WHAT IS CLAIMED IS:

1. A computer-implemented method, comprising:

generating, with at least one processor, a plurality of regions within a geographic area, each region of the plurality of regions associated with a region identifier;

receiving, with at least one processor, transaction data associated with a plurality of transactions conducted between a plurality of accounts and a plurality of merchants using a plurality of account identifiers, the transaction data comprising, for each transaction, an account identifier and a transaction location;

receiving, with at least one processor, mobile application data associated with a plurality of interactions between a plurality of mobile device users and at least one mobile application using a plurality of user identifiers, the mobile application data comprising, for each interaction, a user identifier and an interaction location;

determining, with at least one processor, a region of the plurality of regions for each transaction of the plurality of transactions based on the transaction location;

determining, with at least one processor, a region of the plurality of regions for each interaction of the plurality of interactions based on the interaction location;

generating, with at least one processor, a transaction signature for each account identifier of the plurality of account identifiers based on the region for each transaction of the plurality of transactions initiated with the account identifier, resulting in a plurality of transaction signatures;

generating, with at least one processor, an interaction signature for each user identifier of the plurality of user identifiers based on the region for each interaction of the plurality of interactions associated with a corresponding user identifier, resulting in a plurality of interaction signatures;

matching, with at least one processor, at least one transaction signature of the plurality of transaction signatures to at least one interaction signature of the plurality of interaction signatures; and

linking, with at least one processor, at least one account identifier of the plurality of account identifiers to at least one user identifier of the plurality of user

identifiers based on matching the at least one transaction signature to the at least one interaction signature.

2. The computer-implemented method of claim 1, further comprising:

generating, with at least one processor, a plurality of new regions within the geographic area if at least two account identifiers of the plurality of account identifiers are linked to one user identifier of the plurality of user identifiers, wherein at least two new regions of the plurality of new regions overlap with a region for at least one transaction initiated with at least one linked account identifier;

determining, with at least one processor, a new region of the plurality of new regions for each transaction of the plurality of transactions associated with the at least two linked account identifiers based on the transaction location, wherein at least two transactions of the plurality of transactions associated with the at least two linked account identifiers located in the same region are located in different new regions;

determining, with at least one processor, a new region of the plurality of new regions for each interaction of the plurality of interactions associated with the linked user identifier based on the interaction location;

generating, with at least one processor, a new transaction signature for each linked account identifier based on the new region for each transaction of the plurality of transactions associated with the at least two linked account identifiers, resulting in a plurality of new transaction signatures;

generating, with at least one processor, a new interaction signature for the linked user identifier based on the new region for each interaction of the plurality of interactions associated with the linked user identifier, resulting in a new interaction signature;

matching, with at least one processor, one new transaction signature of the plurality of new transaction signatures to the new interaction signature; and

linking, with at least one processor, one account identifier of the plurality of account identifiers to one user identifier of the plurality of user identifiers based on matching the one new transaction signature to the new interaction signature.

3. The computer-implemented method of claim 1, further comprising:

~~generating, with at least one processor, a plurality of new regions within the geographic area if one account identifier of the plurality of account identifiers is linked to at least two user identifiers of the plurality of user identifiers, wherein at least two new regions of the plurality of new regions overlap with a region for at least one interaction initiated with at least one linked user identifier;~~

~~determining, with at least one processor, a new region of the plurality of new regions for each interaction of the plurality of interactions associated with the at least two linked user identifiers based on the interaction location wherein at least two interactions of the plurality of interactions associated with the at least two linked user identifiers that are located in the same region are located in different new regions;~~

~~determining, with at least one processor, a new region of the plurality of new regions for each transaction of the plurality of transactions associated with the linked account identifier based on the transaction location;~~

~~generating, with at least one processor, a new transaction signature for the linked account identifier based on the new region for each transaction of the plurality of transactions associated with the linked account identifier, resulting in a new transaction signature;~~

~~generating, with at least one processor, a new interaction signature for each linked user identifier based on the new region for each interaction of the plurality of interactions associated with the at least two linked user identifiers, resulting in a plurality of new interaction signatures;~~

~~matching, with at least one processor, the new transaction signature to one new interaction signature of the plurality of new interaction signatures; and~~

~~linking, with at least one processor, one account identifier of the plurality of account identifiers to one user identifier of the plurality of user identifiers based on matching the new transaction signature to the at least one new interaction signature.~~

~~4. The computer-implemented method of claim 1, wherein the transaction data associated with the plurality of transactions comprises a transaction time and/or the mobile application data associated with the plurality of interactions comprises a time of interaction; and~~

~~wherein generating the transaction signature for each account identifier of the plurality of account identifiers data is further based on the transaction time or~~

generating the interaction signature for each user identifier of the plurality of user identifiers is further based on the time of interaction.

