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Hubbard et al.

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(45) **Date of Patent: Aug. 19, 2025**

(54) **PEER-TO-PEER PICK GENERATION AND PLACEMENT**

(71) Applicant: **Rebet, Inc.**, Sammamish, WA (US)

(72) Inventors: **Carson Vaughn Hubbard**, Sammamish, WA (US); **Edwin Omondi Onyango**, Hanover, NH (US)

(73) Assignee: **Rebet, Inc.**, Sammamish, WA (US)

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(60) Provisional application No. 63/649,815, filed on May 20, 2024, provisional application No. 63/613,557, filed on Dec. 21, 2023.

(51) **Int. Cl.**
G06Q 50/34 (2012.01)
G06Q 50/00 (2012.01)
G07F 17/32 (2006.01)

(52) **U.S. Cl.**
CPC ***G06Q 50/34*** (2013.01); ***G06Q 50/01*** (2013.01); ***G07F 17/3279*** (2013.01); ***G07F 17/3288*** (2013.01)

(58) **Field of Classification Search**
CPC .. G06Q 50/34; G07F 17/3279; G07F 17/3288
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,575,474	A *	11/1996	Rossides	G06Q 50/34 463/26
6,443,841	B1 *	9/2002	Rossides	F21V 25/00 463/16
8,088,000	B2 *	1/2012	Ginsberg	G07F 17/3251 463/25
8,167,309	B1 *	5/2012	Laut	G07F 17/326 273/250
8,221,225	B2 *	7/2012	Laut	G06Q 30/00 463/25
8,419,544	B2 *	4/2013	McNutt	G07F 17/3288 463/25
9,406,196	B2 *	8/2016	Asher	G07F 17/3288

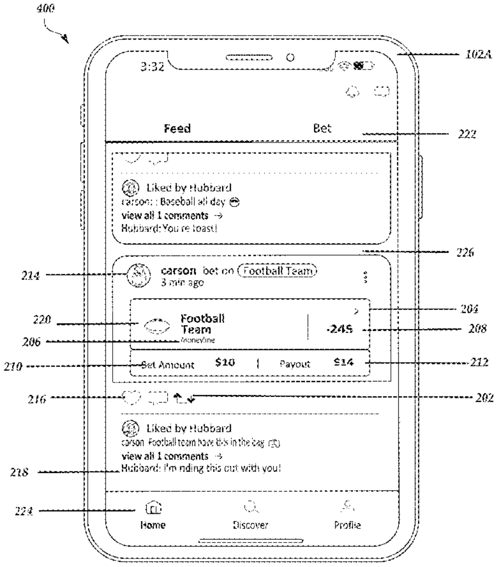
(Continued)

Primary Examiner — Chase E Leichliter
(74) *Attorney, Agent, or Firm* — Knobbe, Martens, Olson & Bear, LLP

(57) **ABSTRACT**

An event picking system that can process a challenge event pick is described herein. For example, the event picking system can request, via a first user device, a first user to select an event pick market and to select event pick terms for the event pick market to create a challenge event pick. The event picking system can generate user interface data that displays an invitation for a second user to accept the challenge event pick when rendered on a second user device. The event picking system can determine, via a concurrency resolution system, that the challenge event pick has been or has not been accepted by a different user. The event picking system can update the placed pick data store to include an acceptance flag data in association with the challenge event pick if the challenge event pick has not been accepted by a different user.

20 Claims, 9 Drawing Sheets



Liked by Hubbard
carson: : Baseball all day
view all 1 comments →
Hubbard: You're toast!

Liked by Hubbard
carson Football team have this in the bag
view all 1 comments →
Hubbard: I'm riding this out with you!

(56) References Cited

U.S. PATENT DOCUMENTS

10,453,311	B2 *	10/2019	Hall	G07F 17/3288
10,515,516	B1 *	12/2019	Eckman	G07F 17/3288
11,069,195	B2 *	7/2021	Joao	G07F 17/3211
11,087,596	B2 *	8/2021	Nelson	G07F 17/3258
2002/0198051	A1 *	12/2002	Lobel	G07F 17/32 463/42
2004/0058731	A1 *	3/2004	Rossides	G06Q 50/34 463/42
2004/0128157	A1 *	7/2004	Aquilino	G06Q 30/02 463/25
2007/0060380	A1 *	3/2007	McMonigle	G07F 17/3288 463/42
2013/0029765	A1 *	1/2013	Parks	A63F 13/46 463/42
2014/0011575	A1 *	1/2014	Neubauer	G06Q 50/34 463/25
2014/0141871	A1 *	5/2014	Barclay	G06Q 50/01 463/25
2014/0194188	A1 *	7/2014	Kosta	G07F 17/3279 463/25
2017/0358173	A1 *	12/2017	Mccafferty	G07F 17/3239
2019/0244485	A1 *	8/2019	Jones	G07F 17/3274
2020/0151842	A1 *	5/2020	O'Brien	G07F 17/3276
2020/0175818	A1 *	6/2020	Joao	G07F 17/3276
2022/0198879	A1 *	6/2022	Brown	G06Q 20/381
2024/0153349	A1 *	5/2024	Finding	H04L 9/50

* cited by examiner

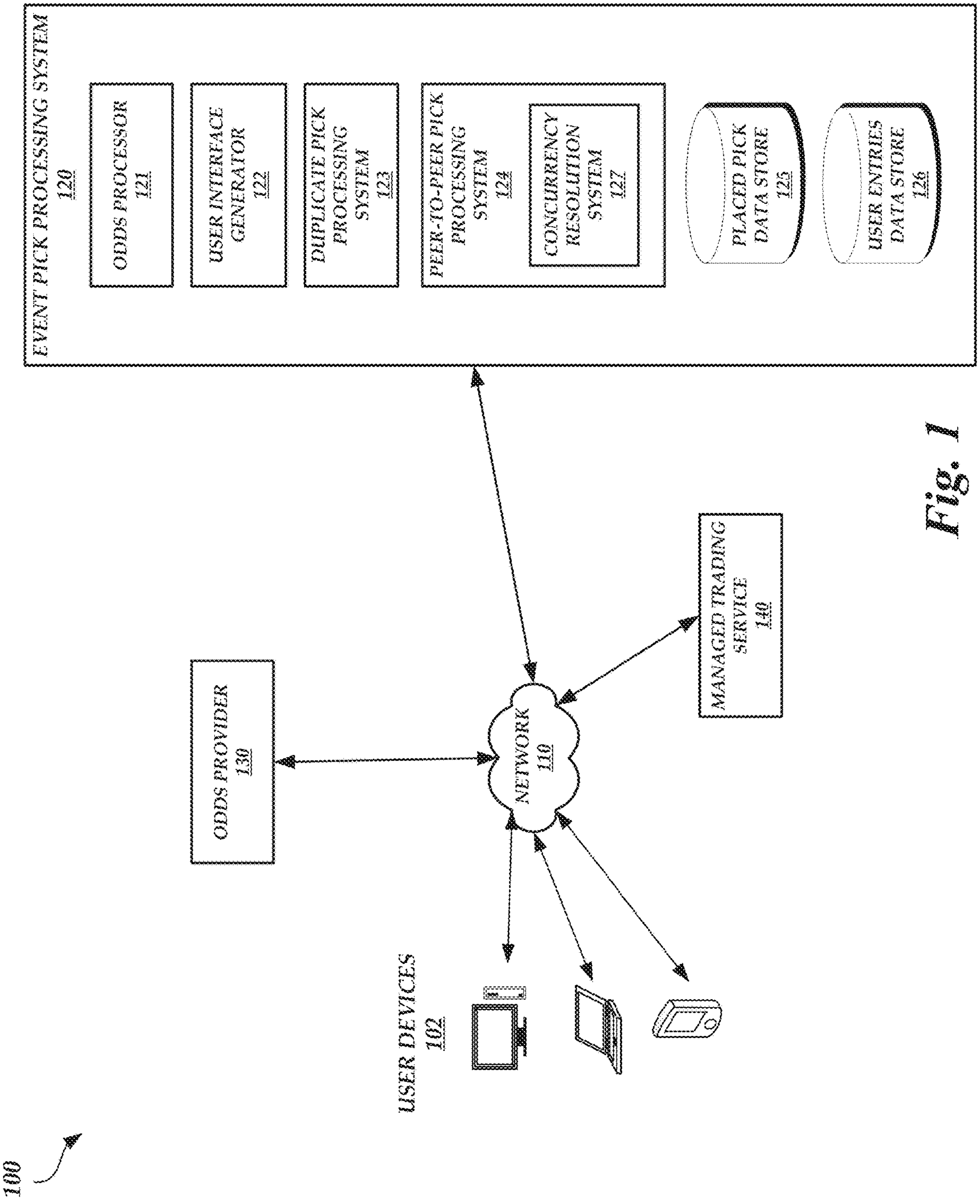

EVENT PICK PROCESSING SYSTEM
120
ODDS PROCESSOR
121
USER INTERFACE GENERATOR
122
DUPLICATE PICK PROCESSING SYSTEM
123
PEER-TO-PEER PICK PROCESSING SYSTEM
124
CONCURRENCY RESOLUTION SYSTEM
127
PLACED PICK DATA STORE
125
USER ENTRIES DATA STORE
126
ODDS PROVIDER
130
NETWORK
110
MANAGED TRADING SERVICE
140
USER DEVICES
102
100

Fig. 1

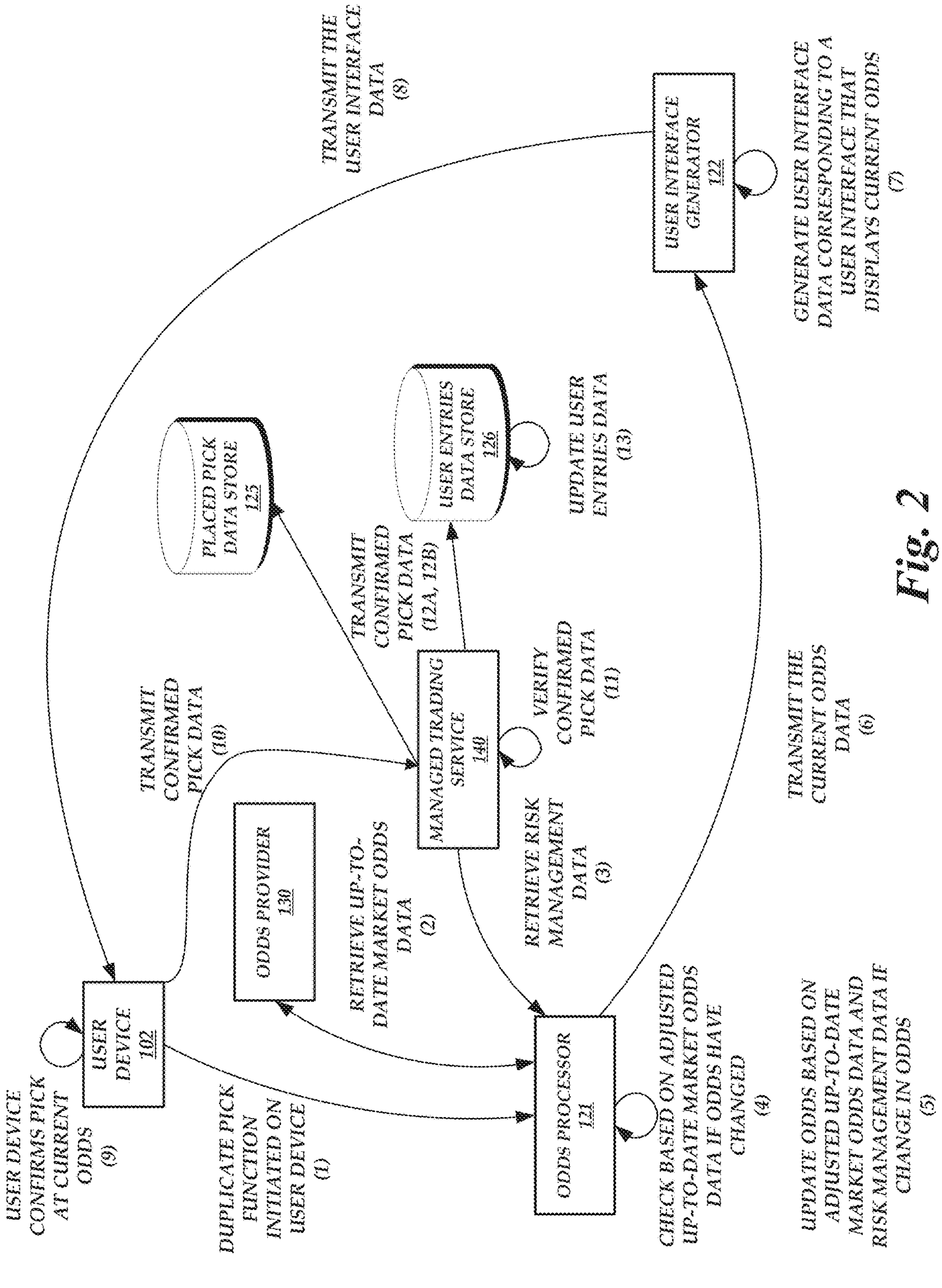

USER DEVICE 102
ODDS PROVIDER 130
ODDS PROCESSOR 121
MANAGED TRADING SERVICE 140
PLACED PICK DATA STORE 125
USER ENTRIES DATA STORE 126
USER INTERFACE GENERATOR 122
DUPLICATE PICK FUNCTION INITIATED ON USER DEVICE (1)
RETRIEVE UP-TO-DATE MARKET ODDS DATA (2)
RETRIEVE RISK MANAGEMENT DATA (3)
CHECK BASED ON ADJUSTED UP-TO-DATE MARKET ODDS DATA IF ODDS HAVE CHANGED (4)
UPDATE ODDS BASED ON ADJUSTED UP-TO-DATE MARKET ODDS DATA AND RISK MANAGEMENT DATA IF CHANGE IN ODDS (5)
TRANSMIT THE CURRENT ODDS DATA (6)
GENERATE USER INTERFACE DATA CORRESPONDING TO A USER INTERFACE THAT DISPLAYS CURRENT ODDS (7)
TRANSMIT THE USER INTERFACE DATA (8)
USER DEVICE CONFIRMS PICK AT CURRENT ODDS (9)
TRANSMIT CONFIRMED PICK DATA (10)
VERIFY CONFIRMED PICK DATA (11)
TRANSMIT CONFIRMED PICK DATA (12A, 12B)
UPDATE USER ENTRIES DATA (13)

