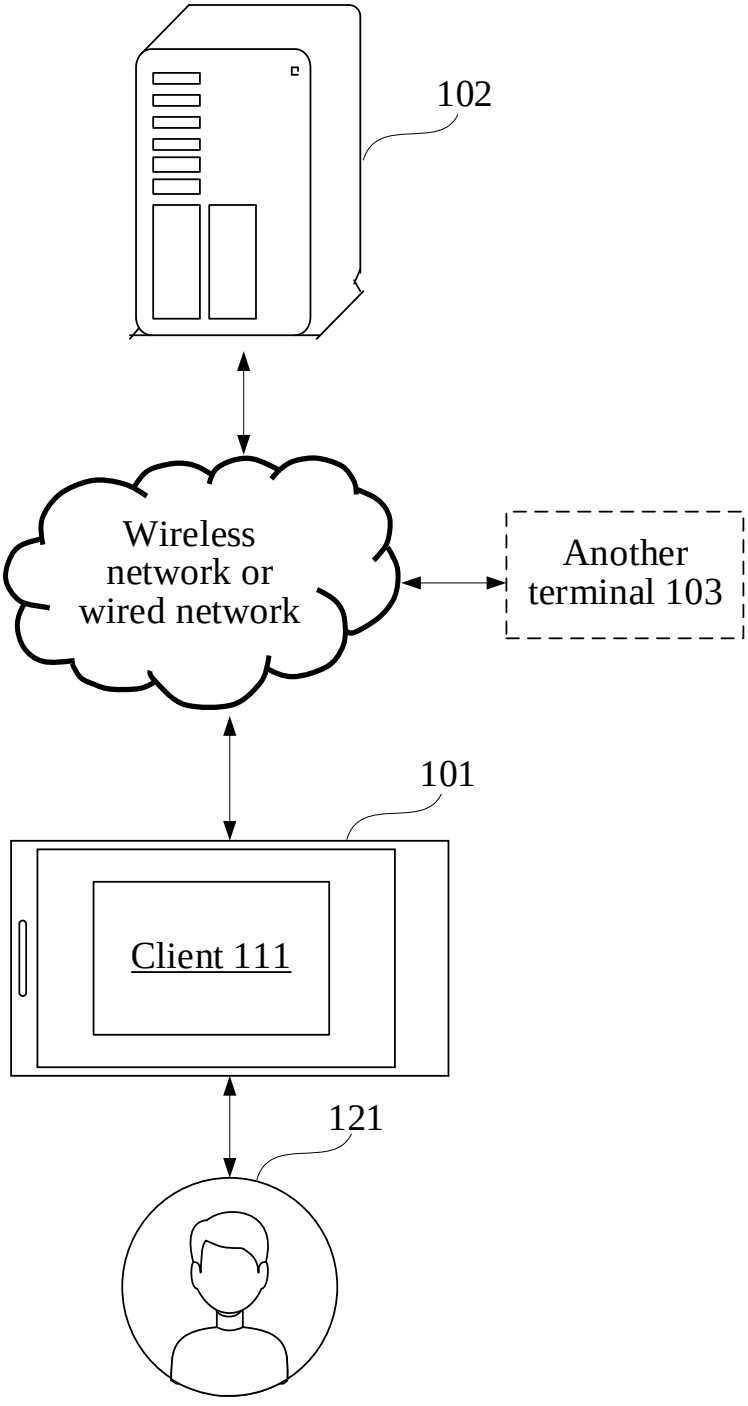

102
Wireless
network or
wired network
Another
terminal 103
101
Client 111
121

FIG. 1

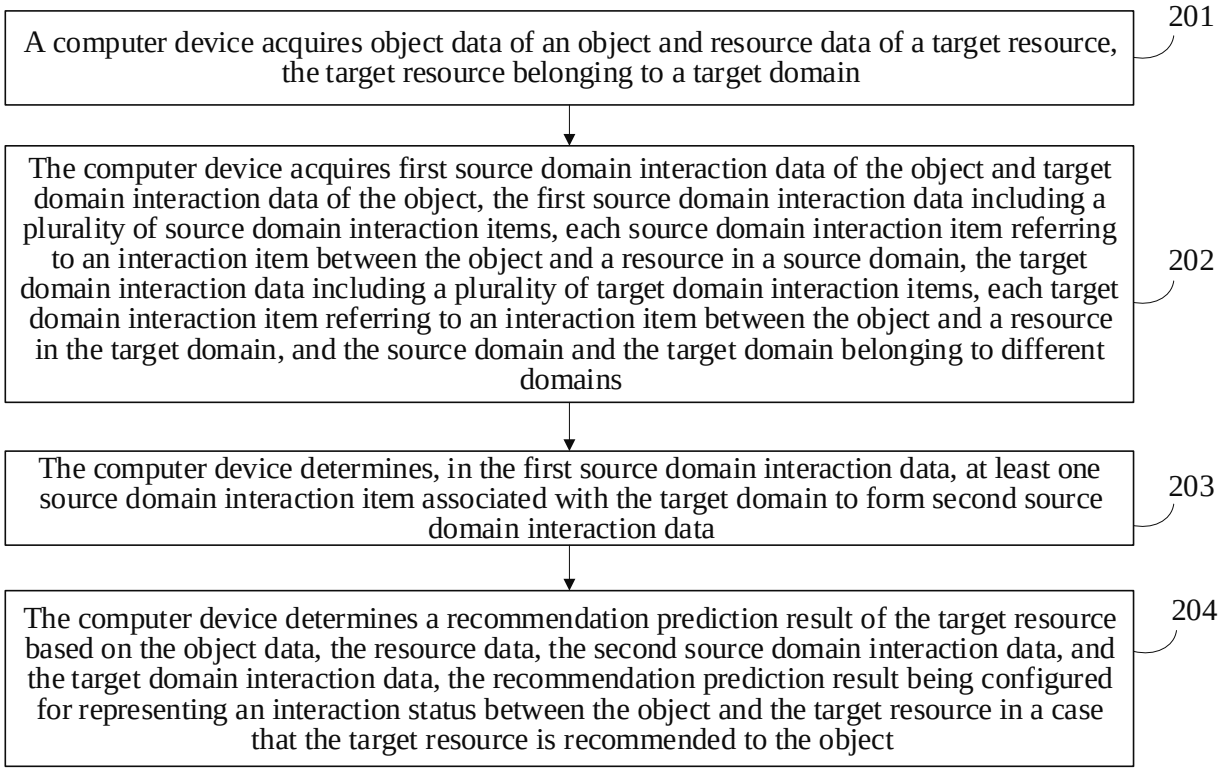

A computer device acquires object data of an object and resource data of a target resource, the target resource belonging to a target domain
201
The computer device acquires first source domain interaction data of the object and target domain interaction data of the object, the first source domain interaction data including a plurality of source domain interaction items, each source domain interaction item referring to an interaction item between the object and a resource in a source domain, the target domain interaction data including a plurality of target domain interaction items, each target domain interaction item referring to an interaction item between the object and a resource in the target domain, and the source domain and the target domain belonging to different domains
202
The computer device determines, in the first source domain interaction data, at least one source domain interaction item associated with the target domain to form second source domain interaction data
203
The computer device determines a recommendation prediction result of the target resource based on the object data, the resource data, the second source domain interaction data, and the target domain interaction data, the recommendation prediction result being configured for representing an interaction status between the object and the target resource in a case that the target resource is recommended to the object
204

