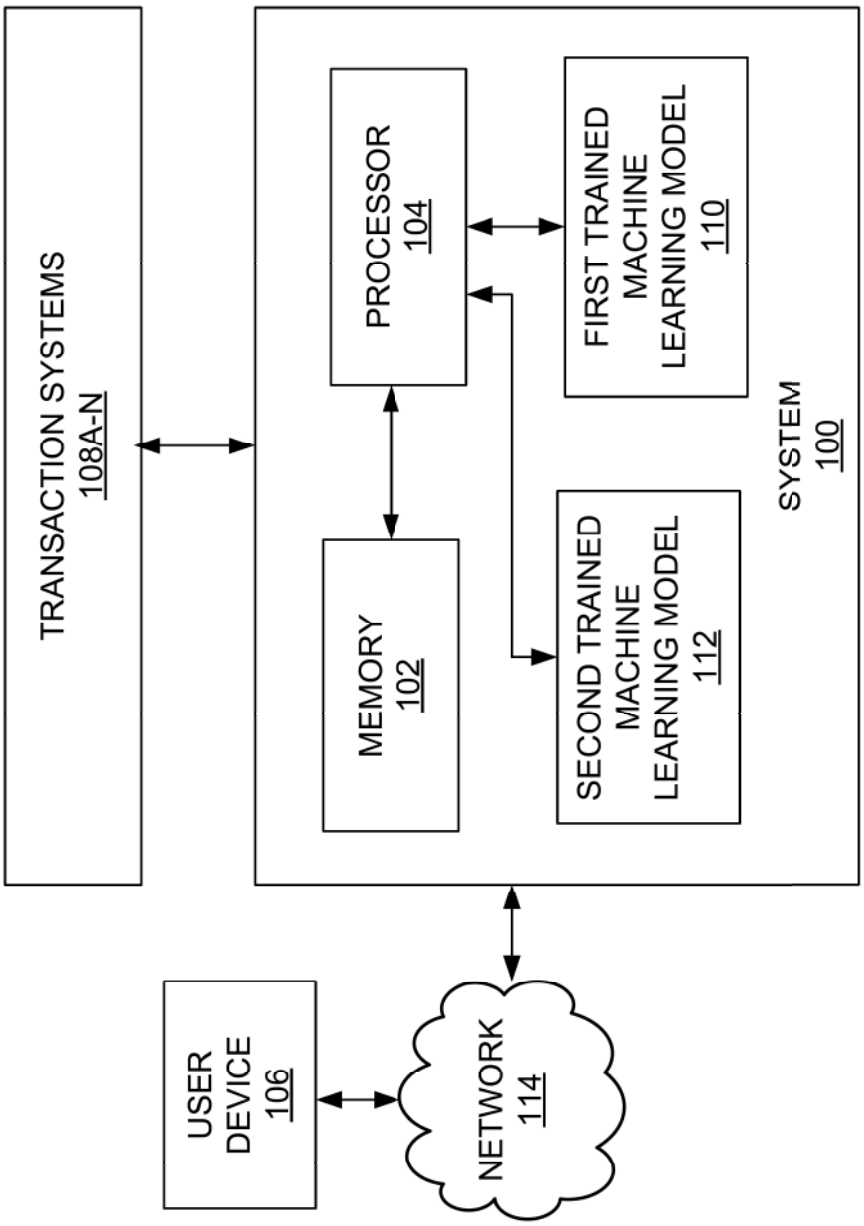
TRANSACTION SYSTEMS
108A-N
SYSTEM
100
PROCESSOR
104
FIRST TRAINED
MACHINE
LEARNING MODEL
110
MEMORY
102
SECOND TRAINED
MACHINE
LEARNING MODEL
112
USER
DEVICE
106
NETWORK
114