Fig. 2

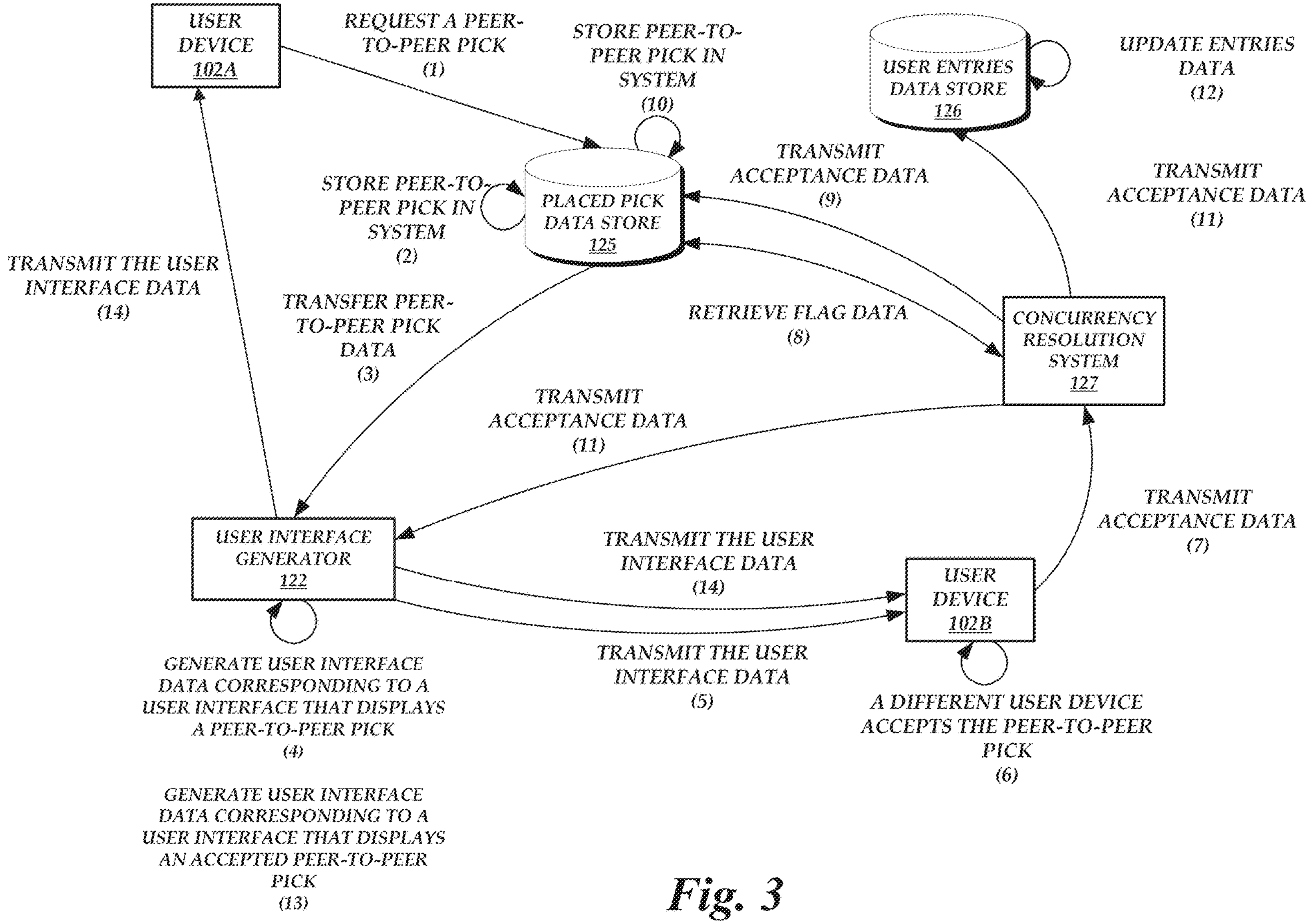
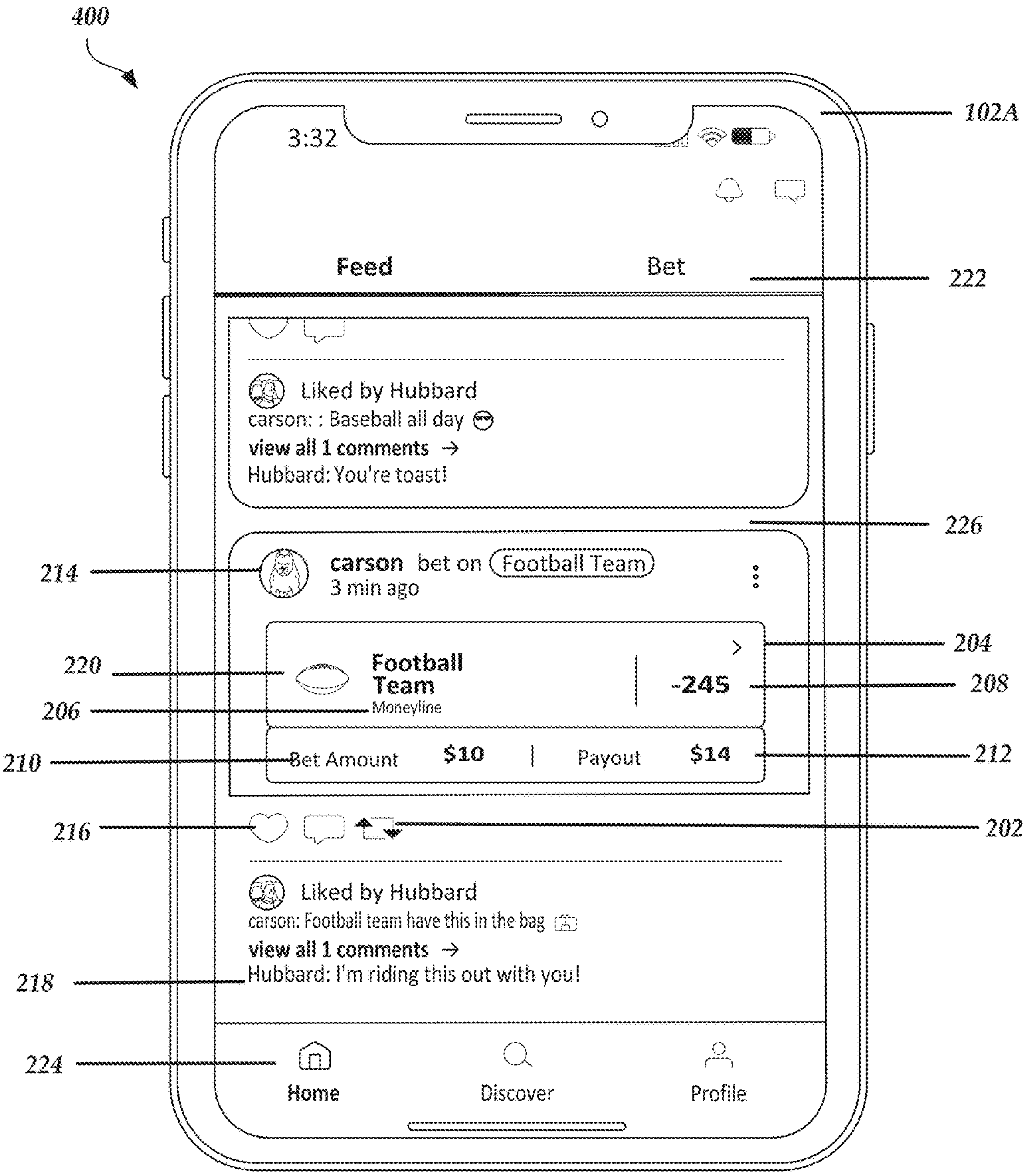

USER DEVICE 102A
REQUEST A PEER-TO-PEER PICK (1)
STORE PEER-TO-PEER PICK IN SYSTEM (10)
USER ENTRIES DATA STORE 126
UPDATE ENTRIES DATA (12)
STORE PEER-TO-PEER PICK IN SYSTEM (2)
PLACED PICK DATA STORE 125
TRANSMIT ACCEPTANCE DATA (9)
TRANSMIT ACCEPTANCE DATA (11)
TRANSMIT THE USER INTERFACE DATA (14)
TRANSFER PEER-TO-PEER PICK DATA (3)
RETRIEVE FLAG DATA (8)
CONCURRENCY RESOLUTION SYSTEM 127
TRANSMIT ACCEPTANCE DATA (11)
TRANSMIT ACCEPTANCE DATA (7)
USER INTERFACE GENERATOR 122
TRANSMIT THE USER INTERFACE DATA (14)
USER DEVICE 102B
TRANSMIT THE USER INTERFACE DATA (5)
GENERATE USER INTERFACE DATA CORRESPONDING TO A USER INTERFACE THAT DISPLAYS A PEER-TO-PEER PICK (4)
A DIFFERENT USER DEVICE ACCEPTS THE PEER-TO-PEER PICK (6)
GENERATE USER INTERFACE DATA CORRESPONDING TO A USER INTERFACE THAT DISPLAYS AN ACCEPTED PEER-TO-PEER PICK (13)

Fig. 3



Liked by Hubbard
carson: : Baseball all day 😎
view all 1 comments →
Hubbard: You're toast!

carson bet on Football Team
3 min ago

Football Team
Moneyline
-245

Bet Amount $10 | Payout $14

Liked by Hubbard
carson: Football team have this in the bag 💼
view all 1 comments →
Hubbard: I'm riding this out with you!

FIG. 4

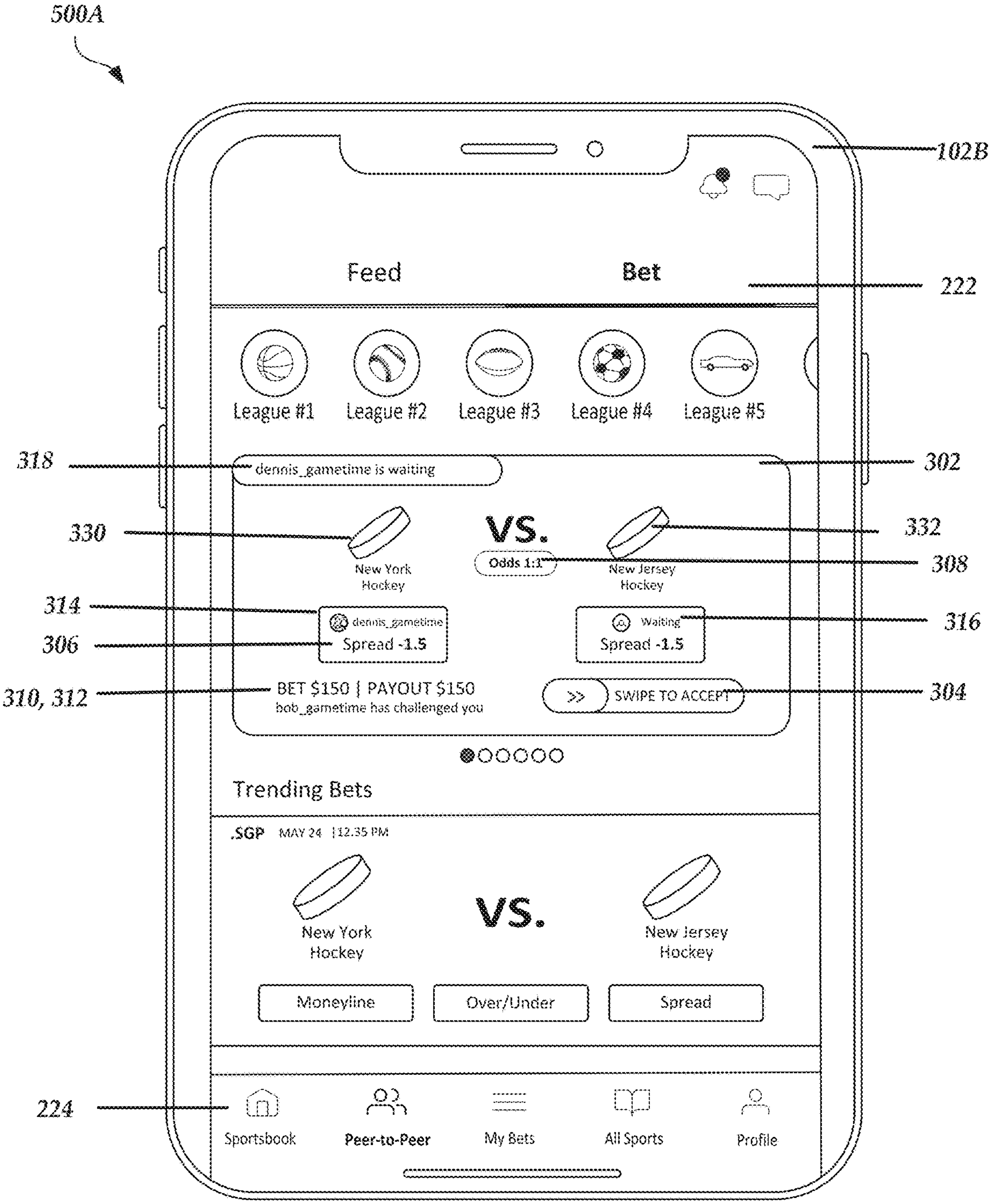

500A
102B
Feed
Bet
222
League #1
League #2
League #3
League #4
League #5
318
dennis_gametime is waiting
302
330
VS.
332
New York Hockey
Odds 1:1
New Jersey Hockey
308
314
dennis_gametime
Waiting
316
306
Spread -1.5
Spread -1.5
310, 312
BET $150 | PAYOUT $150
bob_gametime has challenged you
>>
SWIPE TO ACCEPT
304
Trending Bets
SGP MAY 24 | 12:35 PM
New York Hockey
VS.
New Jersey Hockey
Moneyline
Over/Under
Spread
224
Sportsbook
Peer-to-Peer
My Bets
All Sports
Profile

FIG. 5A

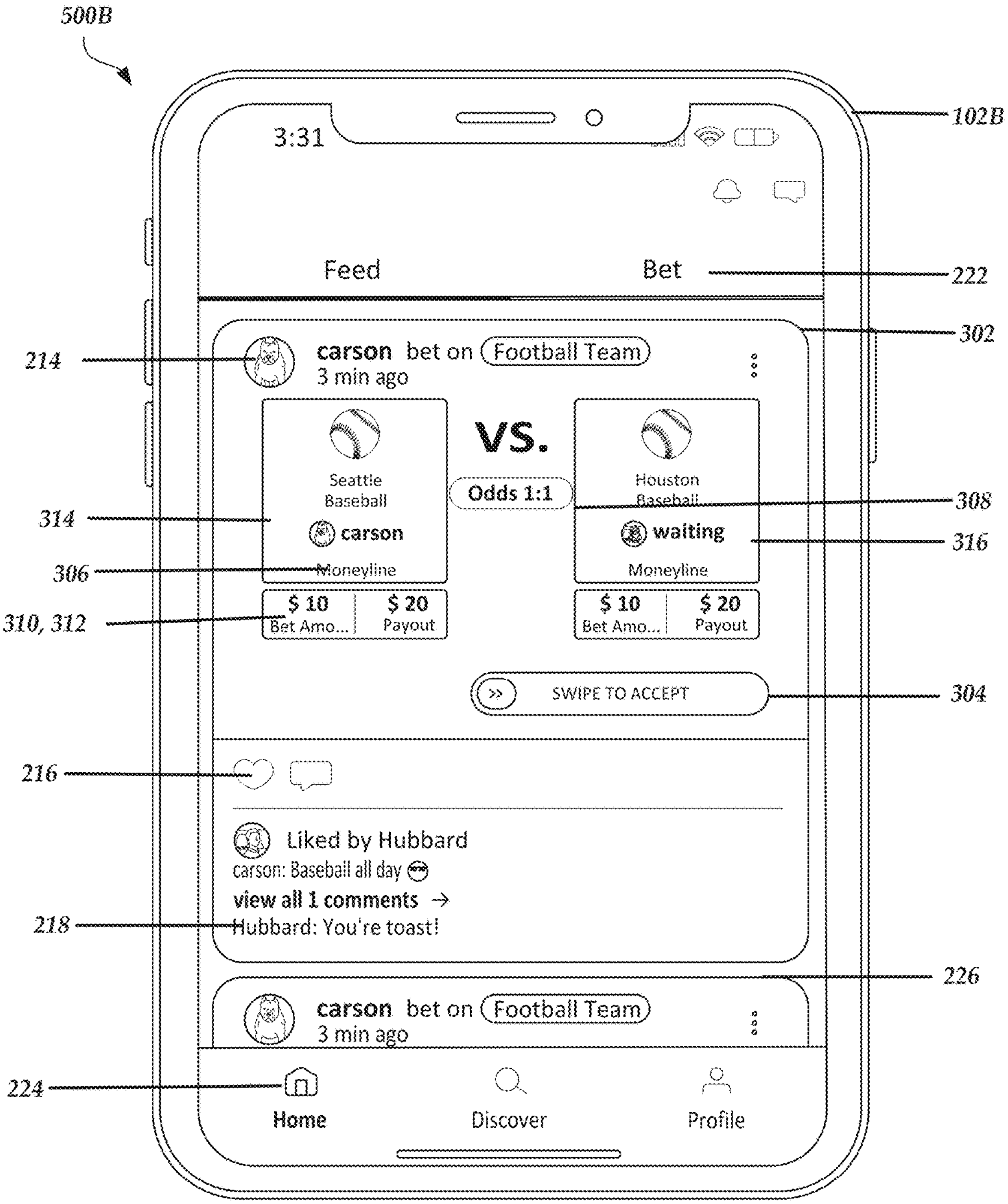

500B
102B
3:31
Feed
Bet
222
302
214
carson bet on Football Team
3 min ago
VS.
Seattle Baseball
carson
Moneyline
Odds 1:1
Houston Baseball
waiting
Moneyline
308
314
316
306
310, 312
$ 10 Bet Amo...
$ 20 Payout
$ 10 Bet Amo...
$ 20 Payout
SWIPE TO ACCEPT
304
216
Liked by Hubbard
carson: Baseball all day
view all 1 comments →
Hubbard: You're toast!
218
226
carson bet on Football Team
3 min ago
224
Home
Discover
Profile