5. The computer-implemented method of claim 4, wherein matching at least one transaction signature of the plurality of transaction signatures to at least one interaction signature of the plurality of interaction signatures is based on a difference between the transaction time and the time of interaction satisfying a predetermined threshold.

6. The computer-implemented method of claim 5, wherein at least two account identifiers are linked to one user identifier and/or at least two user identifiers are linked to one account identifier, the method further comprising:

shortening, with at least one processor, the predetermined threshold;

matching, with at least one processor, at least one transaction signature of the plurality of transaction signatures to at least one interaction signature of the plurality of interaction signatures; and

linking, with at least one processor, at least one account identifier of the plurality of account identifiers to at least one user identifier of the plurality of user identifiers based on matching the at least one transaction signature to the at least one interaction signature.

7. The computer-implemented method of claim 1, further comprising:

generating, with at least one processor, a plurality of neighborhoods, wherein each neighborhood of the plurality of neighborhoods encompasses a center region and all regions adjacent to the center region;

determining, with at least one processor, a neighborhood of the plurality of neighborhoods for each transaction of the plurality of transactions based on the transaction location;

determining, with at least one processor, a neighborhood of the plurality of neighborhoods for each interaction of the plurality of interactions based on the interaction location;

generating, with at least one processor, a match score, wherein the match score is calculated based on a distance between a neighborhood of a

transaction of the plurality of transactions and a neighborhood of an interaction of the plurality of interactions; and

matching, with at least one processor, at least one transaction signature of the plurality of transaction signatures to at least one interaction signature of the plurality of interaction signatures based on the match score.

8. A system, comprising:

at least one processor; and

at least one non-transitory computer readable medium including one or more instructions that, when executed by the at least one processor, cause the at least one processor to:

generate a plurality of regions within a geographic area, each region of the plurality of regions associated with a region identifier;

receive transaction data associated with a plurality of transactions conducted between a plurality of accounts and a plurality of merchants using a plurality of account identifiers, the transaction data comprising, for each transaction, an account identifier and a transaction location;

receive mobile application data associated with a plurality of interactions between a plurality of mobile device users and at least one mobile application using a plurality of user identifiers, the mobile application data comprising, for each interaction, a user identifier and an interaction location;

determine a region of the plurality of regions for each transaction of the plurality of transactions based on the transaction location;

determine a region of the plurality of regions for each interaction of the plurality of interactions based on the interaction location;

generate a transaction signature for each account identifier of the plurality of account identifiers based on the region for each transaction of the plurality of transactions initiated with the account identifier, resulting in a plurality of transaction signatures;

generate an interaction signature for each user identifier of the plurality of user identifiers based on the region for each interaction of the plurality of interactions associated with a corresponding user identifier, resulting in a plurality of interaction signatures;

match at least one transaction signature of the plurality of transaction signatures to at least one interaction signature of the plurality of interaction signatures; and

link at least one account identifier of the plurality of account identifiers to at least one user identifier of the plurality of user identifiers based on matching the at least one transaction signature to the at least one interaction signature.

9. The system of claim 8, wherein the one or more instructions further cause the at least one processor to:

generate a plurality of new regions within the geographic area if at least two account identifiers of the plurality of account identifiers are linked to one user identifier of the plurality of user identifiers, wherein at least two new regions of the plurality of new regions overlap with a region for at least one transaction initiated with at least one linked account identifier;

determine a new region of the plurality of new regions for each transaction of the plurality of transactions associated with the at least two linked account identifiers based on the transaction location, wherein at least two transactions of the plurality of transactions associated with the at least two linked account identifiers located in the same region are located in different new regions;

determine a new region of the plurality of new regions for each interaction of the plurality of interactions associated with the linked user identifier based on the interaction location;

generate a new transaction signature for each linked account identifier based on the new region for each transaction of the plurality of transactions associated with the at least two linked account identifiers, resulting in a plurality of new transaction signatures;

generate a new interaction signature for the linked user identifier based on the new region for each interaction of the plurality of interactions associated with the linked user identifier, resulting in a new interaction signature;

match one new transaction signature of the plurality of new transaction signatures to the new interaction signature; and

link one account identifier of the plurality of account identifiers to one user identifier of the plurality of user identifiers based on matching the one new transaction signature to the new interaction signature.