FIG. 1

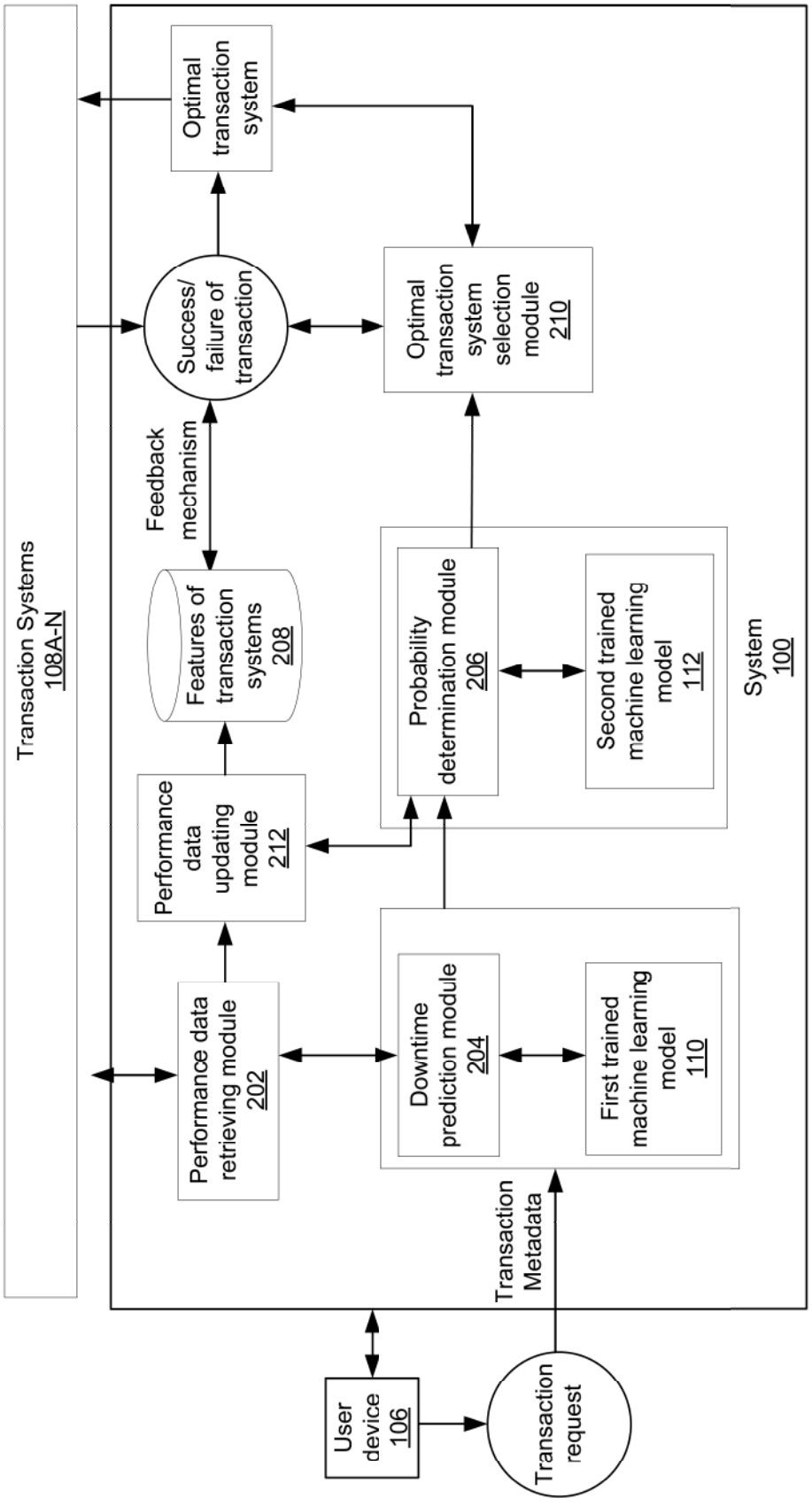
Transaction Systems
108A-N
Optimal transaction system
Success/ failure of transaction
Optimal transaction system selection module
210
Feedback mechanism
Features of transaction systems
208
Probability determination module
206
Second trained machine learning model
112
System
100
Performance data updating module
212
Performance data retrieving module
202
Downtime prediction module
204
First trained machine learning model
110
Transaction Metadata
User device
106
Transaction request