FIG. 5B

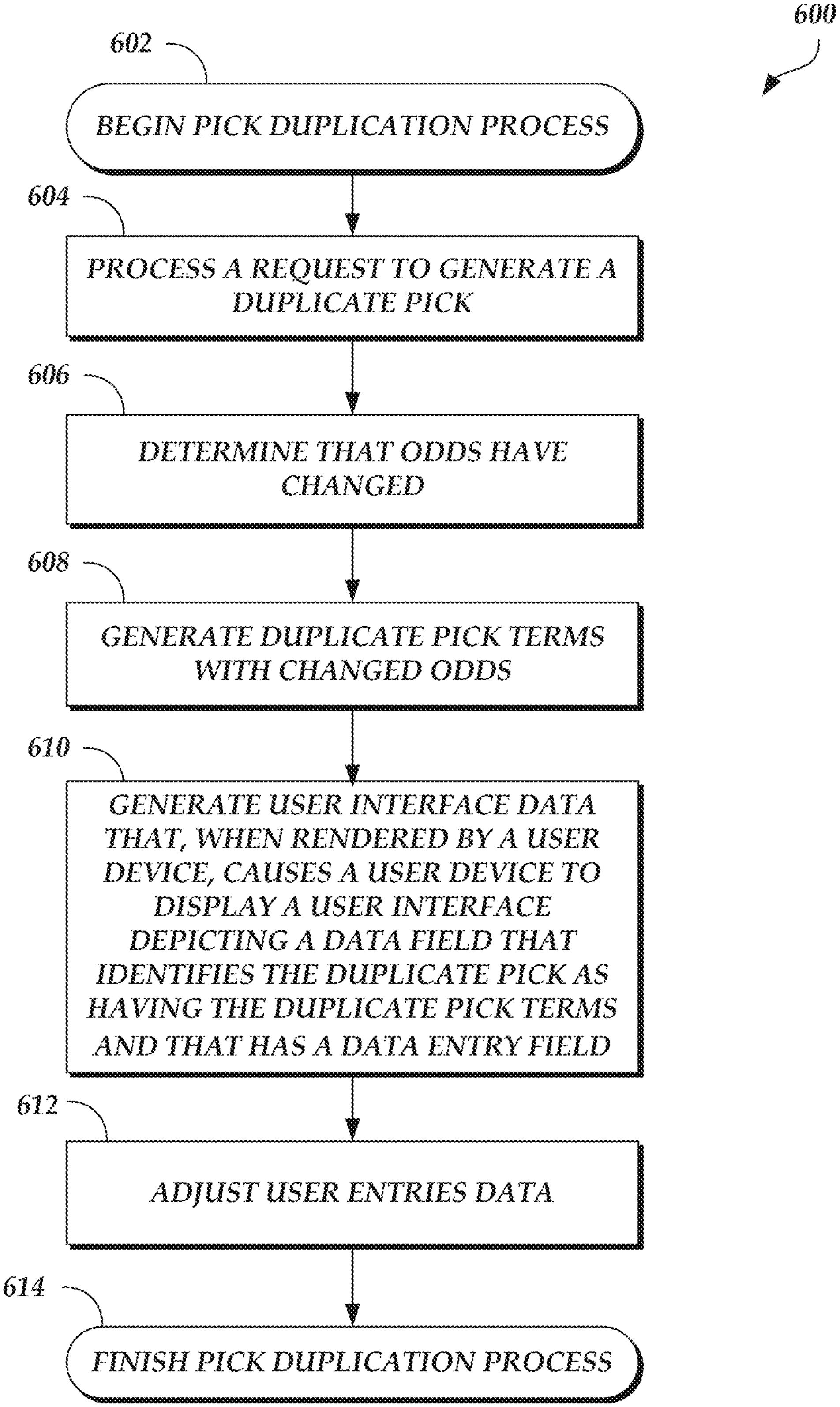

600
602
BEGIN PICK DUPLICATION PROCESS
604
PROCESS A REQUEST TO GENERATE A DUPLICATE PICK
606
DETERMINE THAT ODDS HAVE CHANGED
608
GENERATE DUPLICATE PICK TERMS WITH CHANGED ODDS
610
GENERATE USER INTERFACE DATA THAT, WHEN RENDERED BY A USER DEVICE, CAUSES A USER DEVICE TO DISPLAY A USER INTERFACE DEPICTING A DATA FIELD THAT IDENTIFIES THE DUPLICATE PICK AS HAVING THE DUPLICATE PICK TERMS AND THAT HAS A DATA ENTRY FIELD
612
ADJUST USER ENTRIES DATA
614
FINISH PICK DUPLICATION PROCESS

Fig. 6

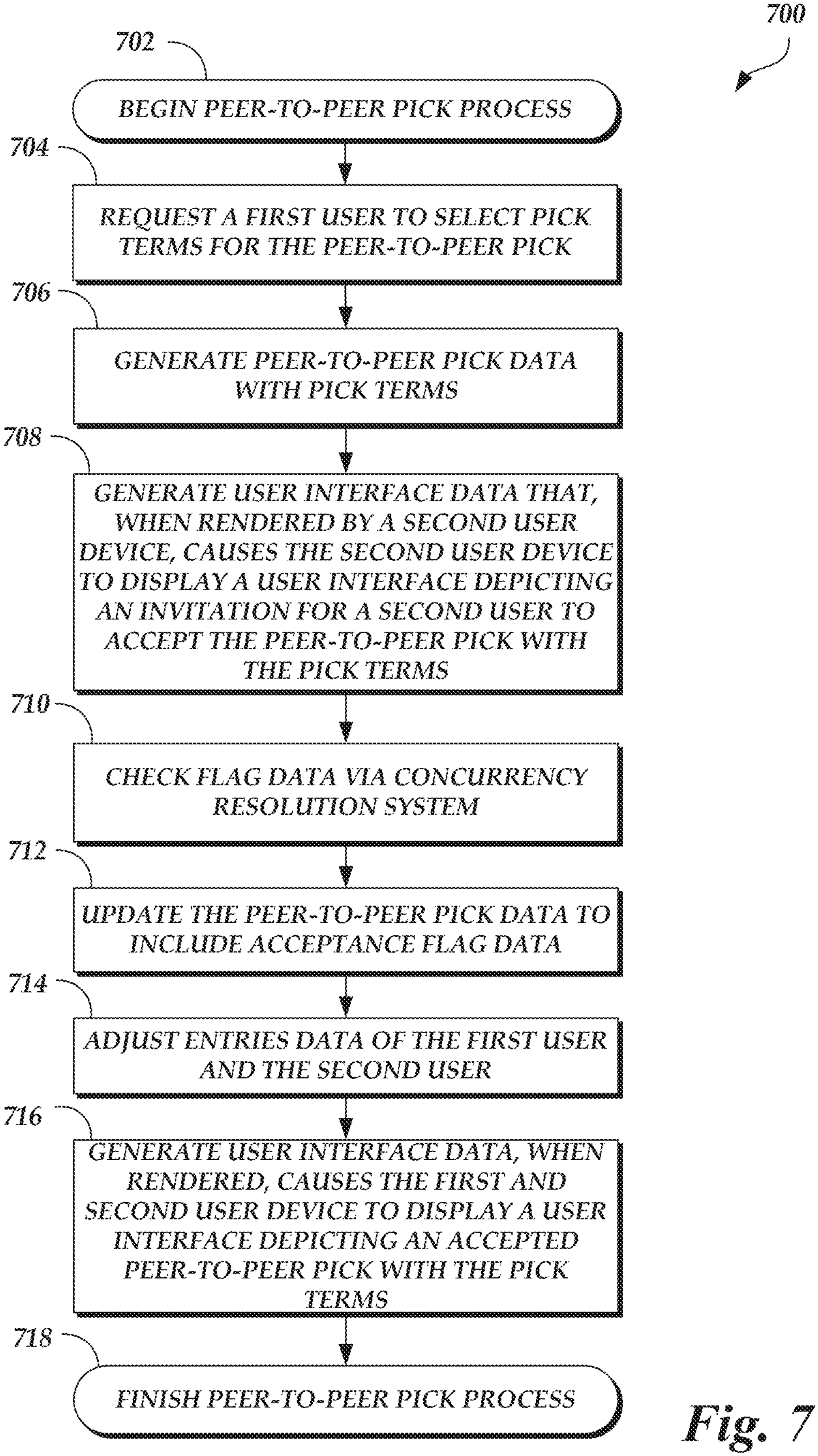

700
702
BEGIN PEER-TO-PEER PICK PROCESS
704
REQUEST A FIRST USER TO SELECT PICK TERMS FOR THE PEER-TO-PEER PICK
706
GENERATE PEER-TO-PEER PICK DATA WITH PICK TERMS
708
GENERATE USER INTERFACE DATA THAT, WHEN RENDERED BY A SECOND USER DEVICE, CAUSES THE SECOND USER DEVICE TO DISPLAY A USER INTERFACE DEPICTING AN INVITATION FOR A SECOND USER TO ACCEPT THE PEER-TO-PEER PICK WITH THE PICK TERMS
710
CHECK FLAG DATA VIA CONCURRENCY RESOLUTION SYSTEM
712
UPDATE THE PEER-TO-PEER PICK DATA TO INCLUDE ACCEPTANCE FLAG DATA
714
ADJUST ENTRIES DATA OF THE FIRST USER AND THE SECOND USER
716
GENERATE USER INTERFACE DATA, WHEN RENDERED, CAUSES THE FIRST AND SECOND USER DEVICE TO DISPLAY A USER INTERFACE DEPICTING AN ACCEPTED PEER-TO-PEER PICK WITH THE PICK TERMS
718
FINISH PEER-TO-PEER PICK PROCESS

Fig. 7

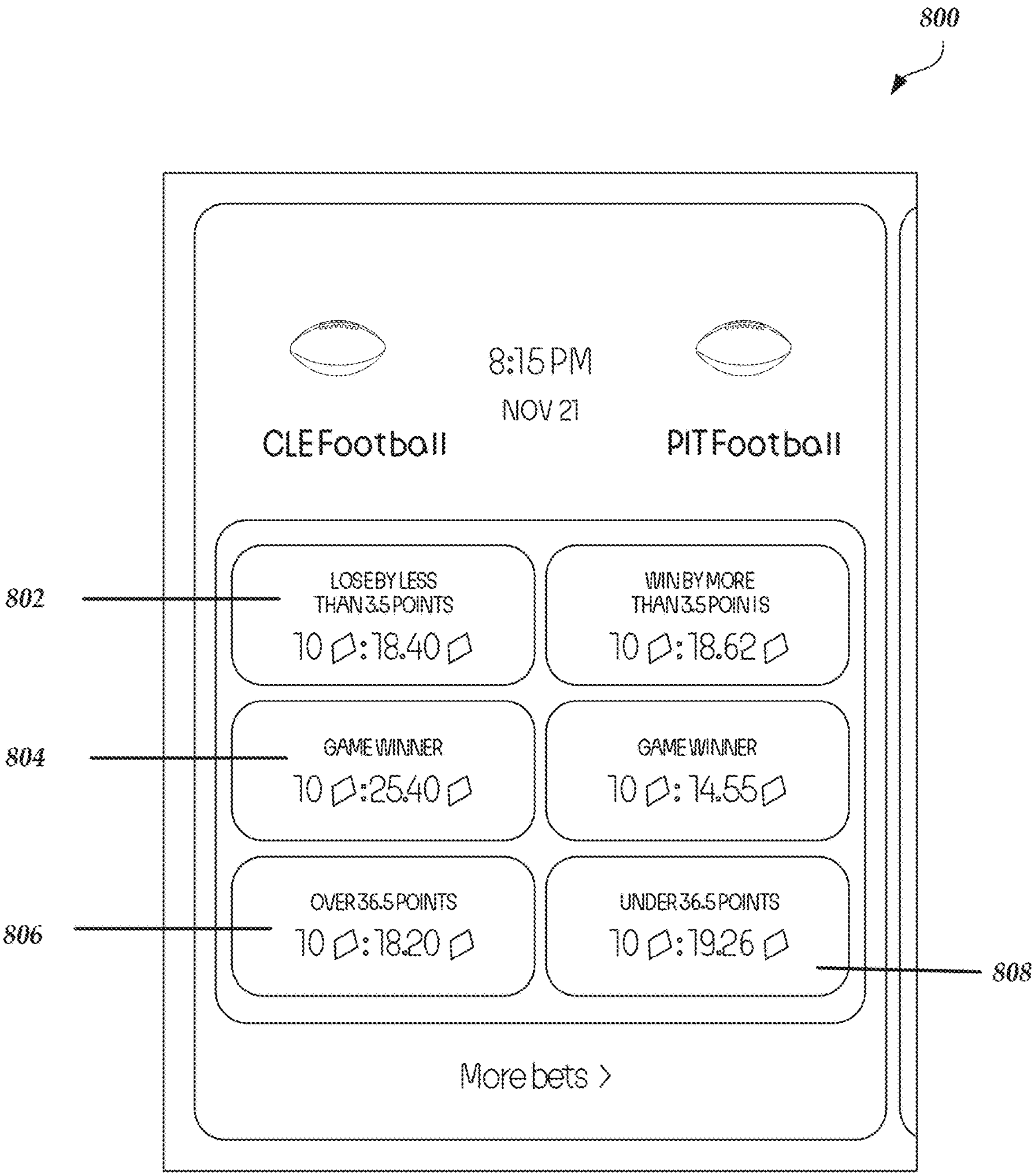

800
8:15 PM
NOV 21
CLE Football
PIT Football
802
LOSE BY LESS THAN 3.5 POINTS
10 ◇: 18.40 ◇
WIN BY MORE THAN 3.5 POINIS
10 ◇: 18.62 ◇
804
GAME WINNER
10 ◇: 25.40 ◇
GAME WINNER
10 ◇: 14.55 ◇
806
OVER 36.5 POINTS
10 ◇: 18.20 ◇
UNDER 36.5 POINTS
10 ◇: 19.26 ◇
808
More bets >

FIG. 8

PEER-TO-PEER PICK GENERATION AND PLACEMENT

CROSS-REFERENCE TO RELATED APPLICATIONS

Any and all applications for which a foreign or domestic priority claim is identified in the Application Data Sheet as filed with the present application are hereby incorporated by reference under 37 CFR 1.57. For example, this application is a continuation of U.S. Non-Provisional application Ser. No. 18/988,594, filed Dec. 19, 2024, entitled "PEER-TO-PEER PICK GENERATION AND PLACEMENT" which claims the benefit of U.S. Provisional Application No. 63/613,557, filed Dec. 21, 2023, entitled "SPORTS BETTING PLATFORM," and of U.S. Provisional Application No. 63/649,815, filed May 20, 2024, entitled "SPORTS BETTING PLATFORM," the entire content of each of which is incorporated by reference herein and made a part of this specification for all purposes.