FIG. 2

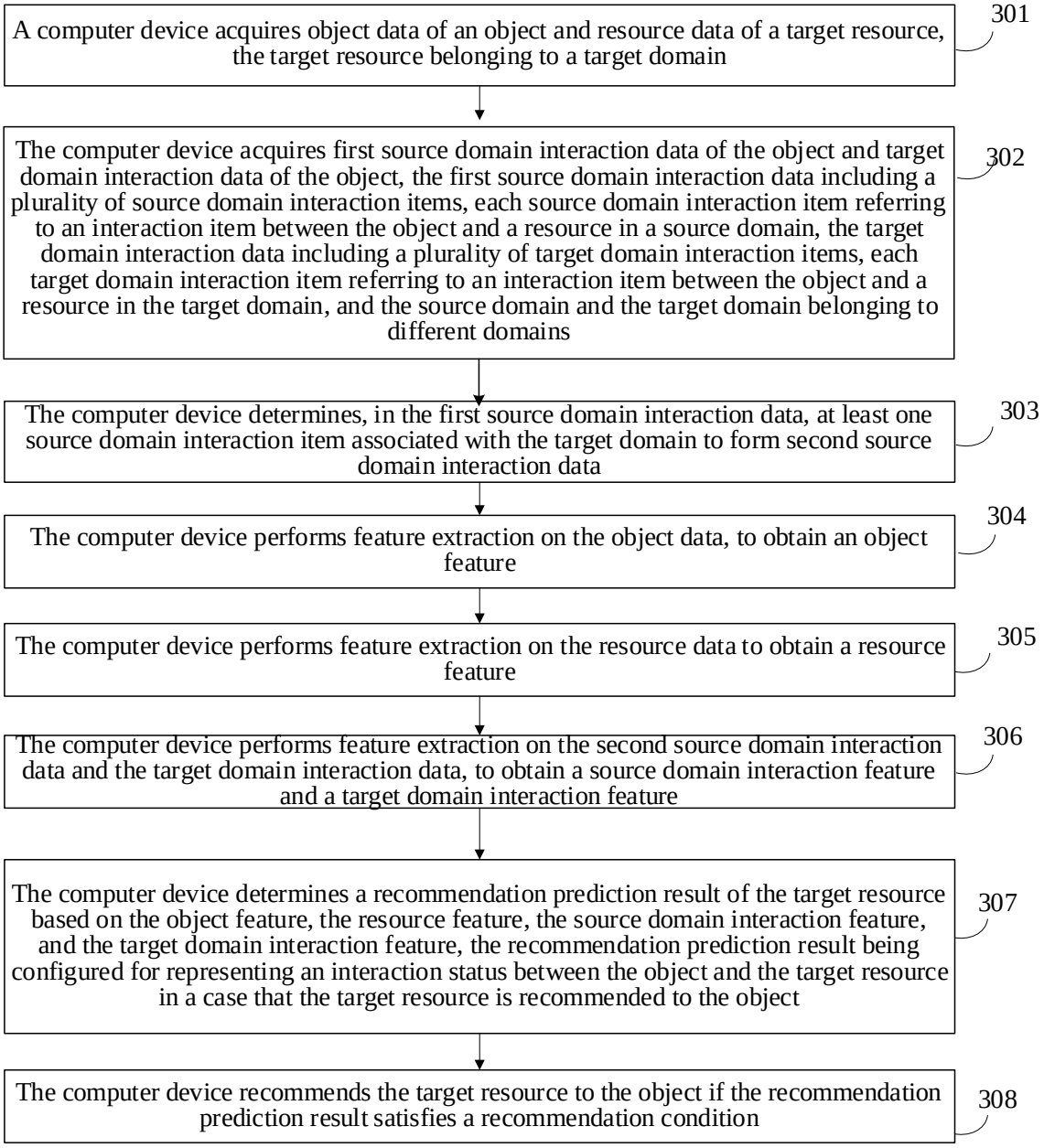

A computer device acquires object data of an object and resource data of a target resource, the target resource belonging to a target domain
301
The computer device acquires first source domain interaction data of the object and target domain interaction data of the object, the first source domain interaction data including a plurality of source domain interaction items, each source domain interaction item referring to an interaction item between the object and a resource in a source domain, the target domain interaction data including a plurality of target domain interaction items, each target domain interaction item referring to an interaction item between the object and a resource in the target domain, and the source domain and the target domain belonging to different domains
302
The computer device determines, in the first source domain interaction data, at least one source domain interaction item associated with the target domain to form second source domain interaction data
303
The computer device performs feature extraction on the object data, to obtain an object feature
304
The computer device performs feature extraction on the resource data to obtain a resource feature
305
The computer device performs feature extraction on the second source domain interaction data and the target domain interaction data, to obtain a source domain interaction feature and a target domain interaction feature
306
The computer device determines a recommendation prediction result of the target resource based on the object feature, the resource feature, the source domain interaction feature, and the target domain interaction feature, the recommendation prediction result being configured for representing an interaction status between the object and the target resource in a case that the target resource is recommended to the object
307
The computer device recommends the target resource to the object if the recommendation prediction result satisfies a recommendation condition
308

FIG. 3

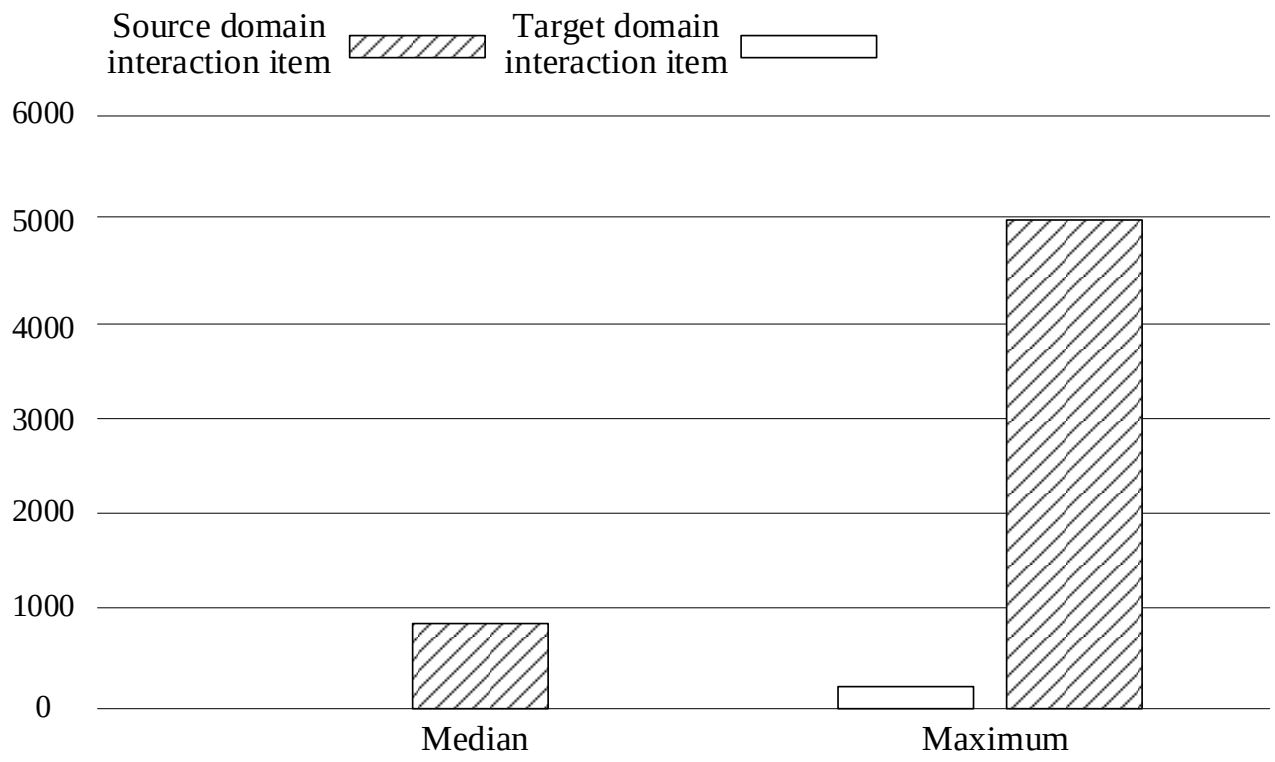

Source domain interaction item
Target domain interaction item
6000
5000
4000
3000
2000
1000
0
Median
Maximum