FIG. 2

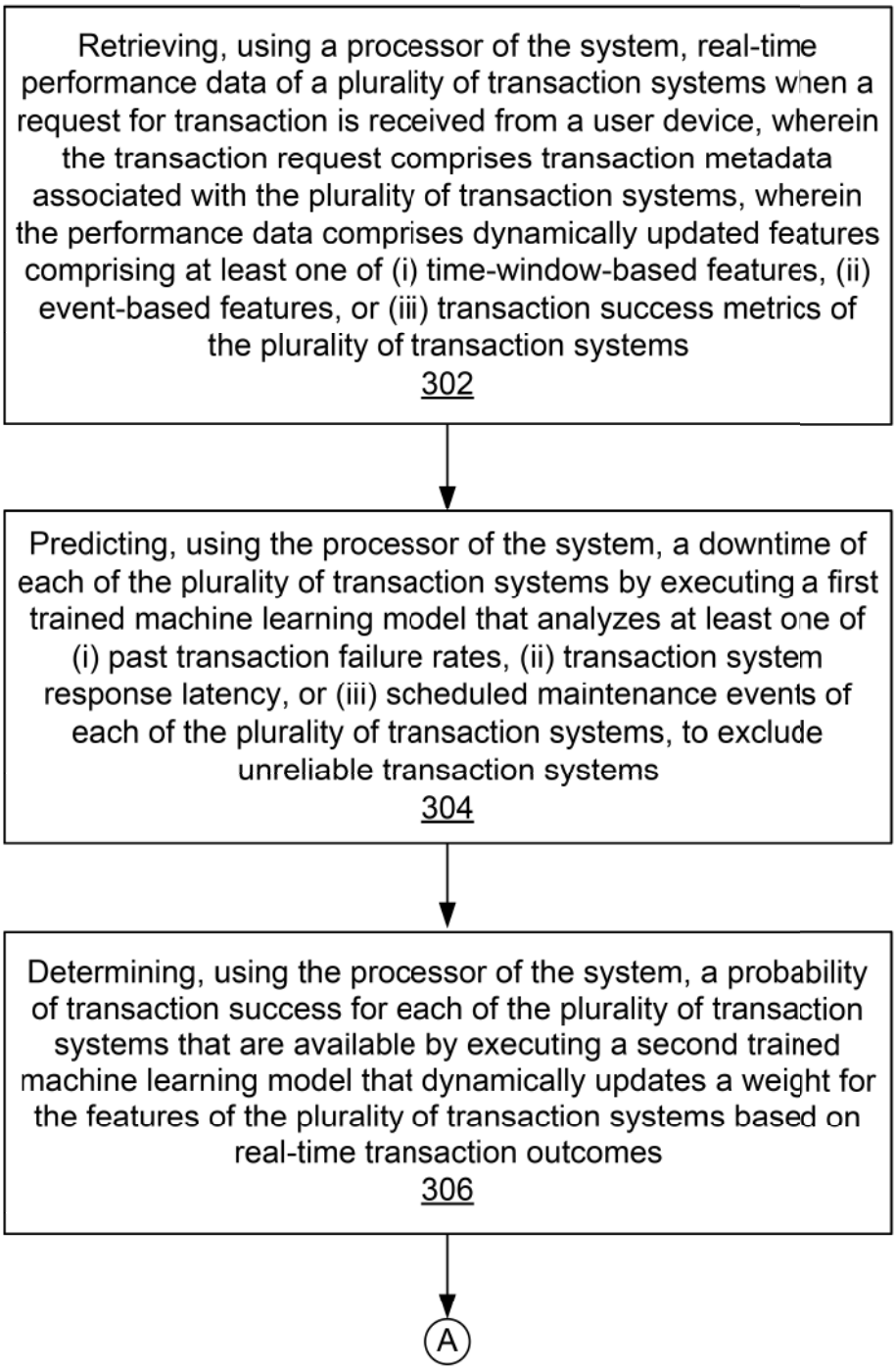
Retrieving, using a processor of the system, real-time performance data of a plurality of transaction systems when a request for transaction is received from a user device, wherein the transaction request comprises transaction metadata associated with the plurality of transaction systems, wherein the performance data comprises dynamically updated features comprising at least one of (i) time-window-based features, (ii) event-based features, or (iii) transaction success metrics of the plurality of transaction systems
302
Predicting, using the processor of the system, a downtime of each of the plurality of transaction systems by executing a first trained machine learning model that analyzes at least one of (i) past transaction failure rates, (ii) transaction system response latency, or (iii) scheduled maintenance events of each of the plurality of transaction systems, to exclude unreliable transaction systems
304
Determining, using the processor of the system, a probability of transaction success for each of the plurality of transaction systems that are available by executing a second trained machine learning model that dynamically updates a weight for the features of the plurality of transaction systems based on real-time transaction outcomes
306
A