BACKGROUND

Spectators of an event may wish to enhance the event experience by picking on a particular outcome of the event. Providing a digital interface on a user device, such as a mobile device, for the spectators to place picks on event outcomes can improve the picking experience for the spectators. Digital picking platforms exist that provide spectators with picking markets for different types of events. Conventional digital picking platforms, however, suffer from several technical deficiencies that result in an inefficient platform and a diluted user experience.

SUMMARY

The systems, methods, and devices described herein each have several aspects, no single one of which is solely responsible for its desirable attributes. Without limiting the scope of this disclosure, several non-limiting features will now be discussed briefly.

One aspect of the present disclosure provides an event pick duplication system for duplicating a first event pick placed at a first time. The event pick duplication system comprises memory storing computer-executable instructions. The event pick duplication system further comprises a hardware processor in communication with the memory, wherein the computer-executable instructions, when executed by the hardware processor, cause the hardware processor to: process a request to generate a second event pick that is a duplicate of the first event pick; determine that odds of pick terms of the first event pick placed at the first time have changed at a second time after the first time; in response to the determination that the odds of the pick terms of the first event pick have changed at the second time; generate second pick terms with the changed odds; generate user interface data that, when rendered by a user device, causes the user device to display a user interface that depicts a data field that identifies the second event pick as having the second pick terms, wherein the data field comprises a data entry field configured for a user to enter a number of pick entries, in response to a confirmation of a placement of the second event pick; store data associated with the second event pick in a placed pick data store; and adjust user entries data in a user entries data store based on a value entered into the data entry field.

The event pick duplication system of the preceding paragraph can include any sub-combination of the following features: where the computer-executable instructions, when executed, further cause the hardware processor to determine that the odds of the pick terms of the first event pick have changed using current odds data from an odds feed provided by an odds provider; where the computer-executable instructions, when executed, further cause the hardware processor to: in response to rendering the user interface data on the user device, subscribe to the current odds data in the odds feed provided by the odds provider in association with the duplicate pick terms; where the computer-executable instructions, when executed, further cause the hardware processor to determine that the odds of the pick terms of the first event pick have changed using risk management data provided by a managed trading service and the current odds data; where the user interface comprises a user interface element, and where the request to generate the second event pick that is the duplicate of the first event pick is generated in response to the user interacting with the user interface element; and where the computer-executable instructions, when executed, further cause the hardware processor to: publish the placement of the second event pick on a social feed of a second user that follows the user that placed the second event pick.

Another aspect of the present disclosure relates to a computer-implemented method for duplicating a first event pick placed at a first time. The computer-implemented method further comprises: as implemented by one or more computing devices configured with specific computer-executable instructions, processing a request to generate a second event pick that is a duplicate of the first event pick; determining that odds of pick terms of the first event pick placed at the first time have changed at a second time after the first time; in response to the determination that the odds of the pick terms of the first event pick have changed at the second time, generating a second pick terms with the changed odds; generating user interface data that, when rendered by a user device, causes the user device to display a user interface that depicts a data field that identifies the second event pick as having the second pick terms, wherein the data field comprises a data entry field configured for a user to enter a number of pick entries; and adjusting user entries data in a user entries data store based on a value entered into the data entry field.

The computer-implemented method of the preceding paragraph can include any sub-combination of the following features: where determining that odds of pick terms of the first event pick have changed further comprises determining that the odds of the pick terms of the first event pick have changed using current odds data from an odds feed provided by an odds provider; where duplicating the first event pick further comprises: in response to rendering the user interface data on the user device, subscribing to the current odds data in the odds feed provided by the odds provider in association with the duplicate pick terms; where determining that odds of pick terms of the first event pick have changed further comprises determining that the odds of the pick terms of the first event pick have changed using risk management data provided by a managed trading service and the current odds data; where the user interface comprises a user interface element, and where the request to generate the second event pick that is the duplicate of the first event pick is generated in response to the user interacting with the user interface element; where duplicating the first event pick further comprises: publishing a placement of the second event pick on a social feed of a second user that follows the user that placed the second event pick; where duplicating the first event pick further comprises: in response to a confirmation of a placement of the second event pick, storing data associated with the second event pick in a placed pick data store.

Another aspect of the disclosure provides non-transitory, computer-readable storage media comprising computer-executable instructions for generating a duplicate pick of a first event pick placed at a first time where the computer-executable instructions, when executed by a computer system, cause the computer system to: process a request to generate a second event pick that is a duplicate of the first event pick; determine that odds of pick terms of the first event pick placed at the first time have changed at a second time after the first time; in response to the determination that the odds of the pick terms of the first event pick have changed at the second time, generate a second pick terms with the changed odds; generate user interface data that, when rendered by a user device, causes the user device to display a user interface that depicts a data field that identifies the second event pick as having the second pick terms, wherein the data field comprises a data entry field configured for a user to enter a number of pick entries; and adjust user entries data in a user entries data store based on a value entered into the data entry field.

The non-transitory, computer-readable storage media of the preceding paragraph can include any sub-combination of the following features: where the computer-executable instructions, when executed, further cause the computer system to determine that the odds of the pick terms of the first event pick have changed using current odds data from an odds feed provided by an odds provider; where the computer-executable instructions, when executed, further cause the computer system to: in response to rendering the user interface data on the user device, subscribe to the current odds data in the odds feed provided by the odds provider in association with the duplicate pick terms; where the computer-executable instructions, when executed, further cause the computer system to determine that the odds of the pick terms of the first event pick have changed using risk management data provided by a managed trading service and the current odds data; where the user interface comprises a user interface element, and where the request to generate the second event pick that is the duplicate of the first event pick is generated in response to the user interacting with the user interface element; where the computer-executable instructions, when executed, further cause the computer system to: publish a placement of the second event pick on a social feed of a second user that follows the user that placed the second event pick; and where the computer-executable instructions, when executed, further cause the computer system to: in response to a confirmation of a placement of the second event pick, store data associated with the second event pick in a placed pick data store.

Another aspect of the present disclosure provides an event picking system. The event picking system comprises memory storing computer-executable instructions. The event picking system further comprises a hardware processor in communication with the memory, wherein the computer-executable instructions, when executed by the hardware processor, cause the hardware processor to: request, via a first user device, a first user to select an event pick market and to select event pick terms for the event pick market to create a challenge event pick; in response to selection of the event pick market and the event pick terms, store data associated with the challenge event pick in a placed pick data store; generate user interface data that, when rendered by a second user device, causes the second user device to display a user interface depicting an invitation for a second user to accept the challenge event pick; in response to an acceptance by the second user of the challenge event pick, determine, via a concurrency resolution system, that the placed pick data store does not comprise acceptance flag data in association with the challenge event pick; in response to the determination that the placed pick data store does not comprise the acceptance flag data in association with the challenge event pick, update the placed pick data store to include the acceptance flag data in association with the challenge event pick; and adjust entries data of the first user and of the second user based on the event pick terms of the challenge event pick.

The event picking system of the preceding paragraph can include any sub-combination of the following features: where the concurrency resolution system caches an indication that the acceptance flag data is stored in association with the challenge event pick in a cache local to the concurrency resolution system; where the computer-executable instructions, when executed, further cause the hardware processor to: in response to an acceptance by a third user of the challenge event pick, query the local cache to determine whether the acceptance flag data is stored in association with the challenge event pick in the paced pick data store; where the indication stored in the local cache is stored for a threshold period of time, and where the computer-executable instructions, when executed, further cause the hardware processor to: delete the indication stored in the local cache in response to the indication being stored in the local cache for the threshold period of time; where the computer-executable instructions, when executed, further cause the hardware processor to: request, via the first user device, the first user to one of send the invitation for the second user to accept the challenge event pick directly to the second user or publish the invitation for the second user to accept the challenge event pick on a social feed of a follower of the first user; and where a first user identifier associated with the first user is included in data associated with the challenge event pick stored in the placed pick data store, and where the computer-executable instructions, when executed, further cause the hardware processor to: in response to updating the placed pick data store to include the acceptance flag data in association with the challenge event pick, update the data associated with the challenge event pick stored in the placed pick data store to include a second user identifier associated with the second user.

Another aspect of the present disclosure relates to a computer-implemented method. The computer-implemented method further comprises: as implemented by one or more computing devices configured with specific computer-executable instructions, requesting, via a first user device, a first user to select an event pick market and to select event pick terms for the event pick market to create a challenge event pick; in response to selection of the event pick market and the event pick terms, generating user interface data that, when rendered by a second user device, causes the second user device to display a user interface depicting an invitation for a second user to accept the challenge event pick; in response to an acceptance by the second user of the challenge event pick, determining, via a concurrency resolution system, that a placed pick data store does not comprise acceptance flag data in association with the challenge event pick; in response to the determination that the placed pick data store does not comprise the acceptance flag data in association with the challenge event pick, updating the placed pick data store to include the acceptance flag data in association with the challenge event pick; and adjusting entries data of the first user and of the second user based on the event pick terms of the challenge event pick.

The computer-implemented method of the preceding paragraph can include any sub-combination of the following features: where the concurrency resolution system caches an indication that the acceptance flag data is stored in association with the challenge event pick in a cache local to the concurrency resolution system; where the method further comprises: in response to an acceptance by a third user of the challenge event pick, querying the local cache to determine whether the acceptance flag data is stored in association with the challenge event pick in the placed pick data store; where the indication stored in the local cache is stored for a threshold period of time, and where the method further comprises: deleting the indication stored in the local cache in response to the indication being stored in the local cache for the threshold period of time; where the method further comprises: requesting, via the first user device, the first user to one of send the invitation for the second user to accept the challenge event pick directly to the second user or publish the invitation for the second user to accept the challenge event pick on a social feed of a follower of the first user; wherein the method further comprises: in response to selection of the event pick market and the event pick terms, storing data associated with the challenge event pick in a placed pick data store; and where a first user identifier associated with the first user is included in data associated with the challenge event pick stored in the placed pick data store, and wherein the method further comprises: in response to updating the placed pick data store to include the acceptance flag data in association with the challenge event pick, updating the data associated with the challenge event pick stored in the placed pick data store to include a second user identifier associated with the second user.

Another aspect of the disclosure provides non-transitory, computer-readable storage media comprising computer-executable instructions where the computer-executable instructions, when executed by a computer system, cause the computer system to: request, via a first user device, a first user to select an event pick market and to select event pick terms for the event pick market to create a challenge event pick; in response to selection of the event pick market and the event pick terms, generate user interface data that, when rendered by a second user device, causes the second user device to display a user interface depicting an invitation for a second user to accept the challenge event pick; in response to an acceptance by the second user of the challenge event pick, determine, via a concurrency resolution system, that a placed pick data store does not comprise acceptance flag data in association with the challenge event pick; in response to the determination that the placed pick data store does not comprise the acceptance flag data in association with the challenge event pick, update the placed pick data store to include the acceptance flag data in association with the challenge event pick; and adjust entries data of the first user and of the second user based on the event pick terms of the challenge event pick.

The non-transitory, computer-readable storage media of the preceding paragraph can include any sub-combination of the following features: where the concurrency resolution system caches an indication that the acceptance flag data is stored in association with the challenge event pick in a cache local to the concurrency resolution system; where the computer-executable instructions, when executed, further cause the computer system to: in response to an acceptance by a third user of the challenge event pick, query the local cache to determine whether the acceptance flag data is stored in association with the challenge event pick in the placed pick data store; where the indication stored in the local cache is stored for a threshold period of time, and wherein the computer-executable instructions, when executed, further cause the computer system to: delete the indication stored in the local cache in response to the indication being stored in the local cache for the threshold period of time; where the computer-executable instructions, when executed, further cause the computer system to: request, via the first user device, the first user to one of send the invitation for the second user to accept the challenge event pick directly to the second user or publish the invitation for the second user to accept the challenge event pick on a social feed of a follower of the first user; where the computer-executable instructions, when executed, further cause the computer system to: in response to selection of the event pick market and the event pick terms, store data associated with the challenge event pick in a placed pick data store; and where a first user identifier associated with the first user is included in data associated with the challenge event pick stored in the placed pick data store, and where the computer-executable instructions, when executed, further cause the computer system to: in response to updating the placed pick data store to include the acceptance flag data in association with the challenge event pick, update the data associated with the challenge event pick stored in the placed pick data store to include a second user identifier associated with the second user.

BRIEF DESCRIPTION OF DRAWINGS

Throughout the drawings, reference numbers may be re-used to indicate correspondence between referenced elements. The drawings are provided to illustrate example embodiments described herein and are not intended to limit the scope of the disclosure.

FIG. **1** is a block diagram of an illustrative operating environment in which an event pick processing system uses odds data, risk assessment data, pick terms and/or the like to place a user pick on a desired event.

FIG. **2** is a flow diagram illustrating the operations performed by the components of the operating environment of FIG. **1** to generate data for a duplicate event pick that is a duplicate of a first event pick.

FIG. **3** is another flow diagram illustrating the operations performed by the components of the operating environment of FIG. **1** to generate a peer-to-peer pick.

FIG. **4** illustrates an example user interface depicting a pick posted to a user feed that can be duplicated by the user.

FIGS. **5A-5B** illustrate an example user interface depicting a peer-to-peer pick sent by a first user pending acceptance by a second user.

FIG. **6** is a flow diagram depicting a pick duplication routine illustratively implemented by an event pick processing system, according to one embodiment.

FIG. **7** is a flow diagram depicting a peer-to-peer pick routine illustratively implemented by an event pick processing system, according to one embodiment.

FIG. **8** illustrates an example user interface depicting picking lines and terminology with easy-to-read lines.

DETAILED DESCRIPTION OF SPECIFIC EMBODIMENTS

As described above, conventional digital picking platforms suffer from several technical deficiencies. For example, conventional digital picking platforms lack mechanisms to provide users with a seamless and optimized combination of event picking and dynamic social experiences, both with respect to the user experience and the underlying server efficiency. In particular, many types of events (e.g., sporting events, award ceremonies, political events, reality entertainment competitions, sweepstakes etc.) are inherently social experiences. It may be desirable to further enhance the social experience by providing a system for spectators (e.g., users) to place picks (e.g., predicting the outcome of an event) on the event with which other users may interact. For example, a user may want to rally behind and support a pick that another user has placed. Alternatively, a user may want to challenge another user to a pick based on the outcome of an event. Providing an enhanced social experience for events with event picking can be problematic for conventional digital picking platforms because such platforms lack mechanisms or algorithms to facilitate seamless and efficient dynamic social experiences through event picking without requiring servers of the conventional digital picking platforms to perform unnecessary and/or duplicative operations.

