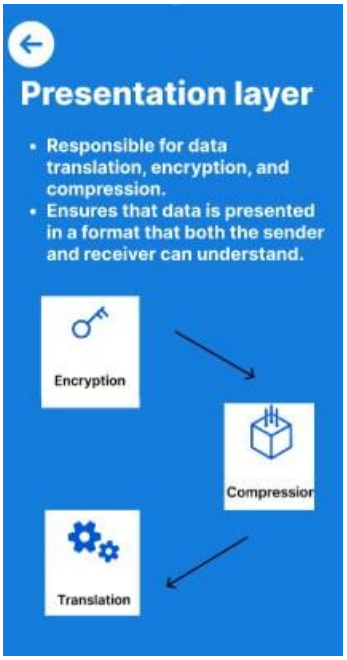

Layers of The mobile network protocol stack
Physical layer
Data Link Layer
Network Layer
Transport Layer
Session Layer
Presentation Layer
Application Layer


Data Link Layer
Responsible for framing, addressing, and error detection in the transmitted data.
Commonly includes the Medium Access Control (MAC) sublayer for channel access control and the Logical Link Control (LLC) sublayer for addressing and flow control.
#1. Framing & Link Acc..
#2. Flow Control
#3. Reliable Delivery
#4. Half-Duplex & Full-Duplex
#5. Error Detection
#6. Multi-Access


Network Layer
Manages the logical addressing and routing of data packets between devices on different networks.
Key protocols include the Internet Protocol (IP), which provides unique addresses for devices and facilitates routing.

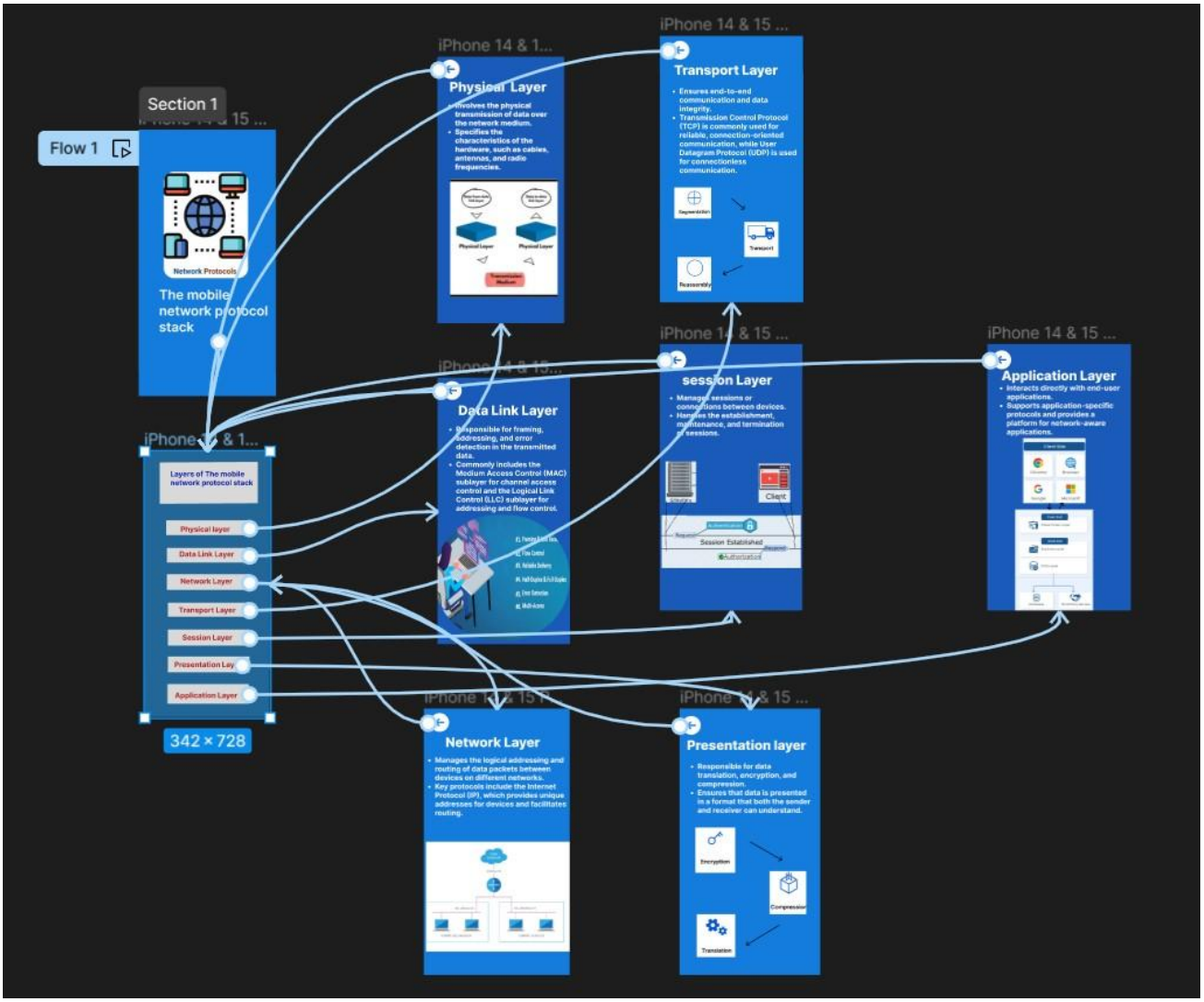
Transport Layer
Ensures end-to-end communication and data integrity.
Transmission Control Protocol (TCP) is commonly used for reliable, connection-oriented communication, while User Datagram Protocol (UDP) is used for connectionless communication.
Segmentation
Transport
Reassembly

session Layer
Manages sessions or connections between devices.
Handles the establishment, maintenance, and termination of sessions.
SERVER's
Client
Authentication
Request
Session Established
Respond
Authorization


Presentation layer
• Responsible for data translation, encryption, and compression.
• Ensures that data is presented in a format that both the sender and receiver can understand.
Encryption
Compression
Translation

Application Layer
• Interacts directly with end-user applications.
• Supports application-specific protocols and provides a platform for network-aware applications.
Client Side
Chrome
Browser
Google
Microsoft

Prototype: -



Result: -

Hence the visual representation in Figma highlighting the key elements of mobile network protocol stacks is created and executed successfully