SIMATS ENGINEERING

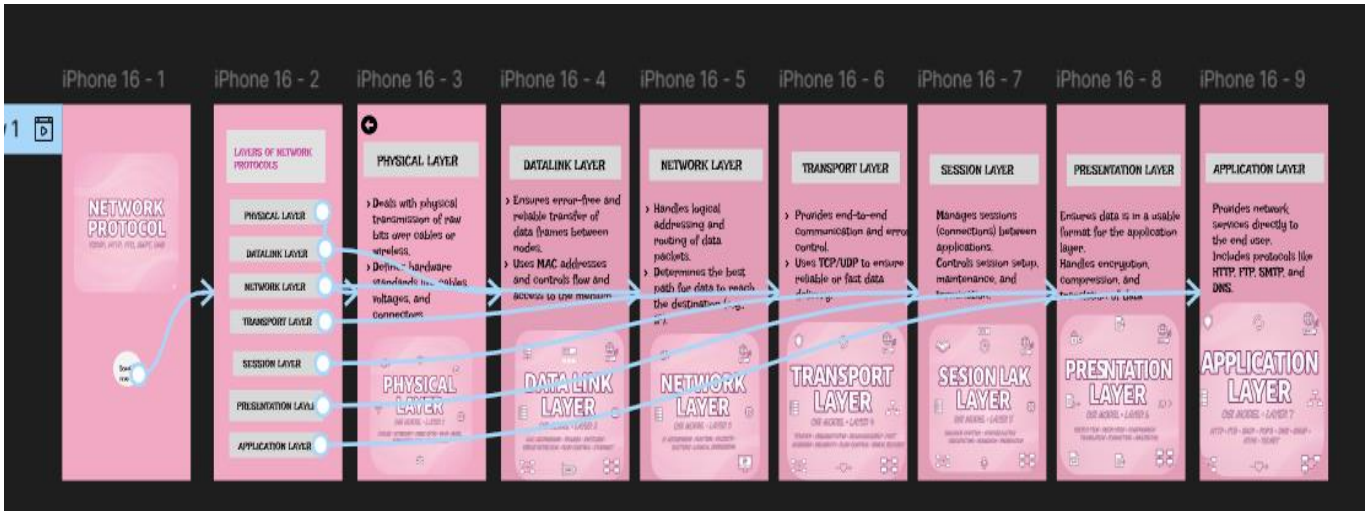
Engineer to Excel

SIMATS

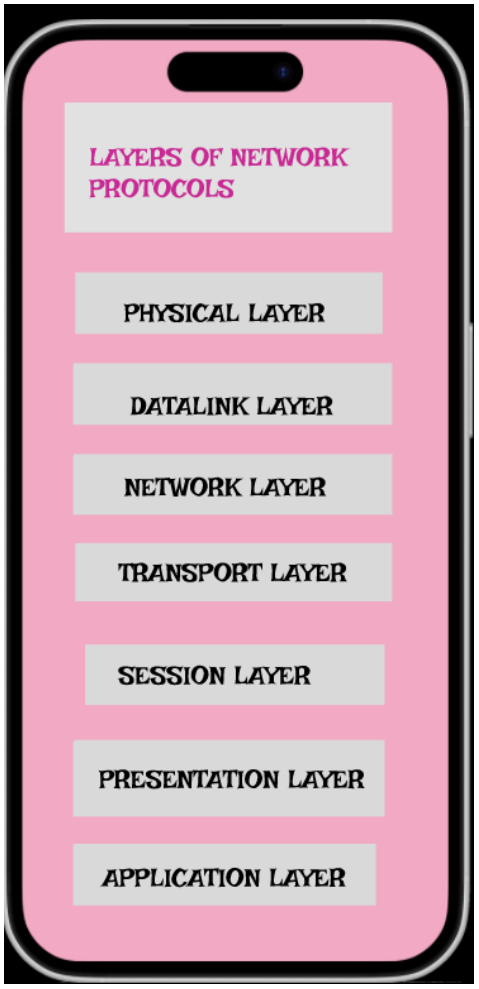
Saveetha Institute of Medical And Technical Sciences

(Declared as Deemed to be University under Section 3 of UGC Act 1956)