As an illustrative example, some conventional digital picking platforms require a first user who may wish to place the same pick that a second user (e.g., a friend or an acquaintance) has placed to perform a series of steps to recreate the pick. With conventional digital picking platforms, the first user may search the digital picking platform for the second user's account or profile to find the pick that the first user wants to also pick. The first user may then navigate through a plethora of different screens and/or user interfaces (e.g., request multiple pages from the conventional digital picking platform's server) containing various events and markets that the first user is not interested in to find the events and markets contained in the second user pick that the first user wishes to copy. Not only is this a tedious user experience, but it also creates unnecessary traffic flow for the conventional digital picking platform server given that the first user is requesting an excess number of pages, thereby reducing the conventional digital picking platform server's available network bandwidth. To service the first user's multiple page requests, the server may generate user interface data and display the user interface data on the first user's user device for a multitude of events and markets the user is not interested in as well as retrieve odds data for those events and markets to display on the user device while the first user searches for the events and markets contained in the second user pick. This can deteriorate conventional digital picking platform server efficiency and ability to service other user requests.

Accordingly, described herein is an event pick processing system for a digital picking platform that runs operations that can overcome the technical deficiencies of conventional digital picking platforms without utilizing the amount of computing resources (e.g., processor usage, memory usage, network bandwidth usage, etc.) generally used by a conventional digital picking platform server. For example, the event pick processing system can aggregate picks placed by various users and provide a user interface to a user that depicts picks placed by other users. Picks placed by other users may be organized (e.g., in a particular portion of the user interface, in a particular page, in a particular tab, etc.) such that the user can navigate to and see picks placed by other users with a minimal number of navigational steps (e.g., one or two navigational steps to view the user interface portion, page, tab, etc. that depicts picks placed by other users). Upon viewing picks placed by one or more other users, a user can instruct the event pick processing system to place a duplicate pick that is a duplicate of a first pick placed by another user. A user can interact with the first pick placed by another user-which can be displayed to the user on a user device in a user interface-to send a request to the event pick processing system to place a duplicate pick that is a duplicate of the first pick. The event pick processing system can then process the request to generate the duplicate pick. In this way, the event pick processing system described herein allows users to duplicate picks without using an excess amount of computing resources given that the number of navigational steps taken by a user, and therefore the number of page requests submitted by the user, is significantly reduced.

The event pick processing system can determine whether odds of pick terms of the first pick placed by the other user at a first time have changed at a second time after the first time when the user is attempting to duplicate the pick. In response to determining that the odds of the pick terms of the first pick have changed at the second time, the event pick processing system can generate duplicate pick terms with the changed odds. Otherwise, the event pick processing system can generate duplicate pick terms with the same odds. The event pick processing system can then generate user interface data that, when rendered by the user device, can cause the user device to display a user interface that may depict a data field that may identify the duplicate pick as having the duplicate pick terms. The data field may comprise a data entry field configured for the user to enter a number of pick entries.

In response to rendering the user interface data on the user device and while waiting for user input into the data entry field, the event pick processing system can subscribe to an odds feed provided by an odds provider that is associated with the markets indicated in the duplicate pick terms. Monitoring all the odds for all the markets may involve the event pick processing system receiving odds data for each set of odds that have changed and storing or processing the information for use in constructing picks. Given that there may be many odds associated with many different markets, the amount of computing resources that the event pick processing system would have to allocate to receiving, storing, and/or processing the odds data could overwhelm the event pick processing system and reduce the amount of computing resources available to generating and processing placed picks, among other tasks. By subscribing to the odds feed, however, the event pick processing system can listen for only changes to odds that are associated with a market indicated in user-selected pick terms (e.g., the duplicate pick terms). In other words, the event pick processing system can ignore (e.g., decline to receive, process, and/or store) odds data that correspond to markets other than those indicated in user-selected pick terms. In this way, the event pick processing system can reduce the amount of computing resources used to monitor odds without experiencing a situation in which certain odds changes relevant to the event pick processing system are missed. In response to a confirmation of a placement of the duplicate pick, the event pick processing system may adjust user entries data in a user entries data store based on a value entered into the data entry field.

In addition, the event pick processing system described herein may provide a digital picking platform that allows users to engage in a peer-to-peer picking experience (e.g., a pick with binary outcomes where a first user picks a first outcome and a second user picks a second outcome) that is optimized to reduce server traffic. For example, a first user may select, in response to a request on a first user device, a pick market and select pick terms for the pick market to create a peer-to-peer pick. The event pick processing system may then generate user interface data that, when rendered by a second user device, may cause the second user device to display a user interface depicting an invitation for a second user to accept the peer-to-peer pick. In response to an acceptance by the second user of the peer-to-peer pick, the event pick processing system can determine with a concurrency resolution system whether a placed pick data store does or does not comprise acceptance flag data in association with the peer-to-peer pick. In response to the determination that the placed pick data store does not comprise acceptance flag data in association with the peer-to-peer pick, the event pick processing system can update the placed pick data store to include the acceptance flag data in association with the peer-to-peer pick. The event pick processing system can then adjust entries data of the first user and of the second user based on the pick terms of the peer-to-peer pick. Otherwise, if the placed pick data store does already comprise acceptance flag data in association with the peer-to-peer pick, the event pick processing system can inform the second user via the second user device that the peer-to-peer pick has already been accepted and cancel acceptance of the peer-to-peer pick by the second user.

The concurrency resolution system used by the event pick processing system can reduce unnecessary server traffic, and specifically mitigate the likelihood that the event pick processing system performs duplicative operations. For example, without the concurrency resolution system, the event pick processing system may update entries data upon a second user's acceptance of the peer-to-peer pick to deduct entries from the second user's entries amount and generate and transmit user interface data to the second user device that, when rendered by the second user device, causes the second user device to display a user interface that indicates the deduction from the second user's entries amount. If it turns out that the peer-to-peer pick had previously been accepted by a third user (and therefore the acceptance of the peer-to-peer pick by the second user is invalid), then the event pick processing system may have to perform an additional operation to reverse the update to the entries data to restore the second user's entries amount to the correct amount. Thus, the event pick processing system may unnecessarily update entries data, generate user interface data, and reverse the entries data update. Given that the event pick processing system may be servicing a large number of users (e.g., 10,000 users, 100,000 users, 1,000,000 users, etc.), the number of unnecessary operations performed by the event pick processing system can grow substantially and prevent the event pick processing system from performing other necessary operations in a timely manner. The concurrency resolution system, however, can use the acceptance flag data check to prevent the event pick processing system from unnecessarily updating entries data, generating user interface data, and/or reversing the entries data update in situations in which a user accepts a peer-to-peer pick that had actually previously been accepted. As a result, the event pick processing system can maintain a low level of latency for operations that are otherwise necessary for the event pick processing system to implement the functionality described herein.

The foregoing aspects and many of the attendant advantages of this disclosure will become more readily appreciated as the same become better understood by reference to the following detailed description, when taken in conjunction with the accompanying drawings.

Example Event Pick Processing System

FIG. **1** is a block diagram of an illustrative operating environment **100** in which an event pick processing system **120** uses odds data, risk assessment data, picking trend data and/or the like to allow users of a digital picking platform to engage is a dynamic social picking experience. The operating environment **100** further includes an odds provider **130** and a managed trading service **140** that may each communicate with the event pick processing system **120** via a network **110** to provide the odds data, the risk assessment data, the picking trend data and/or the like. Furthermore, the operating environment **100** includes various user devices **102** that may communicate with the event pick processing system **120** to request a duplicate pick, to request a peer-to-peer pick, and/or to engage in a similar dynamic social picking experience.

The event pick processing system **120** can be a computing system having memory storing computer-executable instructions and one or more hardware processors in communication with the memory, where the computer-executable instructions, when executed by the one or more hardware processors, cause the hardware processor(s) to provide a user of a digital picking platform with a dynamic social picking experience, for example, by placing a duplicate pick or a peer-to-peer pick. The event pick processing system **120** may be a single computing device, or it may include multiple distinct computing devices, such as computer servers, logically or physically grouped together to collectively operate as a server system. The components of the event pick processing system **120** can each be implemented in application-specific hardware (e.g., a server computing device with one or more ASICs) such that no software is necessary, or as a combination of hardware and software. In addition, the modules and components of the event pick processing system **120** can be combined on one server computing device or separated individually or into groups on several server computing devices. In some embodiments, the event pick processing system **120** may include additional or fewer components than illustrated in FIG. **1**.

In some embodiments, the features and services provide by the event pick processing system **120** may be implemented as web services consumable via the communication network **110**. In further embodiments, the event pick processing system **120** is provided by one or more virtual machines implemented in a hosted computing environment. The hosted computing environment may include one or more rapidly provisioned and released computing resources, which computing resources may include computing, networking and/or storage devices. A hosted computing environment may also be referred to as a cloud computing environment.

As used herein, an "event" refers to any specific contest or activity (e.g., a football game between team Purple and team Black can be an event). As used herein, a "market" refers to a category or type of picks that a user can place for a given event (e.g., an over/under on points scored during the game between team Purple and team Black can be a market for the team Purple vs. team Black event). As used herein, "odds" or "pick odds" refer to the likelihood that an outcome of a market will occur and can be used to determine how many credits should be received by the picker (e.g., user) based on a specific number of entries entered for the market if the outcome occurs. As used herein, "pick terms" refers to the details and/or conditions of a pick. For example, the pick terms of a pick can include the event and market of the event the pick is placed on, the outcome selected for the market, and/or the odds associated with the selected outcome. Although the term "pick" is used herein to describe the choice of an outcome for a market, the term is not meant to be limiting. For example, the event pick processing system **120** described herein may enable a user to place a bet to choose an outcome for a market instead of a pick. Whether a user places a bet or a pick, the event pick processing system **120** can implement any or all of the functionality described herein. If a user places a bet instead of a pick, the term "bet" may substitute for the term "pick" in the discussion of the functionality of the event pick processing system **120** described herein. Although the term "entry" or "entries" is used herein to describe a type of consideration one uses to make picks, the term is not meant to be limiting. For example, the event pick processing system **120** described herein may enable a user to enter a wager instead of an entry, where a wager can be in the form of real currency (e.g., United States Dollar, Euro, Yuan, etc.) or artificial currency (e.g., pick credits, digital funds, points, etc.). Whether a user enters a wager or an entry, the event pick processing system **120** can implement any or all of the functionality described herein. If a user enters a wager instead of an entry, the term "wager" may substitute for the term "entry" in the discussion of the functionality of the event pick processing system **120** described herein. As an illustrative example, the event pick processing system **120** described herein may enable a user to place a bet on an outcome and wager an amount of money.

The event pick processing system **120** may include various modules, components, data stores, and/or the like to provide the dynamic social picking experiences described herein. For example, the event pick processing system **120** may include an odds processor **121**, a user interface generator **122**, a duplicate pick processing system **123**, a peer-to-peer pick processing system **124** comprising a concurrency resolution system **127**, a placed pick data store **125** and a user entries data store **126**.

The odds processor **121** can determine the odds for a particular event and/or market at a given time. For example, a user device **102** or another component of the event pick processing system **120** may submit to the odds processor **121** a request for real-time odds associated with an event and/or market. In response, the odds processor **121** can obtain from the odds provider **130** odds data (e.g., data indicating current market odds for moneyline picks, over/under picks, spread picks, player props, parlay odds, and/or similar types of picks) associated with the requested event(s) and/or market(s). The odds processor **121** can also obtain risk management data (e.g., data indicating current aggregate liabilities for a specific event and/or market) from the managed trading service **140**.

The odds processor **121** can then use the obtained data to provide the user with the current odds at which the user can place a pick for the desired event and/or market. For example, for a football game between team Purple and team Black, a user may be interested in placing a moneyline pick on team Purple. Upon request, the odds processor **121** can retrieve odds data for the moneyline pick on team Purple for the associated event from the odds provider **130**. The odds processor **121** can then retrieve risk management data associated with a moneyline pick on team Purple for the associated event from the managed trading service **140**. The odds processor **121** can then use the retrieved risk management data to modify the odds data for the moneyline pick on team Purple as to, for example, minimize liability on the digital picking platform provider.

The odds processor **121** can provide the current odds to the duplicate pick processing system **123**. The duplicate pick processing system **123** can be used by a user to engage with a first pick placed by a different user. The user can interact with the first pick-which can be displayed to the user on a user device-to send a request to the duplicate pick processing system **123** to place a duplicate pick which can be a duplicate of the first pick. The duplicate pick processing system **123** can then process the request to generate a duplicate pick. The duplicate pick processing system **123** can then determine with the odds processor **121** the current odds of the first pick as described herein. If the current odds of the pick terms of the first pick have changed, the duplicate pick processing system **123** can then generate user interface data with the user interface generator **122** that, when rendered by the user device **102**, can cause the user device **102** to display a user interface that may depict a data field, for example, a pick sleeve that identifies the duplicate pick as having the current odds (which are different from the original odds for the pick terms of the first pick at the time the first pick was placed). If the current odds of the pick terms of the first pick have not changed, the duplicate pick processing system **123** can instead generate user interface data with the user interface generator **122** that, when rendered by the user device **102**, can cause the user device **102** to display a user interface that may depict a pick sleeve that identifies the duplicate pick as having the same odds for the pick terms of the first pick. The pick sleeve can comprise a data entry field configured for the user to enter, for example, a desired number of pick entries, the numerical value of which may be the same or may be different than the numerical value of the pick entries of the first pick. In some embodiments, the odds processing system **123** can then, in response to a confirmation to place the duplicate pick, adjust user entries data in the user entries data store **126** based on the numerical value entered into the data entry field and store data associated with the duplicate pick in the placed pick data store **125**.

In some embodiments, while the user interface on the user device **102** is displaying the data entry field and waiting for user input into the data entry field, the duplicate pick processing system **123** can subscribe in the odds feed provided by the odds provider **130** to the markets indicated in the duplicate pick terms in order to listen only to odds changes to those markets pending confirmation of the duplicate pick. As described above, by subscribing to a portion of the odds fee corresponding to the pick terms (and therefore by not listening to odds changes in markets that are not included in the pick terms), performance and efficiency of the event pick processing system **120** can be improved.

In further embodiments, the event pick processing system **120** or an external system, not shown, can train an odds machine learning model using machine learning training data to enhance the odds data outputted by the duplicate pick processing system **123** and/or provided by the odds provider **130** and/or the managed trading service **140**. The machine learning training data can comprise training data elements. Each training data element can be labelled with information that the trained odds machine learning model can use to make predictions on odds changes. For example, the trained odds machine learning model can proactively update the odds, which may reduce processing operations executed by the event pick processing system **120** (e.g., reduce the number of operations performed by the event pick processing system **120** to process odds data obtained from the odds provider **130** and/or managed trading service **140**). A training data element can, for example, include a number of users who have duplicated a previous pick over a period of time labeled with an indication of how odds changed, if at all, in response to the pick duplications. Alternatively or in addition, a training data element can include a geographic location of users who have duplicated a previous pick labeled with an indication of how odds changed, if at all, in response to the pick duplications. Once trained, the odds processor **121** could provide as an input to the trained odds machine learning model an indication of the number of users who have duplicated the first pick and/or an indication of a geographic location of users who have duplicated the first pick, which may cause the trained odds machine learning model to output a prediction of how odds may change in the future given the first pick duplications. The duplicate pick processing system **123** can then use the predicted odds in the pick sleeve.