FIG. 4

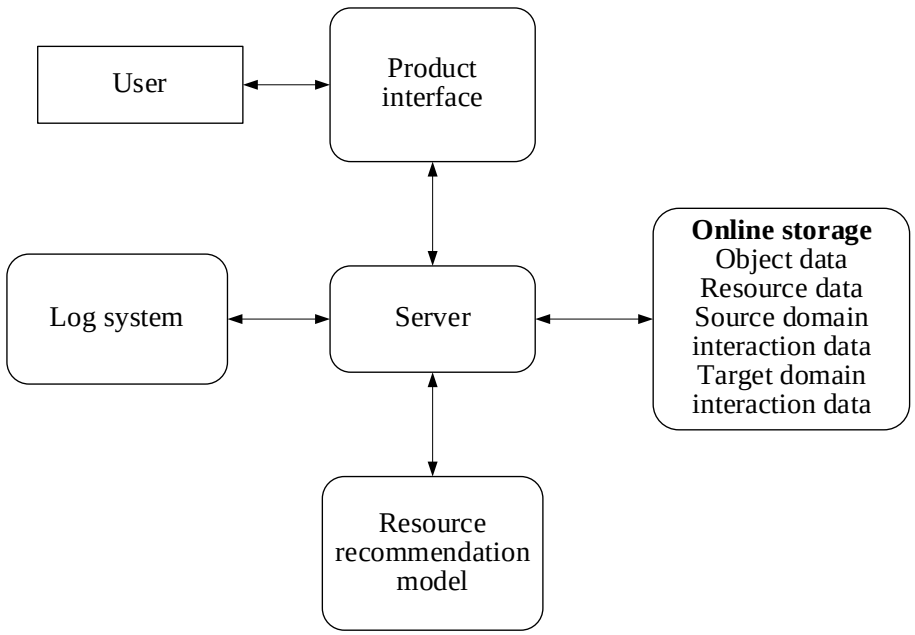

User
Product interface
Log system
Server
Online storage
Object data
Resource data
Source domain interaction data
Target domain interaction data
Resource recommendation model

FIG. 5

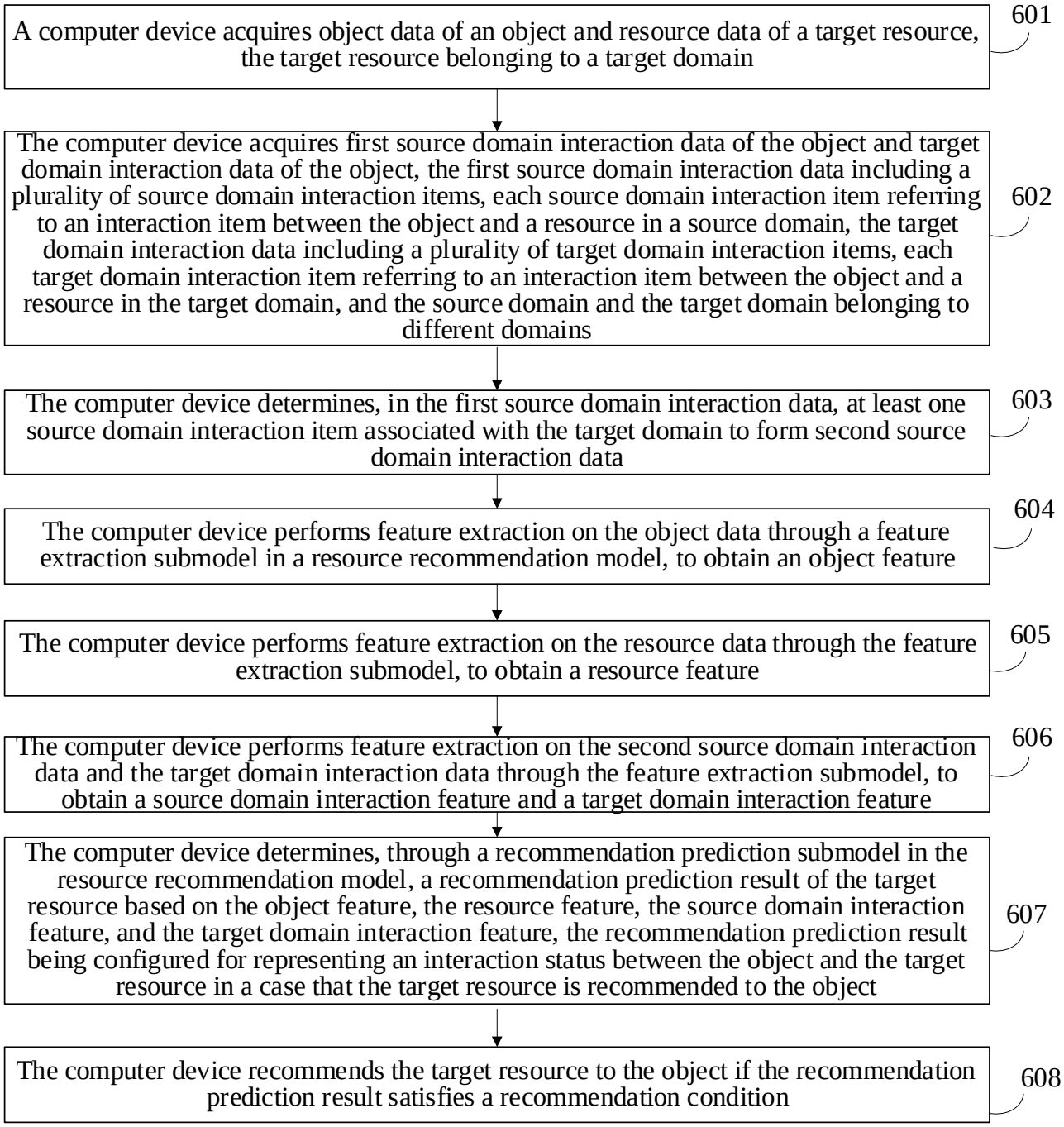

A computer device acquires object data of an object and resource data of a target resource, the target resource belonging to a target domain
601
The computer device acquires first source domain interaction data of the object and target domain interaction data of the object, the first source domain interaction data including a plurality of source domain interaction items, each source domain interaction item referring to an interaction item between the object and a resource in a source domain, the target domain interaction data including a plurality of target domain interaction items, each target domain interaction item referring to an interaction item between the object and a resource in the target domain, and the source domain and the target domain belonging to different domains
602
The computer device determines, in the first source domain interaction data, at least one source domain interaction item associated with the target domain to form second source domain interaction data
603
The computer device performs feature extraction on the object data through a feature extraction submodel in a resource recommendation model, to obtain an object feature
604
The computer device performs feature extraction on the resource data through the feature extraction submodel, to obtain a resource feature
605
The computer device performs feature extraction on the second source domain interaction data and the target domain interaction data through the feature extraction submodel, to obtain a source domain interaction feature and a target domain interaction feature
606
The computer device determines, through a recommendation prediction submodel in the resource recommendation model, a recommendation prediction result of the target resource based on the object feature, the resource feature, the source domain interaction feature, and the target domain interaction feature, the recommendation prediction result being configured for representing an interaction status between the object and the target resource in a case that the target resource is recommended to the object
607
The computer device recommends the target resource to the object if the recommendation prediction result satisfies a recommendation condition
608