Question : Network Protocols

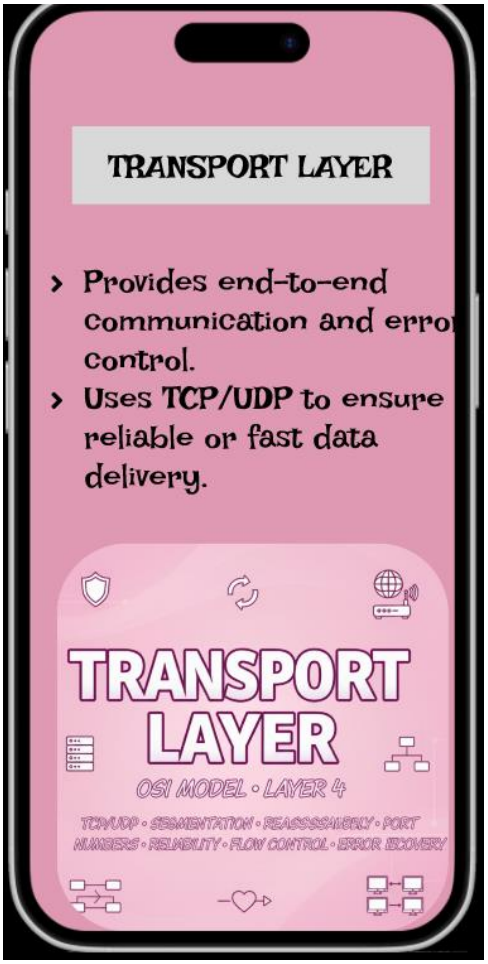


NETWORK
PROTOCOL
TCP/IP, HTTP, FTC, SMPT, DNS
touch
me !

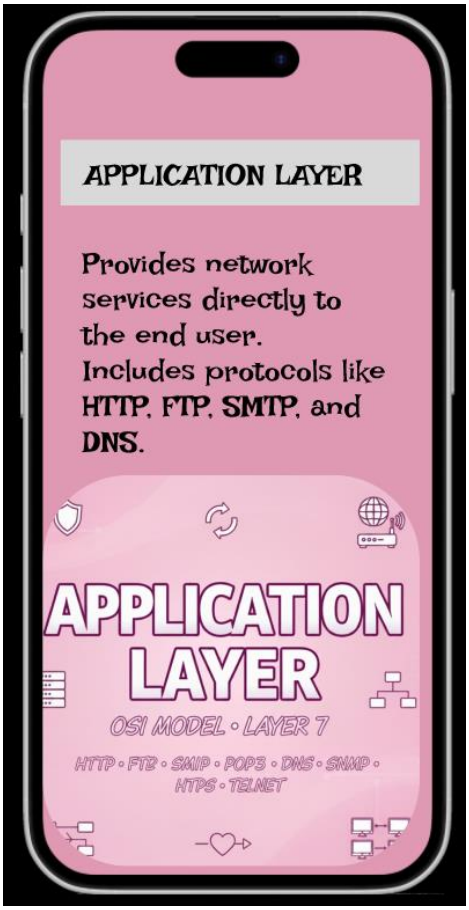

LAYERS OF NETWORK
PROTOCOLS
PHYSICAL LAYER
DATALINK LAYER
NETWORK LAYER
TRANSPORT LAYER
SESSION LAYER
PRESENTATION LAYER
APPLICATION LAYER

PHYSICAL LAYER
› Deals with physical transmission of raw bits over cables or wireless.
› Defines hardware standards like cables, voltages, and connectors.
PHYSICAL LAYER
OSI MODEL • LAYER 1
CABLES • ETHERNET • FIBER OPTIC • WI-FI • HUBS, REPEATERS • BITS • SIGNALS • RJ45

NETWORK LAYER
› Handles logical addressing and routing of data packets.
› Determines the best path for data to reach the destination (e.g., IP).
NETWORK LAYER
OSI MODEL • LAYER 3
IP ADDRESSING • ROUTING • PACKETS • ROUTERS • LOGICAL ADDRESSING
IP


TRANSPORT LAYER
› Provides end-to-end communication and error control.
› Uses TCP/UDP to ensure reliable or fast data delivery.
TRANSPORT LAYER
OSI MODEL • LAYER 4
TCP/UDP • SEGMENTATION • REASSEMBLY • PORT NUMBERS • RELIABILITY • FLOW CONTROL • ERROR RECOVERY

PRESENTATION LAYER
Ensures data is in a usable format for the application layer.
Handles encryption, compression, and translation of data
PRESENTATION LAYER
OSI MODEL • LAYER 6
ENCRYPTION • DECRYPTION • COMPRESSION
TRANSLATION • FORMATTING • ASCII/EBCDIC


APPLICATION LAYER
Provides network services directly to the end user. Includes protocols like HTTP, FTP, SMTP, and DNS.
APPLICATION LAYER
OSI MODEL • LAYER 7
HTTP • FTP • SNMP • POP3 • DNS • SNMP • HTPS • TELNET