The event pick processing system **120** or external system can train one odds machine learning model for all geographic regions and/or types of users (e.g., where a user may be associated with a particular type based on the user's demographic information, pick type preferences, pick volume, and/or the like), or train multiple odds machine learning models that are each specific to a particular geographic region or type of user. If multiple odds machine learning models are trained, the event pick processing system **120** may use the odds machine learning model associated with a particular user's geographic location and/or type when determining how to update the odds for that particular user.

The peer-to-peer pick processing system **124** can be used by a user to initiate a dynamic social picking experience in the form of, for example, a peer-to-peer pick in which a first user challenges a second user to pick on the opposite outcome of an event and/or market that the first user wishes to place a pick on. When a first user initiates a peer-to-peer pick, the peer-to-peer pick processing system **124** can request the first user through a first user device **102**A to select an event and/or a market for the peer-to-peer pick. In response to the selection of the event and/or market, the peer-to-peer pick processing system **124** may generate user interface data with the user interface generator **122** that, when rendered by a second user device **102**B, causes the second user device **102**B to display a user interface depicting an invitation for a second user to accept the peer-to-peer pick and enter into the pick terms of the peer-to-peer pick with the first user. In response to an acceptance of the peer-to-peer pick by the second user, the peer-to-peer pick processing system **124** can determine whether the peer-to-peer pick can be accepted by the second user with one or more concurrency resolution systems **127**. The concurrency resolution system(s) **127** can check the placed pick data store **125** for acceptance flag data associated with the peer-to-peer pick. If the concurrency resolution system(s) **127** detects acceptance flag data in association with the peer-to-peer pick in the placed pick data store **125**, which may, for example, indicate that the peer-to-peer pick has already been accepted by a different user and can no longer be accepted by the second user, then the peer-to-peer pick processing system **124** can generate user interface data with the user interface generator **122** that, when rendered by the second user device **102**B, causes the second user device **102**B to display a user interface indicating to the second user that the peer-to-peer pick cannot be accepted. If the concurrency resolution systems(s) **127** does not detect acceptance flag data in association with the peer-to-peer pick in the placed pick data store **125**, then the peer-to-peer pick processing system **124** can update the placed pick data store to include the acceptance flag data in association with the peer-to-peer pick. In some embodiments, the peer-to-peer pick processing system **124** can then, in response to updating the placed pick data store to include the acceptance flag data in association with the peer-to-peer pick, adjust first user entries data and second user entries data in the user entries data store **126** based on the pick terms and can store data associated with the peer-to-peer pick in the placed pick data store **125**.

In further embodiments, the event pick processing system **120** or an external system, not shown, can train a peer-to-peer machine learning model to predict which users are more likely to accept a peer-to-peer pick and as a result move a peer-to-peer pick that is posted to following users' social feeds (discussed in greater detail herein) to the top or near the top (e.g., within a first 2, 3, 4, 5, etc. postings) of the social feed of those users who the model predicts are more likely to accept the peer-to-peer pick. Alternatively or in addition, the event pick processing system **120** or the external system can also train a peer-to-peer recommendation machine learning model to make suggestions to a user on how to modify pick terms of a peer-to-peer pick to increase the likelihood that the peer-to-peer pick is accepted, which can be useful to a user if, after some period of time, the peer-to-peer pick initiated by the user has not been accepted. The machine learning training data for training the peer-to-peer machine learning model can comprise training data elements, where each training data element can include characteristics of a user (e.g., geographic location, age, demographic information, team preferences, pick type preferences (e.g., moneyline, spread, prop, etc.), market preferences, event preferences, number of entriest preferences, etc.) and peer-to-peer picks presented to the user and be labelled with an indication of peer-to-peer picks accepted by the user. The machine learning training data for training the peer-to-peer recommendation machine learning model can comprise training data elements, where each training data element can include information about a previous peer-to-peer pick and be labelled with an indication of whether the previous peer-to-peer pick was accepted by another user.

The event pick processing system **120** or external system can train one peer-to-peer machine learning model for all geographic regions and/or types of users (e.g., where a user may be associated with a particular type based on the user's demographic information, pick type preferences, pick volume, and/or the like), or train multiple peer-to-peer machine learning models that are each specific to a particular geographic region or type of user. If multiple peer-to-peer machine learning models are trained, the event pick processing system **120** may use the peer-to-peer machine learning model associated with a particular user's geographic location and/or type when determining how to organize the particular user's feed. Similarly, the event pick processing system **120** or external system can train one peer-to-peer recommendation machine learning model for all geographic regions and/or types of users (e.g., where a user may be associated with a particular type based on the user's demographic information, pick type preferences, pick volume, and/or the like), or train multiple peer-to-peer recommendation machine learning models that are each specific to a particular geographic region or type of user. If multiple peer-to-peer recommendation machine learning models are trained, the event pick processing system **120** may use the peer-to-peer recommendation machine learning model associated with a particular user's geographic location and/or type when recommending to the user how to update the user's peer-to-peer pick.

Once trained, the peer-to-peer pick processing system **124** could provide as an input to the trained peer-to-peer machine learning model characteristics of a user and available peer-to-peer picks that are yet to be accepted, which may cause the peer-to-peer machine learning model to output a likelihood (e.g., a score) that the user would accept one or more of the peer-to-peer picks. The peer-to-peer pick processing system **124** can use the likelihood score(s) to rank the available peer-to-peer pick(s) and place the available peer-to-peer pick(s) in ranked order in a user interface presented to the user. Once trained, the peer-to-peer pick processing system **124** could provide as an input to the trained peer-to-peer recommendation machine learning model a peer-to-peer pick that has yet to be accepted, which may cause the trained peer-to-peer recommendation machine learning model to output an indication of how to change the pick terms of the peer-to-peer pick to increase the likelihood that the peer-to-peer pick is accepted. The peer-to-peer pick processing system **124** can then automatically or in response to a user confirmation update the pick terms of the peer-to-peer pick and re-post the updated peer-to-peer pick on the social feeds of one or more other users.

While the present disclosure describes the user interface generator **122** as being able to generate user interface data that can depict a data field (e.g., a pick sleeve that identifies a duplicate pick or that can depict an invitation for a second user to accept a peer-to-peer pick), these are not meant to be limiting. For example, the user interface generator **122** can also generate user interface data that can depict conventional digital picking platform features, such as, sportsbooks, live event data and statistics, and active promotions and contests. The user interface generator **122** can also generate user interface data that can depict a social feed for sharing and interacting with picks (described in greater detail herein).

As described above, the placed pick data store **125** can store placed pick data. While the placed pick data store **125** is depicted as being located internal to the event pick processing system **120**, this is not meant to be limiting. For example, not shown, the placed pick data store **125** can be located external to the event pick processing system **120**.

As described above, the user entries data store **126** can store user entries data. While the user entries data store **126** is depicted as being located internal to the event pick processing system **120**, this is not meant to be limiting. For example, not shown, the user entries data store **126** can be located external to the event pick processing system **120**.

The odds provider **130** can be an outside odds provider that can provide current (e.g., up-to-date) odds information on multiple events and markets through a real-time odds feed. The odds provided by the odds provider **130** can be used by the odds processor **121** to determine odds to offer users. The odds provider **130** can be an application programming interface (API) service, implemented by a server or another hardware-based computing system, a data store, and/or the like. While the odds provider **130** is depicted as being located external to the event pick processing system **120**, this is not meant to be limiting. For example, not shown, the odds provider **130** can be located internal to the event pick processing system **120**.

The managed trading service **140** can be an outside managed trading service that can provide risk management data on prospective picks. The risk management data provided by the managed trading service **140** can be used by the odds processor **121** to determine odds to offer users. The managed trading service **140** can be an API service, implemented by a server or another hardware-based computing system, a data store, and/or the like. While the managed trading service **140** is depicted as being located external to the event pick processing system **120**, this is not meant to be limiting. For example, not shown, the managed trading service **140** can be located internal to the event pick processing system **120**.

Example Block Diagram for Generating a Duplicate Pick

FIG. **2** is a flow diagram illustrating an example set of operations performed by the components of the operating environment **100** of FIG. **1** to generate a duplicate pick of a first placed pick with pick terms via the duplicate pick processing system **123**. As illustrated in FIG. **2**, a user with a user device **102** initiates the duplicate pick processing system **123** by an interaction with a first placed pick at (**1**). The interaction can be, for example, the user selecting on the user device **102** a duplicate pick button **202** or other user interface element (e.g., a drop down menu, a slider, a tab, an icon, a link, etc.) (discussed in greater detail herein) associated with a first placed pick. By interacting with the first placed pick, the duplicate pick processing system can determine the specific events and/or markets and associated picking terms that the duplicate pick processing system **123** may duplicate and verify. In some embodiments, the duplicate pick processing system **123** may retrieve the specific events and/or markets and associated picking terms by querying relational databases and data tables where event data relationships are stored, which are stored in a local cache (e.g., local to the event pick processing system **120**) on the front end.

Upon initiation of the duplicate pick processing system **123**, the duplicate pick processing system can call upon the odds processor **121** to verify the pick terms, for example, the pick odds of the specific events and/or markets associated with the first placed pick, and which are to be duplicated for the duplicate pick. The odds processor **121** can retrieve current (e.g., up-to-date) market odds from the odds provider **130** at (**2**). The odds provider **130** can be, for example, an odds feed that is streamed to a bookmaker in real time provided by a third-party odds provider or can be, for example, the bookmaker's in-house odds data. The odds processor **121** can also retrieve risk management data from the managed trading service **140** at (**3**). The managed trading service **140** can be, for example, risk management data from a third-party used by the bookmaker to minimize liability and increase gross gaming revenue or can be risk management data generated in-house. Although FIG. **2** depicts the odds processor first retrieving up-to-date market odds data from the odds provider **130** at (**2**) then retrieving risk management data from the managed trading service **140** at (**3**), it can be appreciated that this not need be the case and the collection of retrieving up-to-date market odds data from the odds provider **130** and retrieving risk management data from the managed trading service **140** can occur in any order and even at the same time.

After retrieving the up-to-date market odds data from the odds provider **130** and the risk management data from the managed trading service **140**, the odds processor **121** can check based on the up-to-date market odds data if the odds data associated with the events and/or markets of the first placed pick have changed from when the first placed pick was placed at a first time to the time of the request to the duplicate pick processing system **123** to duplicate the first placed pick at (**4**). If the odds data has changed, the odds processor **121** can then update the odds data associated with the events and/or markets of the first placed pick based on the up-to-date market odds data and the risk management data at (**5**). If the odds data has not changed, then the odds processor **121** may not update the odds data. In some embodiments, even if the up-to-date market odds data does not indicate that the odds data associated with the events and/or markets of the first placed pick have changed, the odds processor may still update the odds data at (**5**) based on the risk management data.

Optionally, and not shown in the drawings, the odds processor **121** can use the trained odds machine learning model to set and/or update the odds data. For example, the odds processor **121** can use the trained odds machine learning model to set and/or update the odds data before operation (**5**) is performed, after operation (**5**) is performed, and/or in place of operations (**4**) and/or (**5**).

After the odds processor **121** has checked if the odds data has changed and updated the odds data accordingly, the odds processor **121** can transmit current odds data representing the current odds the bookkeeper will offer a user for the events and/or markets associated with the first placed pick to the user interface generator **122** at (**6**). The user interface generator **122** can generate user interface data that, when rendered by the user device **102**, causes the user device **102** to display a user interface depicting the current odds at (**7**). This user interface can be, for example, a data field in the form of a pick sleeve prefilled with the pick terms associated with the first placed pick and the current odds. In some embodiments, the prefilling of the data field with the terms associated with the first placed pick can be facilitated by frontend code in the user interface, which can pull data from the server cache (e.g., a cache of the event pick processing system **120**) and can format it appropriately in the pick sleeve. The pick sleeve can include a data entry field configured for the user to enter, for example, a number of entries for the pick terms indicated in the pick sleeve. This user interface data can be transmitted to the user **102** at (**8**) so that the user can enter the desired number of entries in the data entry field. Thus, with a single user interaction with a first placed pick, the user can now place a duplicate pick of the first placed pick with the same pick terms as the first pick updated for any odds changes with a number of entries of the user's preference or comfort level. In some embodiments, a dynamic adjustment script can update the user interface data based on a number of entries entered in the data entry field that, when rendered by the user device **102**, can cause the user device **102** to display real-time changes and recalculations of a potential number of entries the user can receive for a successful pick based on the entered number of entries. After entering a number of entries by the user, the user can confirm placing the duplicate pick and be bound by its terms at (**9**). In some embodiments, the user may use an adjustment interface provided by the user interface generator **122** that can allow the user to adjust one or more of the pick terms associated with the pick displayed in the pick sleeve other than the number of entries to submit. The adjustment interface can use variations of one or more frontend libraries to update pick terms in the pick sleeve in real-time based on user selection and/or event pick processing system **120** constraints. As an illustrative example, the adjustment interface uses variations of frontend libraries compatible with REACT NATIVE to update pick terms in the pick sleeve in real-time based on user selection and/or event pick processing system **120** constraints.

In some embodiments, while the user interface on the user device **102** is displaying the data field and waiting for user input into the data entry field, the duplicate pick processing system **123** can subscribe in the odds feed provided by the odds provider **130** to the markets indicated in the duplicate pick terms in order to listen only to odds changes to those markets in the odds feed pending confirmation of the duplicate pick. This can improve performance and efficiency of the event pick processing system **120** by not listening to odds changes in markets that are not included in the pick terms.

After user confirmation of the duplicate pick, confirmed pick data containing pick terms data of the duplicate pick can be transmitted to the managed trading service **140** at (**10**) to verify the pick at (**11**) and confirm that the bookkeeper will enter into the pick.

In some embodiments, after the confirmed pick data has been verified by the managed trading service **140**, the confirmed pick data can be transmitted to the placed pick data store **125** at (**12**A) to store in the event pick processing system **120** the confirmed pick data. The confirmed pick data can additionally or alternatively be sent to the user entries data store **126** at (**12**B), which can update user entries data based on the confirmed pick data **126** at (**13**). In some embodiments, if the pick data cannot be verified due to one or a number of reasons (e.g., regulatory restrictions, insufficient funds, data mismatches, etc.), the user interface generator **122** can generate user interface data that, when rendered by the user device **102**, can cause the user device to display to the user an error message. In this case, the user may still access other event pick processing system **120** functionalities.

In some embodiments (not shown), the user interface generator **122** can generate user interface data that, when rendered by the user device **102**, causes the user device **102** to display a user interface depicting the change in the user entries data. For example, prior to placing the duplicate pick, a user interface displayed on the user device **102** may have indicated to the user and user entries as containing 500 available entries. If the user submitted 50 entries on the duplicate pick, user interface data may cause the user device **102** to display the user entries as containing 450 available entries.

In some embodiments, the event pick processing system **120** may incorporate geolocation verification which can utilize a geolocation API to ascertain the user's current location. Data corresponding to the user's location can be used by the event pick processing system **120** for the purpose of verifying a pick placed by the user in that location. The event pick processing system **120** can use this data to control where users may initiate a pick and to restrict users from placing picks in locations where it may not be permitted.