10. The system of claim 8, wherein the one or more instructions further cause the at least one processor to:

generate a plurality of new regions within the geographic area if one account identifier of the plurality of account identifiers is linked to at least two user identifiers of the plurality of user identifiers, wherein at least two new regions of the plurality of new regions overlap with a region for at least one interaction initiated with at least one linked user identifier;

determine a new region of the plurality of new regions for each interaction of the plurality of interactions associated with the at least two linked user identifiers based on the interaction location wherein at least two interactions of the plurality of interactions associated with the at least two linked user identifiers that are located in the same region are located in different new regions;

determine a new region of the plurality of new regions for each transaction of the plurality of transactions associated with the linked account identifier based on the transaction location;

generate a new transaction signature for the linked account identifier based on the new region for each transaction of the plurality of transactions associated with the linked account identifier, resulting in a new transaction signature;

generate a new interaction signature for each linked user identifier based on the new region for each interaction of the plurality of interactions associated with the at least two linked user identifiers, resulting in a plurality of new interaction signatures;

match the new transaction signature to one new interaction signature of the plurality of new interaction signatures; and

link one account identifier of the plurality of account identifiers to one user identifier of the plurality of user identifiers based on matching the new transaction signature to the at least one new interaction signature.

11. The system of claim 8, wherein the transaction data associated with the plurality of transactions comprises a transaction time and/or the mobile application data associated with the plurality of interactions comprises a time of interaction; and

wherein generating the transaction signature for each account identifier of the plurality of account identifiers data is further based on the transaction time or generating the interaction signature for each user identifier of the plurality of user identifiers is further based on the time of interaction.

12. The system of claim 11, wherein matching at least one transaction signature of the plurality of transaction signatures to at least one interaction signature of the plurality of interaction signatures is based on a difference between the transaction time and the time of interaction satisfying a predetermined threshold.

13. The system of claim 12, wherein at least two account identifiers are linked to one user identifier and/or at least two user identifiers are linked to one account identifier, the one or more instructions further cause the at least one processor to:

shorten the predetermined threshold;

match at least one transaction signature of the plurality of transaction signatures to at least one interaction signature of the plurality of interaction signatures; and

link at least one account identifier of the plurality of account identifiers to at least one user identifier of the plurality of user identifiers based on matching the at least one transaction signature to the at least one interaction signature.

14. The system of claim 8, wherein the one or more instructions further cause the at least one processor to:

generate a plurality of neighborhoods, wherein each neighborhood of the plurality of neighborhoods encompasses a center region and all regions adjacent to the center region;

determine a neighborhood of the plurality of neighborhoods for each transaction of the plurality of transactions based on the transaction location;

determine a neighborhood of the plurality of neighborhoods for each interaction of the plurality of interactions based on the interaction location;

generate a match score, wherein the match score is calculated based on a distance between a neighborhood of a transaction of the plurality of transactions and a neighborhood of an interaction of the plurality of interactions; and

match at least one transaction signature of the plurality of transaction signatures to at least one interaction signature of the plurality of interaction signatures based on the match score.

15. A computer program product comprising at least one non-transitory computer-readable medium including one or more instructions that, when executed by at least one processor, cause the at least one processor to:

generate a plurality of regions within a geographic area, each region of the plurality of regions associated with a region identifier;

receive transaction data associated with a plurality of transactions conducted between a plurality of accounts and a plurality of merchants using a plurality of account identifiers, the transaction data comprising, for each transaction, an account identifier and a transaction location;

receive mobile application data associated with a plurality of interactions between a plurality of mobile device users and at least one mobile application using a plurality of user identifiers, the mobile application data comprising, for each interaction, a user identifier and an interaction location;

determine a region of the plurality of regions for each transaction of the plurality of transactions based on the transaction location;

determine a region of the plurality of regions for each interaction of the plurality of interactions based on the interaction location;

generate a transaction signature for each account identifier of the plurality of account identifiers based on the region for each transaction of the plurality of transactions initiated with the account identifier, resulting in a plurality of transaction signatures;

generate an interaction signature for each user identifier of the plurality of user identifiers based on the region for each interaction of the plurality of interactions associated with a corresponding user identifier, resulting in a plurality of interaction signatures;

match at least one transaction signature of the plurality of transaction signatures to at least one interaction signature of the plurality of interaction signatures; and

link at least one account identifier of the plurality of account identifiers to at least one user identifier of the plurality of user identifiers based on matching the at least one transaction signature to the at least one interaction signature.