FIG. 6

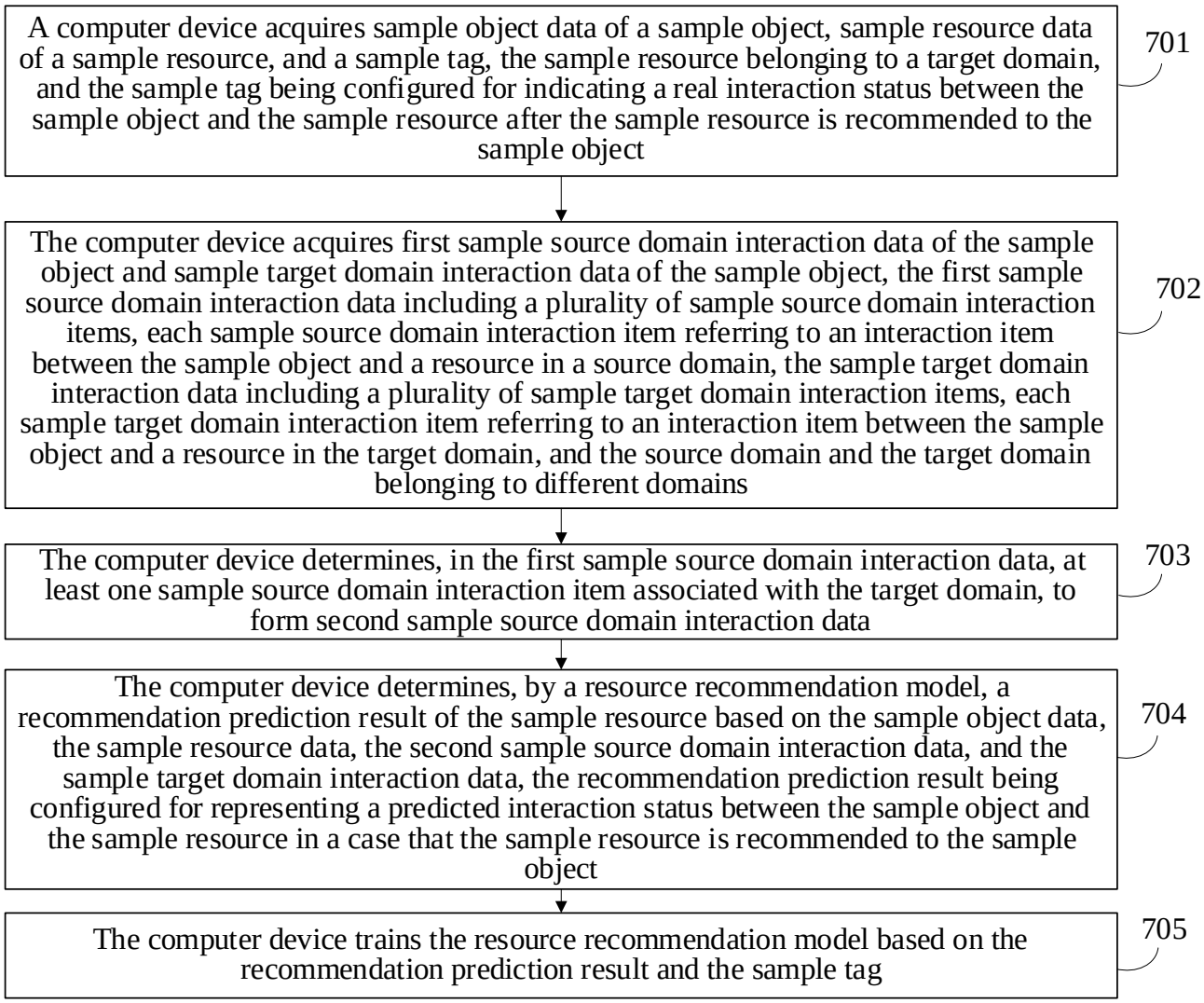

A computer device acquires sample object data of a sample object, sample resource data of a sample resource, and a sample tag, the sample resource belonging to a target domain, and the sample tag being configured for indicating a real interaction status between the sample object and the sample resource after the sample resource is recommended to the sample object
701
The computer device acquires first sample source domain interaction data of the sample object and sample target domain interaction data of the sample object, the first sample source domain interaction data including a plurality of sample source domain interaction items, each sample source domain interaction item referring to an interaction item between the sample object and a resource in a source domain, the sample target domain interaction data including a plurality of sample target domain interaction items, each sample target domain interaction item referring to an interaction item between the sample object and a resource in the target domain, and the source domain and the target domain belonging to different domains
702
The computer device determines, in the first sample source domain interaction data, at least one sample source domain interaction item associated with the target domain, to form second sample source domain interaction data
703
The computer device determines, by a resource recommendation model, a recommendation prediction result of the sample resource based on the sample object data, the sample resource data, the second sample source domain interaction data, and the sample target domain interaction data, the recommendation prediction result being configured for representing a predicted interaction status between the sample object and the sample resource in a case that the sample resource is recommended to the sample object
704
The computer device trains the resource recommendation model based on the recommendation prediction result and the sample tag
705