Example Block Diagram for Generating a Peer-to-Peer Pick

FIG. **3** is a flow diagram illustrating an example set of operations performed by the components of the operating environment **100** of FIG. **1** to generate and enter two users into a peer-to-peer pick via the peer-to-peer pick processing system **124**. As illustrated in FIG. **3**, a first user with a first user device **102**A initiates the peer-to-peer pick processing system **123** by requesting a peer-to-peer pick at (**1**). When requesting a peer-to-peer pick, the first user may be asked to choose an event and/or market for the peer-to-peer pick and to select pick odds and a number of entries for the peer-to-peer pick. The first user may be requested to pick another user to be part of the peer-to-peer pick. Additionally and/or alternatively, the first user may be requested to choose to publish the peer-to-peer pick such that "followers" of the first user can see an invitation to the peer-to-peer pick on their social feed (described in further detail herein).

Upon requesting a peer-to-peer pick with the peer-to-peer pick processing system **124**, in some embodiments the peer-to-peer pick data may be stored in the placed pick data store at (**2**). The peer-to-peer pick can be stored with a first user identifier ("ID") associated with the first user and a placeholder ID that serves as placeholder data until a second user accepts the peer-to-peer pick. The peer-to-peer pick data can then be transmitted to the user interface generator at (**3**). The user interface generator **122** can generate user interface data that, when rendered by a second user device **102**B, causes the second user device **102**B to display a user interface depicting an invitation to accept the peer-to-peer pick at (**4**). This user interface can be, for example, an invitation to accept the peer-to-peer pick on a pick page of the second user, an invitation to accept the peer-to-peer pick in an inbox of the second user, and/or an invitation to accept the peer-to-peer pick on the second user's social feed. The peer-to-peer pick generated by the user interface generator **122** can include, for example, an acceptance button and/or an acceptance slider and/or another user interface element. The user interface data can then be transmitted to the second user device **102**B at (**5**).

After transmitting the user interface data to the second user device **102**B, the second user can accept the peer-to-peer pick on the second user device **102**B at (**6**). The second user can accept the peer-to-peer pick, for example, by choosing the acceptance button or sliding the acceptance slider. Accepting the peer-to-peer pick can cause the second user device **102**B to transmit acceptance data to the concurrency resolution system(s) **127** at (**7**).

The concurrency resolution system(s) **127** can check for and retrieve acceptance flag data associated with the peer-to-peer pick from the placed pick data store **125** at (**8**). If the concurrency resolution system(s) **127** detects that there is acceptance flag data in the placed data store **125** then the peer-to-peer pick may have already been accepted by a different user and the second user may not accept the peer-to-peer pick. In some embodiments, the user interface generator **122** may generate user interface data (not shown) that, when rendered by the second user device **102**B, cause the second user device **102**B to indicate to the second user that the peer-to-peer pick has already been accepted and may no longer be accepted and transmit this data (not shown) to the second user device **102**B.

If the concurrency resolution system(s) **127** does not detect acceptance flag data associated with the peer-to-peer pick in the placed pick data store **125**, then the concurrency resolution system(s) **127** may transmit acceptance flag data associated with the peer-to-peer pick to the placed pick data store **125** at (**9**) and the placed pick data store **125** may store the acceptance flag data associated with the peer-to-peer pick. In embodiments where the peer-to-peer pick data was stored with a placeholder ID in the placed pick data store at (**2**), the peer-to-peer pick data can be updated to replace the placeholder ID with a second user ID associated with the second user at (**10**).

Optionally, in some embodiments not shown, the concurrency resolution system(s) **127** may cache recent acceptance data (e.g., acceptance flag data that indicates which peer-to-peer picks have an acceptance flag stored in association therewith in the placed pick data store **125**) in a local cache for a period of time, for example, five minutes, ten minutes, thirty minutes or a longer or a shorter period of time. The concurrency resolution system(s) **127** can, upon receiving acceptance data at (**7**), first check the local cache to determine if the peer-to-peer pick has already been accepted (e.g., check the local cache to determine if an acceptance flag was already stored in the placed pick data store **125** in association with the peer-to-peer pick) prior to checking the placed pick data store at (**8**). Checking a local cache can be faster than checking the placed pick data store **125** given that the placed pick data store **125** may have a larger storage capacity and therefore performing a query of the placed pick data store **125** may take more time than a similar query performed on a local cache and/or given that the placed pick data store **125** may be accessible via a network (e.g., the network **110**) and packet transmissions to and/or from the placed pick data store **125** can introduce additional latency. Thus, checking the local store prior to checking the placed pick data store **125** can have the advantage of decreasing latency for determining if the peer-to-peer pick has been accepted and minimize operational network traffic.

After transmitting acceptance data to the placed pick store **125**, the concurrency resolution system(s) **127** can transmit acceptance data to the user entries data store **126** and the user interface generator **122** at (**11**). The user entries data store **126** can then update first user entries data and second user entries data based on the number of entries associated with the peer-to-peer pick at (**12**). In some embodiments (not shown), the user interface generator **122** can generate user interface data that, when rendered by the first user device **102**A and the second user device **102**B, causes the first user device **102**A and the second user device **102**B to display a user interface depicting the change in the entries data of the respective user.

After receiving the acceptance data, the user interface generator **122** can generate user interface data that, when rendered by the first user device **102**A and the second user device **102**B, causes the first user device **102**A and the second user device **102**B to indicate that the peer-to-peer pick has been accepted at (**13**). The user interface generator **122** can then transmit the user interface data to the first user device **102**A and the second user device **102**B at (**14**).

Optionally, and not shown in the drawings, the peer-to-peer pick processing system **124** can use the trained peer-to-peer machine learning model to determine how to organize peer-to-peer picks that are displayed in a user's feed and/or the trained peer-to-peer recommendation machine learning model to recommend to a user how to change the user's peer-to-peer pick to improve the likelihood that the peer-to-peer pick is accepted by another user.

Example User Interfaces

FIG. **4** illustrates an example user interface **400** depicting a pick **204** published to the social feed **226** of a follower than can be duplicated. When a first user or "publisher" places a pick **204**, user interface data can be generated by the user interface generator **122** and can be transmitted to the second user device **102**B so that, when rendered by the second user device **102**B, causes the second user device **102**B to display the pick **204** on a user social feed **226** of any user that is a "follower" of the publisher.

As illustrated in FIG. **4** the user interface **400** can be displayed on the user device **102** and can include a duplicate pick button **202**, a pick **204**, an indication of the type of pick **206** (e.g., moneyline, over/under, spread), an indication of the pick odds **208**, and indication of the pick amount **210** and payout **212** for a successful pick, a user account **214** associated with the pick **204** (e.g., the user that placed the pick), social interaction buttons **216** (or other user interface elements), a comments thread **218** associated with the pick **204**, and indication of the chosen outcome **220** associated with the pick **204** an interface toggle **222**, a page toggle **224**, and a user social feed **226**.

As explained herein, when a first user places a pick **204**, the pick **204** is published onto the user social feed **226** of all users that are followers of the first user or publisher. A user can become a follower of a user/publisher by, for example, clicking the user account **214** of a user/publisher to navigate to a user profile (not shown) associated with the user account

214 and clicking, for example, a follow button (or selecting another user interface element).

When a pick **204** is published on a follower's social feed **226** as shown in FIG. **4**, a follower can interact with the duplicate pick button **202** to duplicate the pick **204** as described herein. If a user interacts with the duplicate pick button **202** to duplicate the pick **204**, a data field (not shown) can show up on the user interface that contains the pick terms of the pick **204**, such as, the type of pick **206**, the chosen outcome **220** and the pick odds **208** (which may be updated to reflect changed odds as described herein) along with a data entry field in which the follower can enter or modify a number of entries. The follower can then confirm the pick and the pick will be placed and published to the social feeds **226** of any followers of the follower who is now a second publisher of the pick **204**. The pick **204** published by the second publisher that duplicated the pick that appeared on his or her social feed **226** may indicate the user account **214** of the publisher and/or the second publisher.

The social interaction buttons **216** and the comments thread **218** can allow a follower to interact with a pick that appears on their social feed **226** without duplicating the pick. For example, the social interaction buttons **216** can be used to send a "like" in association with the pick to the publisher which can indicate follower approval of the pick **204**. For example, the social interaction buttons **216** can be used to place a comment on the comments thread **218**. Users and followers may see comments and likes left by other users and followers.

The interface toggle **222** can be used to change the user interface between the social feed interface and a pick page (see FIG. **5**A) of the digital picking platform. The page toggle **224** can be used to navigate between different pages of the current interface. For example, in the social feed interface, the user may be able to use the page toggle to navigate between the social feed **226**, a discover page or the user's personal profile.

In some embodiments, picks **204** of a publisher may appear on the social feed **226** of users that are not a follower of the publisher. Those users can still interact with the pick **204** as if they were a follower of the publisher who received the pick on their social feed **226**. In some embodiments, a user who is not a follower of the publisher may navigate to the user profile associated with the user account **214** of a pick. The user may locate a published pick **204** by the publisher and interact with the pick **204** as if they were a follower of the publisher who received the pick on their social feed **226**.

FIGS. **5**A-**5**B illustrate an example user interfaces **500**A and **500**B depicting a peer-to-peer pick invitation **302**. The user interfaces **500**A and **500**B may be rendered and displayed by a second user device **102**B in response to the second user device **102**B processing user interface data generated by the user interface generator **122**.

As shown in FIGS. **5**A-**5**B, the peer-to-peer pick invitation **302** can be displayed on the second user device **102**B and can include an acceptance slider **304**, an indication of the pick type **306** of the associated peer-to-peer pick invitation **302**, the odds **308** of the associated peer-to-peer pick invitation **302**, the pick amount **310** and payout amount **312** for the winner of the peer-to-peer pick **302**, the first user account **314** sending the peer-to-peer pick invitation **302**, the second user account **316** associated with the second user associated with the peer-to-peer pick **302** (shown in FIGS. **5**A-**5**B as "waiting" since the peer-to-peer pick invitation **302** has not been accepted yet. Upon acceptance by the second user, this can be updated to show the second user account **316**), the status **318** (e.g., pending and/or waiting, accepted, etc.,) of the peer-to-peer pick **302**, and indication of the first user chosen outcome **330** and the second user chosen outcome **332** associated with the peer-to-peer pick, the interface toggle **222**, the page toggle **224** and in FIG. **5**B the social feed **226**, the social interaction buttons **216** and the comments thread **218**.

When the second user receives a peer-to-peer pick invitation **302**, whether the invitation **302** was sent directly to the second user (as shown in FIG. **5**A) or published on the second user's social feed **226** (as shown in FIG. **5**B), the second user may interact with the acceptance slide **304** to accept the invitation. If the second accepts the invitation, the peer-to-peer pick processing system **124** will continue to process the peer-to-peer pick **302** as described herein. Although the acceptance slider **304** is shown as a slider, this is not meant to be limiting. For example, in some embodiments, the acceptance slider **304** may be depicted in the form of a button or another type of user interface element (not shown).

If the first user chooses to publish the peer-to-peer pick invitation **302** to the social feeds **226** of his or her followers, followers and other users can interact with the peer-to-peer pick **302** with the social interaction buttons **216** and comment thread **218** as described herein. Followers and other users can interact with the peer-to-peer pick **302** both prior to acceptance of the peer-to-peer pick **302** and after acceptance of the peer-to-peer pick **302**.

Example Pick Duplication Process

FIG. **6** is a flow diagram depicting a pick duplication process **600** illustratively implemented by a duplicate pick processing system of an event pick processing system, according to one embodiment. As an example, the duplicate pick processing system **123** of the event pick processing system **120** of FIG. **1** can be configured to execute the pick duplication process **600**. The pick duplication process begins at block **602**.

At block **604**, a request to generate a duplicate pick is obtained. The pick to be duplicated can be a first placed pick at a first time and may contain one or more pick terms, such as an event and/or market, a pick type, a pick outcome, pick odds, and/or similar terms.

At block **606**, it is determined if the pick odds of the first placed pick have changed at a current second time with respect to the pick odds at the first time. For example, an odds processor **121** can gather odds data from an odds feed with up-to-date odds data from an odds provider **130** and risk management data from a managed trading service **140** can be used to determine if the pick odds for the same pick terms of the first placed pick have changed.

At block **608**, if the odds processor **121** has determined that the pick odds have changed, the odds processor **121** can create duplicate pick terms data that contains the same pick terms data as the first placed pick, but updated to include the changed pick odds.

At block **610**, user interface data is generated that, when rendered by the user device **102**, can cause the user device **102** to display a user interface that may depict a data field, for example, a pick sleeve that identifies the duplicate pick as having the changed pick odds and the user interface data can be transferred to the user device. If the current odds of the pick terms of the first pick have not changed, user interface data is generated that, when rendered by the user device **102**, can cause the user device **102** to display a user interface that may depict a pick sleeve that identifies the duplicate pick as having the same odds as the first placed pick. The pick sleeve can comprise a data entry field configured for the user to enter, for example, a number of pick entries, the numerical value of which may be the same or may be different than the numerical value of the number of pick entries of the first placed pick.

At block **612**, user entries data in the user entries data store **126** is adjusted based on the numerical value entered into the data entry field. After the user entries data is updated, the pick duplication process **600** ends, as shown at block **614**.

Example Peer-to-Peer Pick Process

FIG. **7** is a flow diagram depicting a peer-to-peer pick process **700** illustratively implemented by a peer-to-peer pick processing system of an event pick processing system, according to one embodiment. As an example, the peer-to-peer pick processing system **124** of the event pick processing system **120** of FIG. **1** can be configured to execute the peer-to-peer pick process **700**. The peer-to-peer pick process begins at block **702**.

At block **704**, a request to a first user to select pick terms for the peer-to-peer pick is made. The first user can select pick terms, such as an event and/or market, a pick type, a pick outcome, pick odds and/or similar terms.

At block **706**, peer-to-peer pick terms are generated based on the pick terms selected by the first user at **704**.

At block **708**, user interface data can be generated that, when rendered by a second user device **102**B, causes the second user device **102**B to display a user interface depicting an invitation to accept the peer-to-peer pick and the user interface data can be transferred to the second user device. This user interface can be, for example, an invitation to accept the peer-to-peer pick on a pick page of the second user, an invitation to accept the peer-to-peer pick in an inbox of the second user and/or an invitation to accept the peer-to-peer pick on the second user's social feed. The peer-to-peer pick generated can include, for example, an acceptance button and/or an acceptance slider. The user interface data can then be transmitted to the second user device **102**B.

At block **710** the concurrency resolution system(s) **127** can check for and retrieve acceptance flag data associated with the peer-to-peer pick from the placed pick data store **125** if the second user accepts the peer-to-peer pick. If the concurrency resolution system(s) **127** detects that there is acceptance flag data in the placed pick data store **125** then the peer-to-peer pick may have already been accepted by a different user and the second user may not accept the peer-to-peer pick.

At block **712**, the concurrency resolution system(s) **127** generates acceptance flag data associated with the peer-to-peer pick and updates the placed pick data store **125** to include the acceptance flag data associated with the peer-to-peer pick if the concurrency resolution system(s) did not detect acceptance flag data associated with the peer-to-peer pick.

At block **714**, first user entries data and second user entries data in the user entries data store **126** are adjusted based on the pick terms of the peer-to-peer pick.

At block **716**, user interface data can be generated that, when rendered by the first user device **102**A and the second user device **102**B, cause the first user device **102**A and the second user device **102**B to indicate that the peer-to-peer pick has been accepted and the user interface data is transmitted to the first user device **102**A and the second user device **102**B. After the user interface data is transmitted, the pick duplication process **700** ends, as shown at block **718**.