FIG. 3A

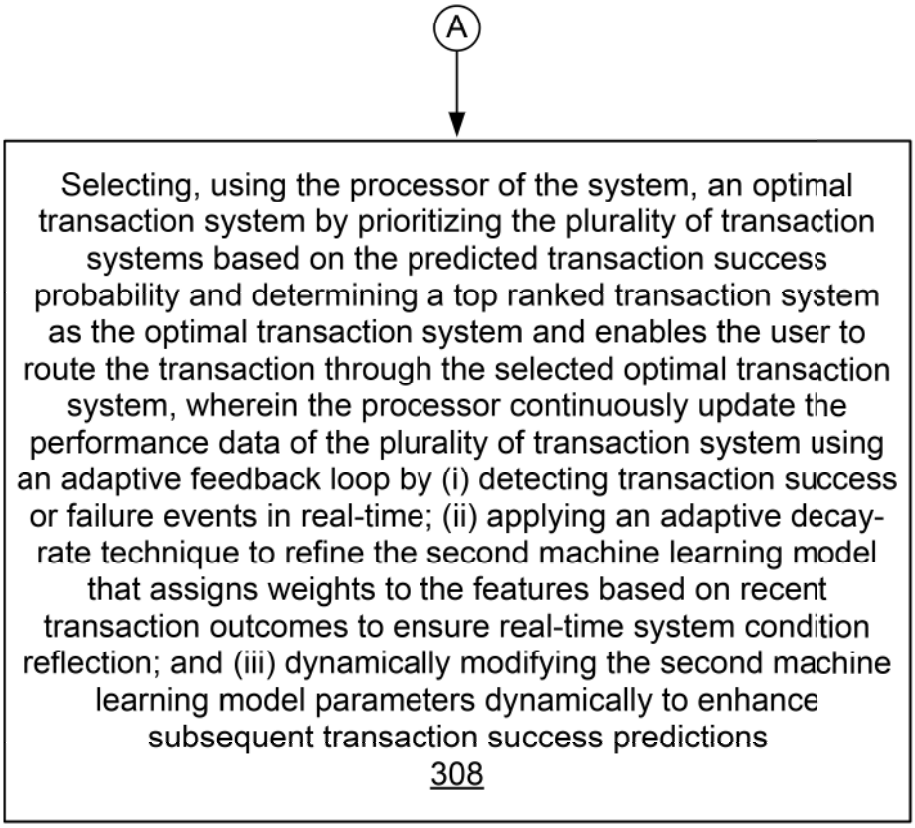
A
Selecting, using the processor of the system, an optimal transaction system by prioritizing the plurality of transaction systems based on the predicted transaction success probability and determining a top ranked transaction system as the optimal transaction system and enables the user to route the transaction through the selected optimal transaction system, wherein the processor continuously update the performance data of the plurality of transaction system using an adaptive feedback loop by (i) detecting transaction success or failure events in real-time; (ii) applying an adaptive decay-rate technique to refine the second machine learning model that assigns weights to the features based on recent transaction outcomes to ensure real-time system condition reflection; and (iii) dynamically modifying the second machine learning model parameters dynamically to enhance subsequent transaction success predictions
308