FIG. 7

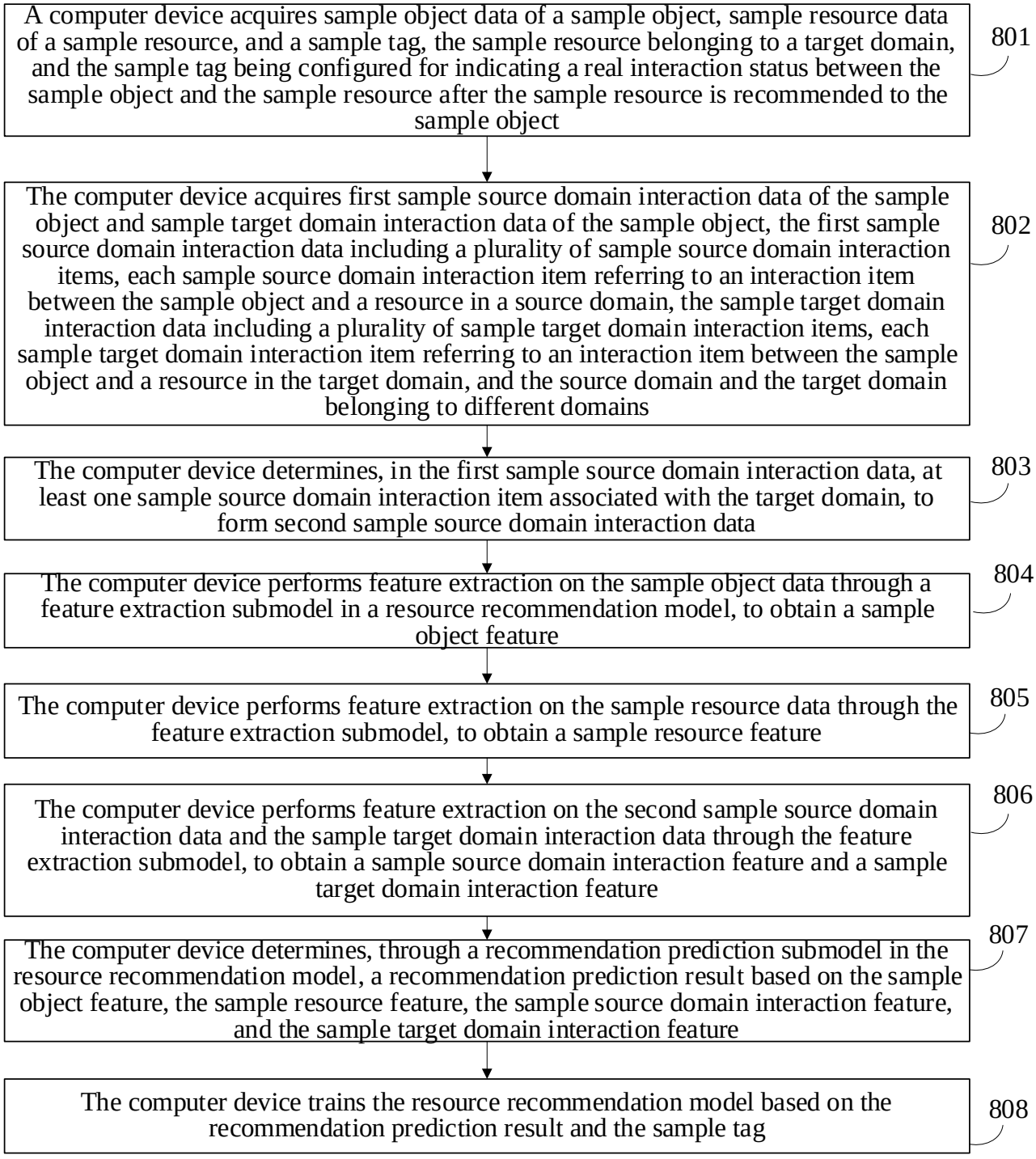

A computer device acquires sample object data of a sample object, sample resource data of a sample resource, and a sample tag, the sample resource belonging to a target domain, and the sample tag being configured for indicating a real interaction status between the sample object and the sample resource after the sample resource is recommended to the sample object
801
The computer device acquires first sample source domain interaction data of the sample object and sample target domain interaction data of the sample object, the first sample source domain interaction data including a plurality of sample source domain interaction items, each sample source domain interaction item referring to an interaction item between the sample object and a resource in a source domain, the sample target domain interaction data including a plurality of sample target domain interaction items, each sample target domain interaction item referring to an interaction item between the sample object and a resource in the target domain, and the source domain and the target domain belonging to different domains
802
The computer device determines, in the first sample source domain interaction data, at least one sample source domain interaction item associated with the target domain, to form second sample source domain interaction data
803
The computer device performs feature extraction on the sample object data through a feature extraction submodel in a resource recommendation model, to obtain a sample object feature
804
The computer device performs feature extraction on the sample resource data through the feature extraction submodel, to obtain a sample resource feature
805
The computer device performs feature extraction on the second sample source domain interaction data and the sample target domain interaction data through the feature extraction submodel, to obtain a sample source domain interaction feature and a sample target domain interaction feature
806
The computer device determines, through a recommendation prediction submodel in the resource recommendation model, a recommendation prediction result based on the sample object feature, the sample resource feature, the sample source domain interaction feature, and the sample target domain interaction feature
807
The computer device trains the resource recommendation model based on the recommendation prediction result and the sample tag
808

FIG. 8

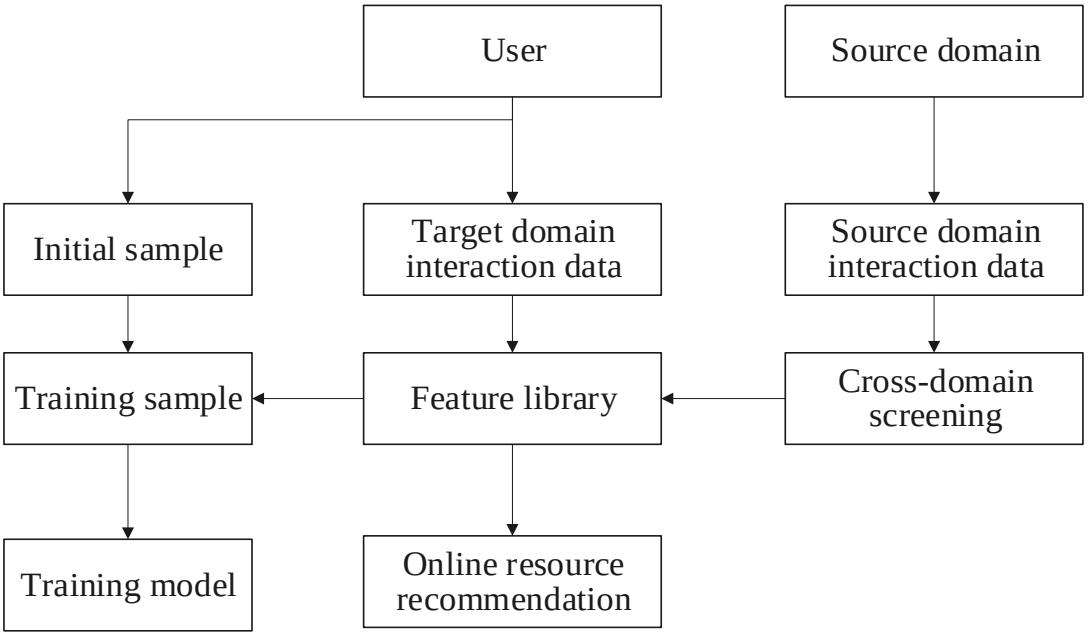
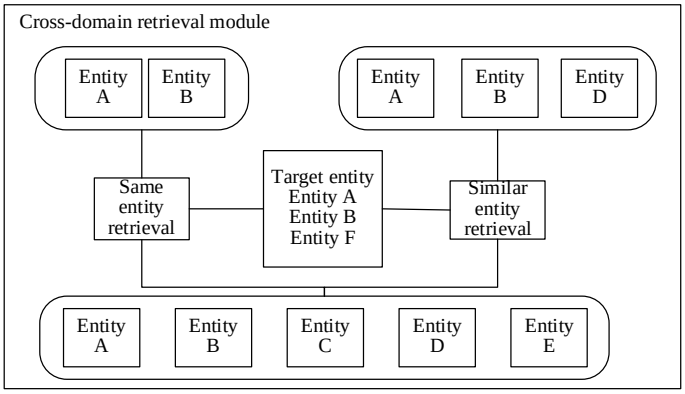
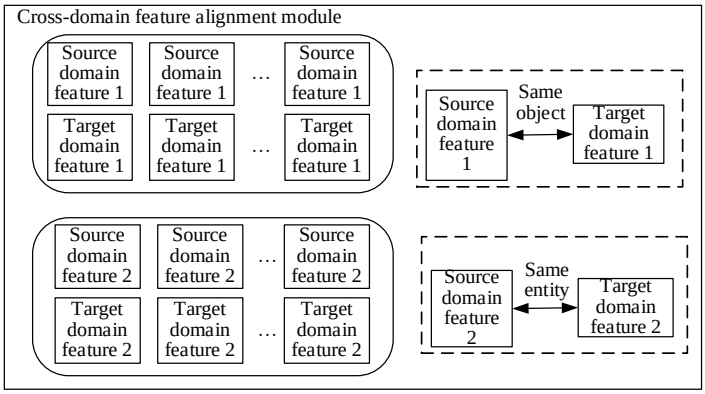