Example Easy-to-Read Lines User Interface

FIG. **8** illustrates an example user interface **800** depicting picking terminology and picking lines as easy-to-read lines

802, **804**, **806**, **808** through an easy-to-read lines feature as displayed on a user device **102**. A user can use the easy-to-read lines feature to change terminology displayed to the user on the user device **102** between traditional event picking terminology and easy-to-read lines **802**, **804**, **806**, **808**. For example, with traditional event picking terminology, an event page may display to the user different markets for "spread" picks **802**, "moneyline" picks **804** and "over"/"under" picks **806**. As shown in FIG. **8**, the easy-to-read lines feature can display this terminology as "LOSE BY LESS THAN 3.5 POINTS"/"WIN BY MORE THAN 3.5 POINTS" picks **802**, "GAME WINNER" picks **804**, and "OVER 36.5 POINTS"/"UNDER 36.5 POINTS" picks **806** respectively. Additionally, each of the markets would feature lines/odds **808** associated with the market that indicate how many additional entries a user could win based on a number of entries submitted for the pick. Examples of traditional event picking odds can be "−150," "+200," "2.2," or "5/7." With the easy-to-read lines feature, the odds **808** may instead be depicted, as shown in FIG. **8**, as two numerical values. The first numerical value can indicate a reference number of entries a user can submit for the pick and the second numerical value can indicate a number of entries to be received by the user for a successful pick placed if the submitted number of entries is equal to first numerical value. For example, if a user submits ten entries for an "UNDER 36.5 POINTS" **806** pick with odds of "10:19.26" **808** as shown in FIG. **8**, and the pick is successful, the user will receive 19.26 entries as depicted. This can be useful for new pickers as it may reduce the learning curve and the barrier to entry into event picking.

ADDITIONAL EMBODIMENTS

Various example user devices **102** are shown in FIG. **1**, including a desktop computer, laptop, and a mobile phone, each provided by way of illustration. In general, the user devices **102** can be any computing device such as a desktop, laptop or tablet computer, personal computer, wearable computer, server, personal digital assistant (PDA), hybrid PDA/mobile phone, mobile phone, electronic book reader, set-top box, voice command device, camera, digital media player, television, smart watch, smart glasses, and the like. A user device **102** may execute an application (e.g., a browser, a stand-alone application, etc.) that allows to place picks, including duplicate picks and peer-to-peer picks. A user device **102** can be operated by a user looking to place and/or view placed picks with respect to an event, market, and/or the like.

The network **110** may include any wired network, wireless network, or combination thereof. For example, the network **110** may be a personal area network, local area network, wide area network, over-the-air broadcast network (e.g., for radio or television), cable network, satellite network, cellular telephone network, or combination thereof. As a further example, the network **110** may be a publicly accessible network of linked networks, possibly operated by various distinct parties, such as the Internet. In some embodiments, the network **110** may be a private or semi-private network, such as a corporate or university intranet. The network **110** may include one or more wireless networks, such as a Global System for Mobile Communications (GSM) network, a Code Division Multiple Access (CDMA) network, a Long Term Evolution (LTE) network, or any other type of wireless network. The network **110** can use protocols and components for communicating via the Internet or any of the other aforementioned types of networks.

For example, the protocols used by the network **110** may include Hypertext Transfer Protocol (HTTP), HTTP Secure (HTTPS), Message Queue Telemetry Transport (MQTT), Constrained Application Protocol (CoAP), and the like. Protocols and components for communicating via the Internet or any of the other aforementioned types of communication networks are well known to those skilled in the art and, thus, are not described in more detail herein.

Terminology

All of the methods and tasks described herein may be performed and fully automated by a computer system. The computer system may, in some cases, include multiple distinct computers or computing devices (e.g., physical servers, workstations, storage arrays, cloud computing resources, etc.) that communicate and interoperate over a network to perform the described functions. Each such computing device typically includes a processor (or multiple processors) that executes program instructions or modules stored in a memory or other non-transitory computer-readable storage medium or device (e.g., solid state storage devices, disk drives, etc.). The various functions disclosed herein may be embodied in such program instructions, or may be implemented in application-specific circuitry (e.g., ASICs or FPGAs) of the computer system. Where the computer system includes multiple computing devices, these devices may, but need not, be co-located. The results of the disclosed methods and tasks may be persistently stored by transforming physical storage devices, such as solid state memory chips or magnetic disks, into a different state. In some embodiments, the computer system may be a cloud-based computing system whose processing resources are shared by multiple distinct business entities or other users.

Depending on the embodiment, certain acts, events, or functions of any of the processes or algorithms described herein can be performed in a different sequence, can be added, merged, or left out altogether (e.g., not all described operations or events are necessary for the practice of the algorithm). Moreover, in certain embodiments, operations or events can be performed concurrently, e.g., through multi-threaded processing, interrupt processing, or multiple processors or processor cores or on other parallel architectures, rather than sequentially.

The various illustrative logical blocks, modules, routines, and algorithm steps described in connection with the embodiments disclosed herein can be implemented as electronic hardware (e.g., ASICs or FPGA devices), computer software that runs on computer hardware, or combinations of both. Moreover, the various illustrative logical blocks and modules described in connection with the embodiments disclosed herein can be implemented or performed by a machine, such as a processor device, a digital signal processor (DSP), an application specific integrated circuit (ASIC), a field programmable gate array (FPGA) or other programmable logic device, discrete gate or transistor logic, discrete hardware components, or any combination thereof designed to perform the functions described herein. A processor device can be a microprocessor, but in the alternative, the processor device can be a controller, microcontroller, or logic circuitry that implements a state machine, combinations of the same, or the like. A processor device can include electrical circuitry configured to process computer-executable instructions. In another embodiment, a processor device includes an FPGA or other programmable device that performs logic operations without processing computer-executable instructions. A processor device can also be implemented as a combination of computing devices, e.g., a combination of a DSP and a microprocessor, a plurality of microprocessors, one or more microprocessors in conjunction with a DSP core, or any other such configuration. Although described herein primarily with respect to digital technology, a processor device may also include primarily analog components. For example, some or all of the rendering techniques described herein may be implemented in analog circuitry or mixed analog and digital circuitry. A computing environment can include any type of computer system, including, but not limited to, a computer system based on a microprocessor, a mainframe computer, a digital signal processor, a portable computing device, a device controller, or a computational engine within an appliance, to name a few.

The elements of a method, process, routine, or algorithm described in connection with the embodiments disclosed herein can be embodied directly in hardware, in a software module executed by a processor device, or in a combination of the two. A software module can reside in RAM memory, flash memory, ROM memory, EPROM memory, EEPROM memory, registers, hard disk, a removable disk, a CD-ROM, or any other form of a non-transitory computer-readable storage medium. An exemplary storage medium can be coupled to the processor device such that the processor device can read information from, and write information to, the storage medium. In the alternative, the storage medium can be integral to the processor device. The processor device and the storage medium can reside in an ASIC. The ASIC can reside in a user terminal. In the alternative, the processor device and the storage medium can reside as discrete components in a user terminal.

Conditional language used herein, such as, among others, "can," "could," "might," "may," "e.g.," and the like, unless specifically stated otherwise, or otherwise understood within the context as used, is generally intended to convey that certain embodiments include, while other embodiments do not include, certain features, elements or steps. Thus, such conditional language is not generally intended to imply that features, elements or steps are in any way required for one or more embodiments or that one or more embodiments necessarily include logic for deciding, with or without other input or prompting, whether these features, elements or steps are included or are to be performed in any particular embodiment. The terms "comprising," "including," "having," and the like are synonymous and are used inclusively, in an open-ended fashion, and do not exclude additional elements, features, acts, operations, and so forth. Also, the term "or" is used in its inclusive sense (and not in its exclusive sense) so that when used, for example, to connect a list of elements, the term "or" means one, some, or all of the elements in the list.

Disjunctive language such as the phrase "at least one of X, Y, or Z," unless specifically stated otherwise, is otherwise understood with the context as used in general to present that an item, term, etc., may be either X, Y, or Z, or any combination thereof (e.g., X, Y, or Z). Thus, such disjunctive language is not generally intended to, and should not, imply that certain embodiments require at least one of X, at least one of Y, and at least one of Z to each be present.

While the above detailed description has shown, described, and pointed out novel features as applied to various embodiments, it can be understood that various omissions, substitutions, and changes in the form and details of the devices or algorithms illustrated can be made without departing from the spirit of the disclosure. As can be recognized, certain embodiments described herein can be embodied within a form that does not provide all of the features and benefits set forth herein, as some features can be used or practiced separately from others. The scope of certain embodiments disclosed herein is indicated by the appended claims rather than by the foregoing description. All changes which come within the meaning and range of equivalency of the claims are to be embraced within their scope.

What is claimed is:

1. An event picking system comprising:

memory storing computer-executable instructions; and

a hardware processor in communication with the memory, wherein the computer-executable instructions, when executed by the hardware processor, cause the hardware processor to:

request, via a first user device, a first user to select an event pick market and to select event pick terms for the event pick market to create a challenge event pick;

in response to selection of the event pick market and the event pick terms, store data associated with the challenge event pick in a placed pick data store;

generate user interface data that, when rendered by a second user device, causes the second user device to display a user interface depicting an invitation for a second user to accept the challenge event pick;

in response to an acceptance by the second user of the challenge event pick, determine, via a concurrency resolution system, that the placed pick data store does not comprise acceptance flag data in association with the challenge event pick;

in response to the determination that the placed pick data store does not comprise the acceptance flag data in association with the challenge event pick, update the placed pick data store to include the acceptance flag data in association with the challenge event pick; and

adjust entries data of the first user and of the second user based on the event pick terms of the challenge event pick.

2. The event picking system of claim **1**, wherein the concurrency resolution system caches an indication that the acceptance flag data is stored in association with the challenge event pick in a cache local to the concurrency resolution system.

3. The event picking system of claim **2**, wherein the computer-executable instructions, when executed, further cause the hardware processor to:

in response to an acceptance by a third user of the challenge event pick, query the local cache to determine whether the acceptance flag data is stored in association with the challenge event pick in the placed pick data store.

4. The event picking system of claim **2**, wherein the indication stored in the local cache is stored for a threshold period of time, and wherein the computer-executable instructions, when executed, further cause the hardware processor to:

delete the indication stored in the local cache in response to the indication being stored in the local cache for the threshold period of time.

5. The event picking system of claim **1**, wherein the computer-executable instructions, when executed, further cause the hardware processor to:

request, via the first user device, the first user to one of send the invitation for the second user to accept the challenge event pick directly to the second user or publish the invitation for the second user to accept the challenge event pick on a social feed of a follower of the first user.

6. The event picking system of claim **1**, wherein a first user identifier associated with the first user is included in data associated with the challenge event pick stored in the placed pick data store, and wherein the computer-executable instructions, when executed, further cause the hardware processor to:

in response to updating the placed pick data store to include the acceptance flag data in association with the challenge event pick, update the data associated with the challenge event pick stored in the placed pick data store to include a second user identifier associated with the second user.

7. A computer-implemented method comprising:

as implemented by one or more computing devices configured with specific computer-executable instructions,

requesting, via a first user device, a first user to select an event pick market and to select event pick terms for the event pick market to create a challenge event pick;

in response to selection of the event pick market and the event pick terms, generating user interface data that, when rendered by a second user device, causes the second user device to display a user interface depicting an invitation for a second user to accept the challenge event pick;

in response to an acceptance by the second user of the challenge event pick, determining, via a concurrency resolution system, that a placed pick data store does not comprise acceptance flag data in association with the challenge event pick;

in response to the determination that the placed pick data store does not comprise the acceptance flag data in association with the challenge event pick, updating the placed pick data store to include the acceptance flag data in association with the challenge event pick; and

adjusting entries data of the first user and of the second user based on the event pick terms of the challenge event pick.

8. The computer-implemented method of claim **7**, wherein the concurrency resolution system caches an indication that the acceptance flag data is stored in association with the challenge event pick in a cache local to the concurrency resolution system.

9. The computer-implemented method of claim **8**, wherein the method further comprises:

in response to an acceptance by a third user of the challenge event pick, querying the local cache to determine whether the acceptance flag data is stored in association with the challenge event pick in the placed pick data store.

10. The computer-implemented method of claim **8**, wherein the indication stored in the local cache is stored for a threshold period of time, and wherein the method further comprises:

deleting the indication stored in the local cache in response to the indication being stored in the local cache for the threshold period of time.

11. The computer-implemented method of claim **7**, wherein the method further comprises:

requesting, via the first user device, the first user to one of send the invitation for the second user to accept the challenge event pick directly to the second user or publish the invitation for the second user to accept the challenge event pick on a social feed of a follower of the first user.

12. The computer-implemented method of claim **7**, wherein the method further comprises:

in response to selection of the event pick market and the event pick terms, storing data associated with the challenge event pick in a placed pick data store.

13. The computer-implemented method of claim **12**, wherein a first user identifier associated with the first user is included in data associated with the challenge event pick stored in the placed pick data store, and wherein the method further comprises:

in response to updating the placed pick data store to include the acceptance flag data in association with the challenge event pick, updating the data associated with the challenge event pick stored in the placed pick data store to include a second user identifier associated with the second user.

14. Non-transitory, computer-readable storage media comprising computer-executable instructions, wherein the computer-executable instructions, when executed by a computer system, cause the computer system to:

request, via a first user device, a first user to select an event pick market and to select event pick terms for the event pick market to create a challenge event pick;

in response to selection of the event pick market and the event pick terms, generate user interface data that, when rendered by a second user device, causes the second user device to display a user interface depicting an invitation for a second user to accept the challenge event pick;

in response to an acceptance by the second user of the challenge event pick, determine, via a concurrency resolution system, that a placed pick data store does not comprise acceptance flag data in association with the challenge event pick;

in response to the determination that the placed pick data store does not comprise the acceptance flag data in association with the challenge event pick, update the placed pick data store to include the acceptance flag data in association with the challenge event pick; and

adjust entries data of the first user and of the second user based on the event pick terms of the challenge event pick.

15. The non-transitory, computer-readable storage media of claim **14**, wherein the concurrency resolution system caches an indication that the acceptance flag data is stored in association with the challenge event pick in a cache local to the concurrency resolution system.

16. The non-transitory, computer-readable storage media of claim **15**, wherein the computer-executable instructions, when executed, further cause the computer system to:

in response to an acceptance by a third user of the challenge event pick, query the local cache to determine whether the acceptance flag data is stored in association with the challenge event pick in the placed pick data store.

17. The non-transitory, computer-readable storage media of claim **15**, wherein the indication stored in the local cache is stored for a threshold period of time, and wherein the computer-executable instructions, when executed, further cause the computer system to:

delete the indication stored in the local cache in response to the indication being stored in the local cache for the threshold period of time.

18. The non-transitory, computer-readable storage media of claim **14**, wherein the computer-executable instructions, when executed, further cause the computer system to:

request, via the first user device, the first user to one of send the invitation for the second user to accept the challenge event pick directly to the second user or publish the invitation for the second user to accept the challenge event pick on a social feed of a follower of the first user.

19. The non-transitory, computer-readable storage media of claim **14**, wherein the computer-executable instructions, when executed, further cause the computer system to:

in response to selection of the event pick market and the event pick terms, store data associated with the challenge event pick in a placed pick data store.

20. The non-transitory computer-readable storage of claim **19**, wherein a first user identifier associated with the first user is included in data associated with the challenge event pick stored in the placed pick data store, and wherein the computer-executable instructions, when executed, further cause the computer system to:

in response to updating the placed pick data store to include the acceptance flag data in association with the challenge event pick, update the data associated with the challenge event pick stored in the placed pick data store to include a second user identifier associated with the second user.

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