FIG. 3B

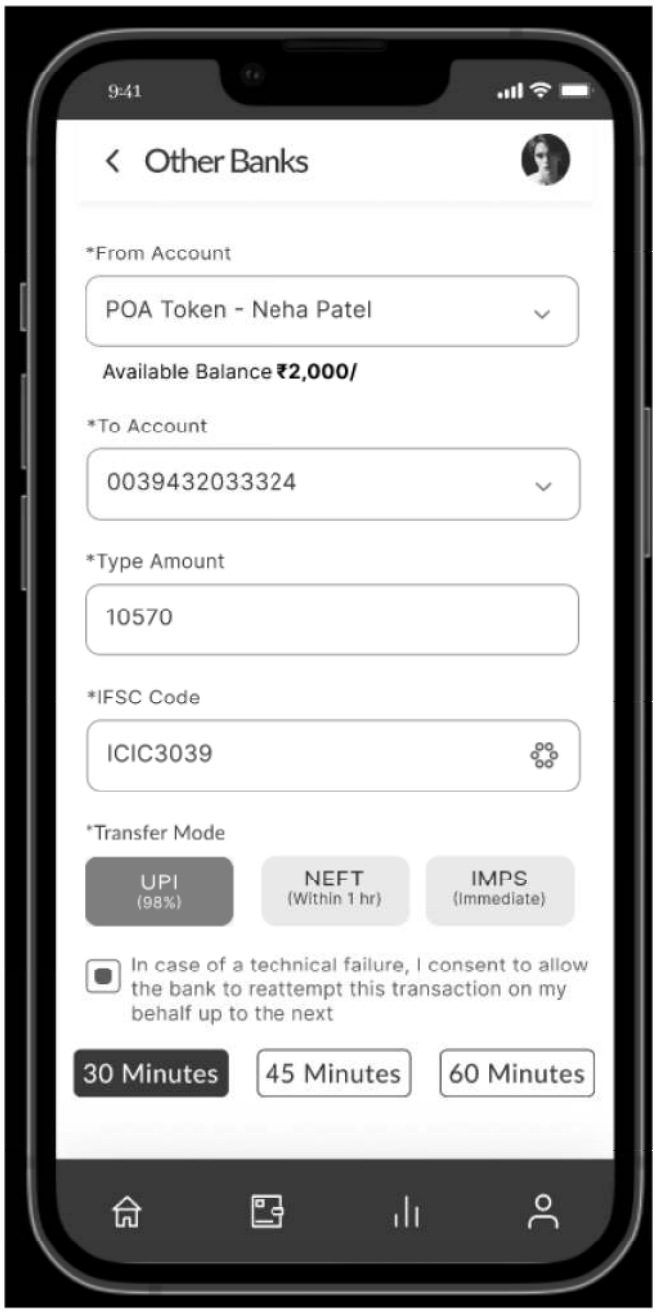
9:41
Other Banks
*From Account
POA Token - Neha Patel
Available Balance ₹2,000/
*To Account
0039432033324
*Type Amount
10570
*IFSC Code
ICIC3039
*Transfer Mode
UPI
(98%)
NEFT
(Within 1 hr)
IMPS
(Immediate)
In case of a technical failure, I consent to allow the bank to reattempt this transaction on my behalf up to the next
30 Minutes
45 Minutes
60 Minutes