User
Source domain
Initial sample
Target domain interaction data
Source domain interaction data
Training sample
Feature library
Cross-domain screening
Training model
Online resource recommendation

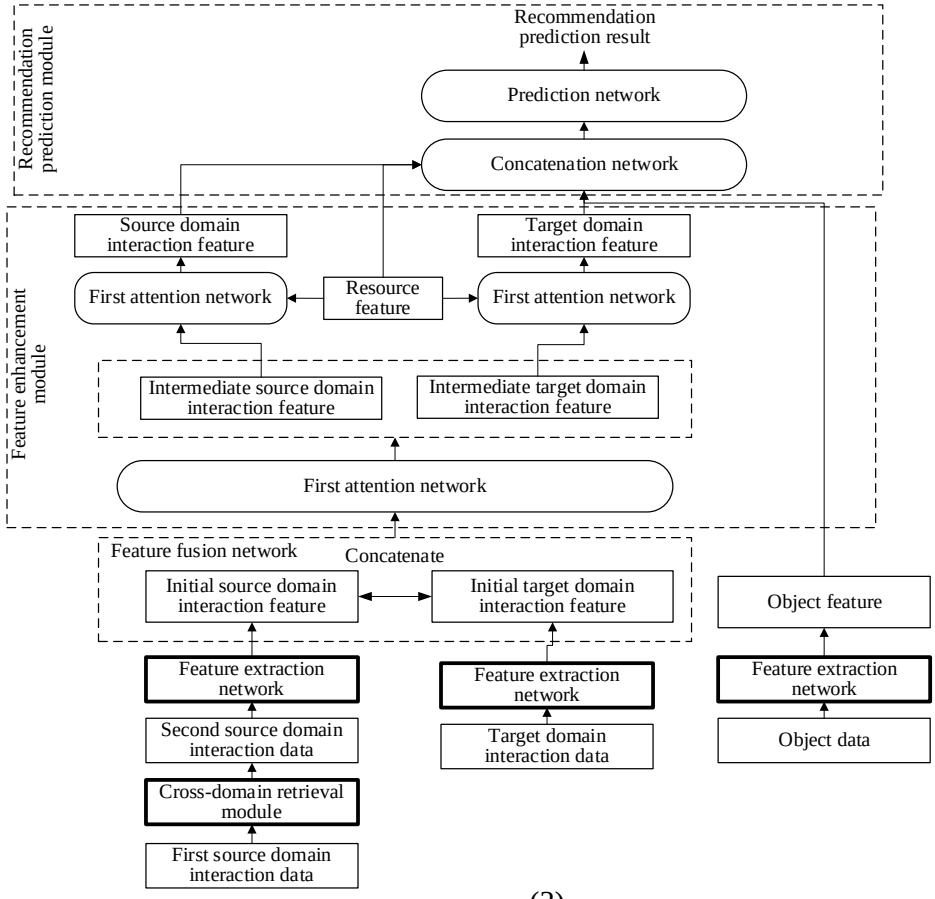
FIG. 9


Cross-domain retrieval module
Entity A
Entity B
Entity A
Entity B
Entity D
Same entity retrieval
Target entity
Entity A
Entity B
Entity F
Similar entity retrieval
Entity A
Entity B
Entity C
Entity D
Entity E

(1)


Cross-domain feature alignment module
Source domain feature 1
Source domain feature 1
Source domain feature 1
Target domain feature 1
Target domain feature 1
Target domain feature 1
Source domain feature 1
Same object
Target domain feature 1
Source domain feature 2
Source domain feature 2
Source domain feature 2
Target domain feature 2
Target domain feature 2
Target domain feature 2
Source domain feature 2
Same entity
Target domain feature 2

(2)


Recommendation prediction module
Recommendation prediction result
Prediction network
Concatenation network
Feature enhancement module
Source domain interaction feature
Target domain interaction feature
First attention network
Resource feature
First attention network
Intermediate source domain interaction feature
Intermediate target domain interaction feature
First attention network
Feature fusion network
Concatenate
Initial source domain interaction feature
Initial target domain interaction feature
Object feature
Feature extraction network
Feature extraction network
Feature extraction network
Second source domain interaction data
Target domain interaction data
Object data
Cross-domain retrieval module
First source domain interaction data

(3)

FIG. 10

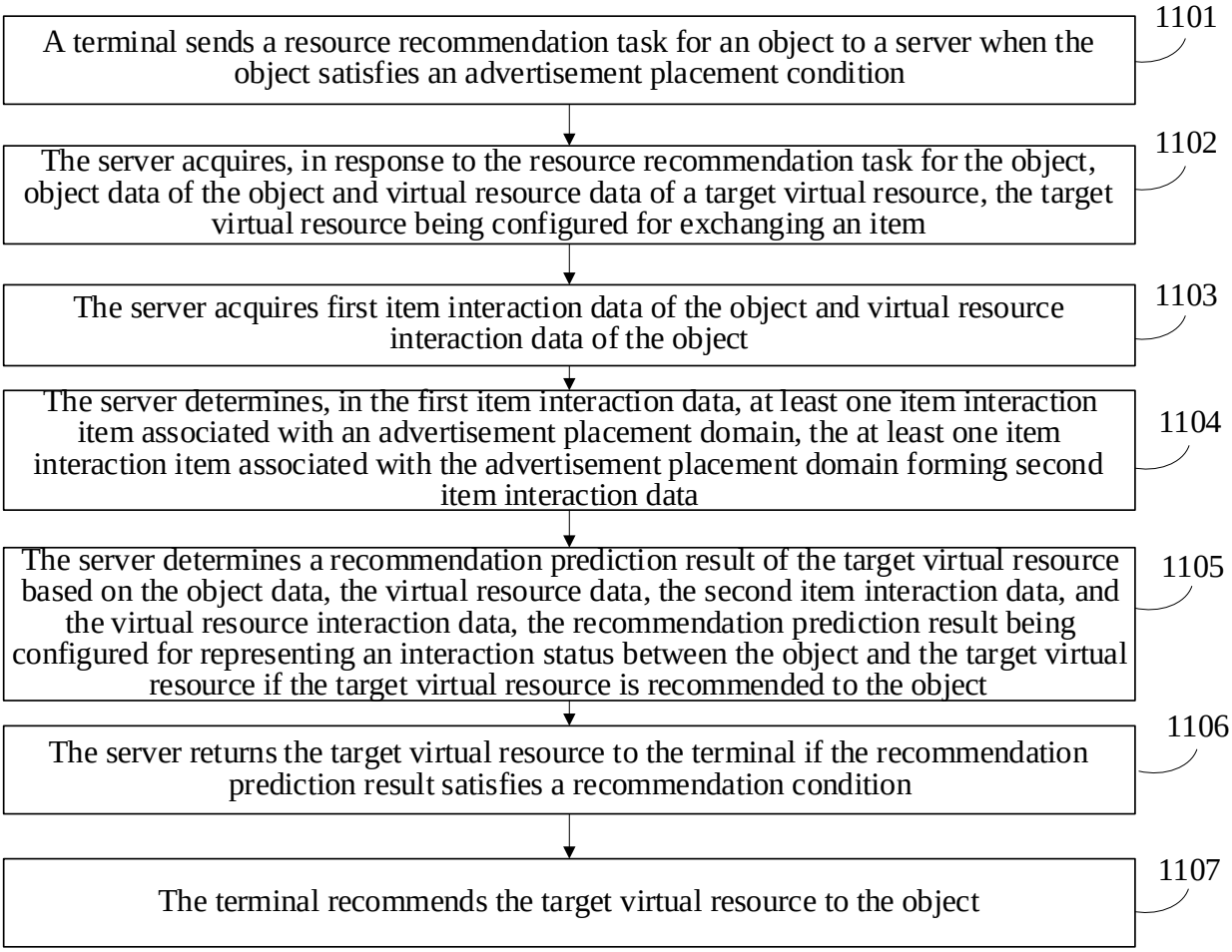

A terminal sends a resource recommendation task for an object to a server when the object satisfies an advertisement placement condition
1101
The server acquires, in response to the resource recommendation task for the object, object data of the object and virtual resource data of a target virtual resource, the target virtual resource being configured for exchanging an item
1102
The server acquires first item interaction data of the object and virtual resource interaction data of the object
1103
The server determines, in the first item interaction data, at least one item interaction item associated with an advertisement placement domain, the at least one item interaction item associated with the advertisement placement domain forming second item interaction data
1104
The server determines a recommendation prediction result of the target virtual resource based on the object data, the virtual resource data, the second item interaction data, and the virtual resource interaction data, the recommendation prediction result being configured for representing an interaction status between the object and the target virtual resource if the target virtual resource is recommended to the object
1105
The server returns the target virtual resource to the terminal if the recommendation prediction result satisfies a recommendation condition
1106
The terminal recommends the target virtual resource to the object
1107

FIG. 11

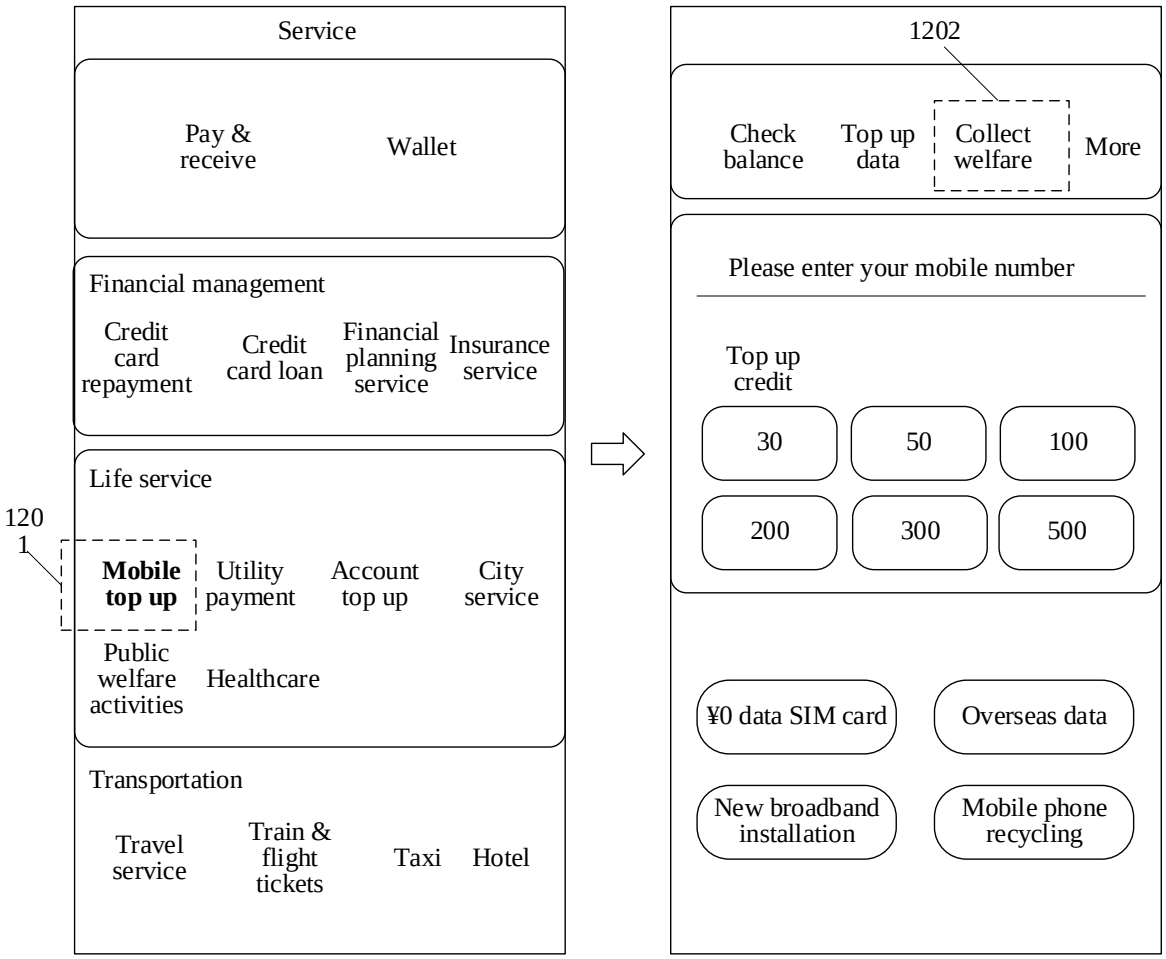

Service
Pay & receive
Wallet
Financial management
Credit card repayment
Credit card loan
Financial planning service
Insurance service
Life service
1201
Mobile top up
Utility payment
Account top up
City service
Public welfare activities
Healthcare
Transportation
Travel service
Train & flight tickets
Taxi
Hotel
1202
Check balance
Top up data
Collect welfare
More
Please enter your mobile number
Top up credit
30
50
100
200
300
500
¥0 data SIM card
Overseas data
New broadband installation
Mobile phone recycling

FIG. 12

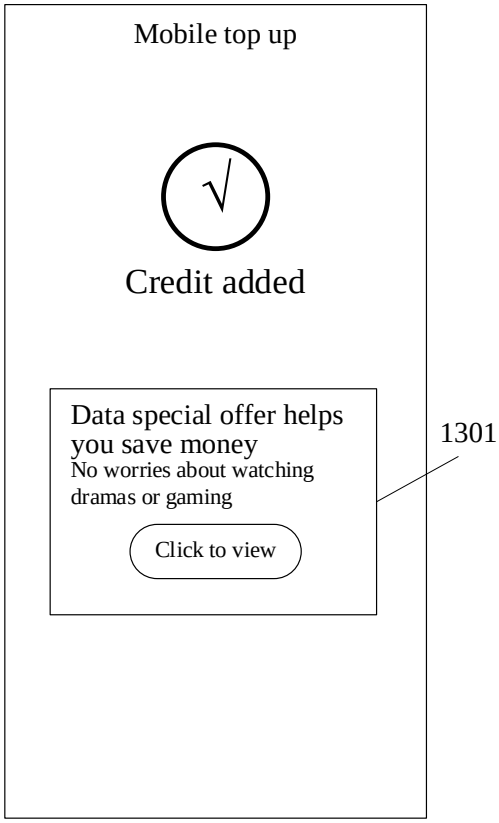

Mobile top up
√
Credit added
Data special offer helps you save money
No worries about watching dramas or gaming
Click to view
1301