FIG. 4

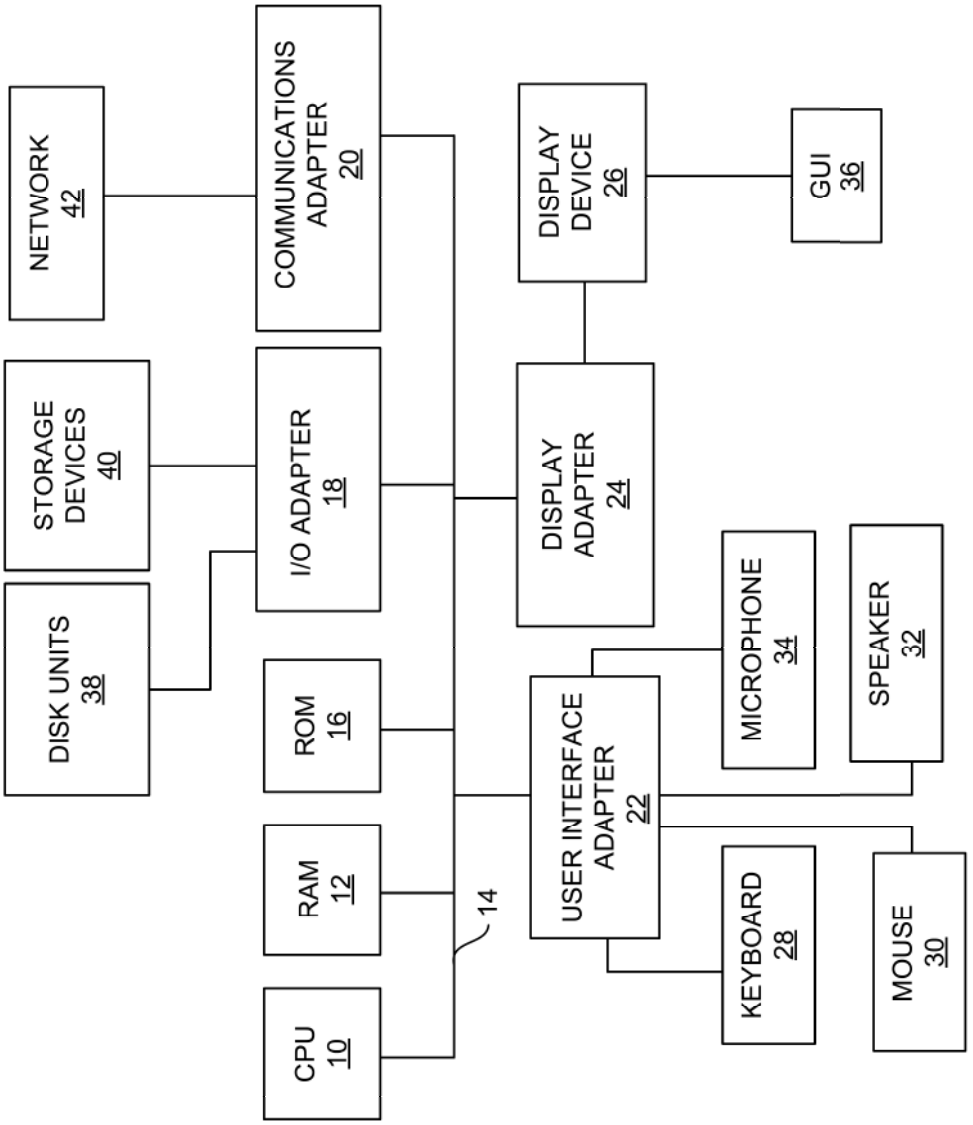
NETWORK 42
COMMUNICATIONS ADAPTER 20
DISPLAY DEVICE 26
GUI 36
STORAGE DEVICES 40
I/O ADAPTER 18
DISPLAY ADAPTER 24
DISK UNITS 38
ROM 16
MICROPHONE 34
SPEAKER 32
USER INTERFACE ADAPTER 22
RAM 12
14
KEYBOARD 28
MOUSE 30
CPU 10

FIG. 5