FIG. 13

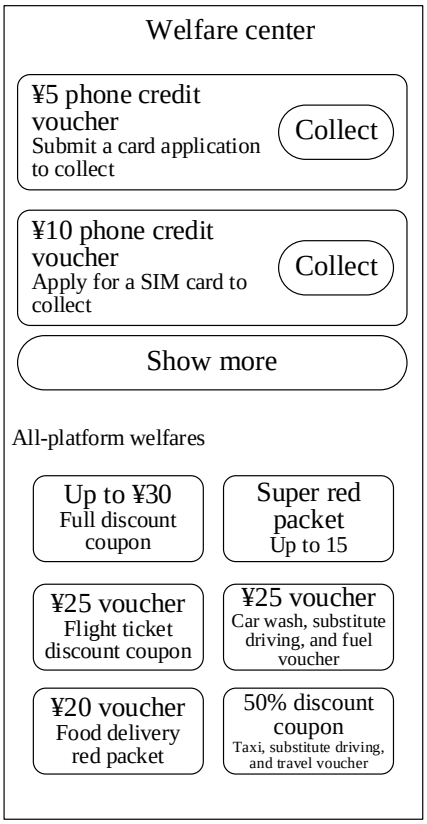

Welfare center
¥5 phone credit voucher
Submit a card application to collect
Collect
¥10 phone credit voucher
Apply for a SIM card to collect
Collect
Show more
All-platform welfares
Up to ¥30
Full discount coupon
Super red packet
Up to 15
¥25 voucher
Flight ticket discount coupon
¥25 voucher
Car wash, substitute driving, and fuel voucher
¥20 voucher
Food delivery red packet
50% discount coupon
Taxi, substitute driving, and travel voucher

FIG. 14

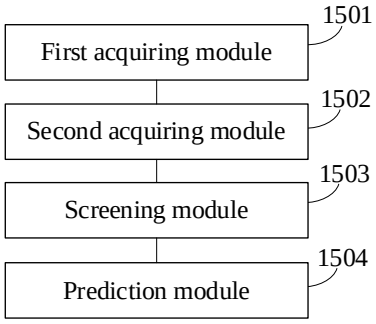


FIG. 15

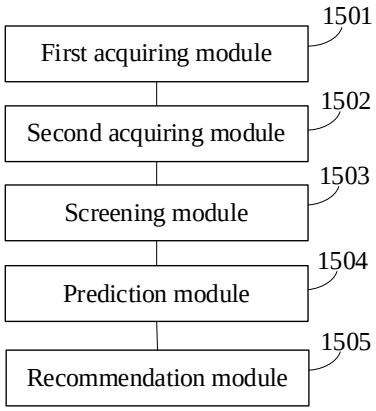


FIG. 16

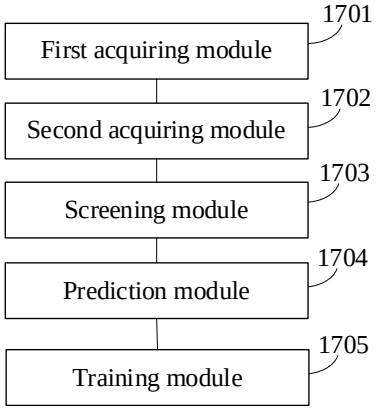


FIG. 17

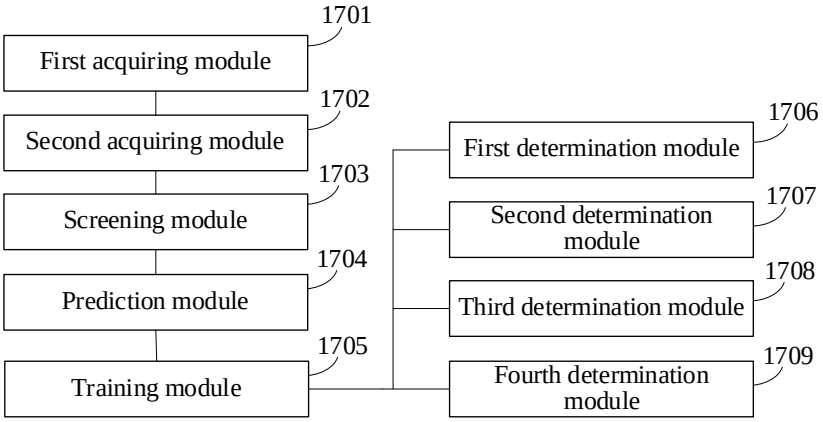


FIG. 18

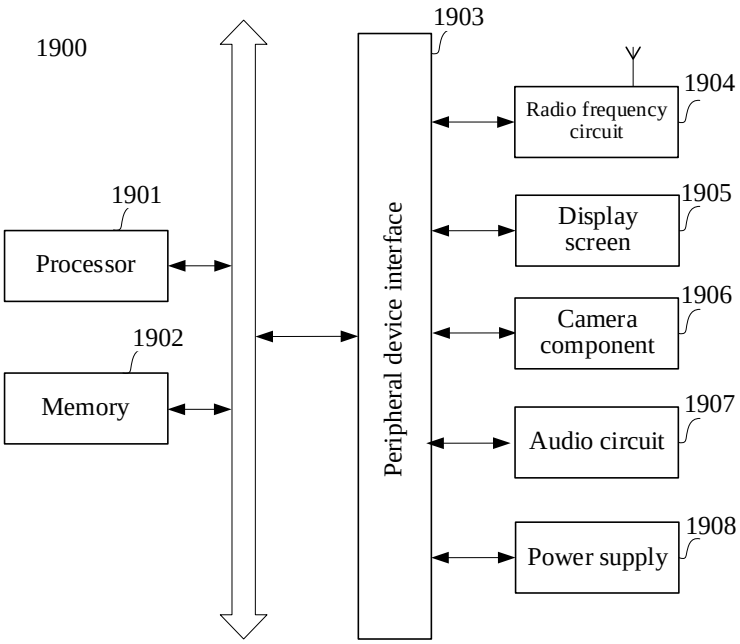

1900
1903
1904
Radio frequency circuit
1901
Processor
1905
Display screen
1906
Camera component
1902
Memory
Peripheral device interface
1907
Audio circuit
1908
Power supply

FIG. 19

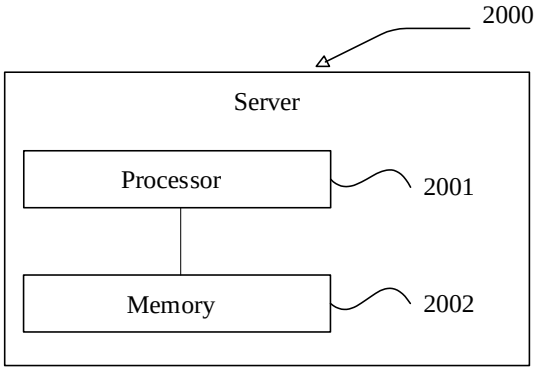

2000
Server
Processor
2001
Memory
2002

FIG. 20