16. The computer program product of claim 15, wherein the one or more instructions further cause the at least one processor to:

generate a plurality of new regions within the geographic area if at least two account identifiers of the plurality of account identifiers are linked to one user

identifier of the plurality of user identifiers, wherein at least two new regions of the plurality of new regions overlap with a region for at least one transaction initiated with at least one linked account identifier;

determine a new region of the plurality of new regions for each transaction of the plurality of transactions associated with the at least two linked account identifiers based on the transaction location, wherein at least two transactions of the plurality of transactions associated with the at least two linked account identifiers located in the same region are located in different new regions;

determine a new region of the plurality of new regions for each interaction of the plurality of interactions associated with the linked user identifier based on the interaction location;

generate a new transaction signature for each linked account identifier based on the new region for each transaction of the plurality of transactions associated with the at least two linked account identifiers, resulting in a plurality of new transaction signatures;

generate a new interaction signature for the linked user identifier based on the new region for each interaction of the plurality of interactions associated with the linked user identifier, resulting in a new interaction signature;

match one new transaction signature of the plurality of new transaction signatures to the new interaction signature; and

link one account identifier of the plurality of account identifiers to one user identifier of the plurality of user identifiers based on matching the one new transaction signature to the new interaction signature.

17. The computer program product of claim 15, wherein the one or more instructions further cause the at least one processor to:

generate a plurality of new regions within the geographic area if one account identifier of the plurality of account identifiers is linked to at least two user identifiers of the plurality of user identifiers, wherein at least two new regions of the plurality of new regions overlap with a region for at least one interaction initiated with at least one linked user identifier;

determine a new region of the plurality of new regions for each interaction of the plurality of interactions associated with the at least two linked user identifiers based on the interaction location wherein at least two interactions of the

~~plurality of interactions associated with the at least two linked user identifiers that are located in the same region are located in different new regions;~~

~~determine a new region of the plurality of new regions for each transaction of the plurality of transactions associated with the linked account identifier based on the transaction location;~~

~~generate a new transaction signature for the linked account identifier based on the new region for each transaction of the plurality of transactions associated with the linked account identifier, resulting in a new transaction signature;~~

~~generate a new interaction signature for each linked user identifier based on the new region for each interaction of the plurality of interactions associated with the at least two linked user identifiers, resulting in a plurality of new interaction signatures;~~

~~match the new transaction signature to one new interaction signature of the plurality of new interaction signatures; and~~

~~link one account identifier of the plurality of account identifiers to one user identifier of the plurality of user identifiers based on matching the new transaction signature to the at least one new interaction signature.~~

~~18. The computer program product of claim 15, wherein the transaction data associated with the plurality of transactions comprises a transaction time and/or the mobile application data associated with the plurality of interactions comprises a time of interaction; and~~

~~wherein generating the transaction signature for each account identifier of the plurality of account identifiers data is further based on the transaction time or generating the interaction signature for each user identifier of the plurality of user identifiers is further based on the time of interaction.~~

~~19. The computer program product of claim 18, wherein matching at least one transaction signature of the plurality of transaction signatures to at least one interaction signature of the plurality of interaction signatures is based on a difference between the transaction time and the time of interaction satisfying a predetermined threshold.~~

~~20. The computer program product of claim 15, wherein the one or more instructions further cause the at least one processor to:~~

~~generate a plurality of neighborhoods, wherein each neighborhood of the plurality of neighborhoods encompasses a center region and all regions adjacent to the center region;~~

~~determine a neighborhood of the plurality of neighborhoods for each transaction of the plurality of transactions based on the transaction location;~~

~~determine a neighborhood of the plurality of neighborhoods for each interaction of the plurality of interactions based on the interaction location;~~

~~generate a match score, wherein the match score is calculated based on a distance between a neighborhood of a transaction of the plurality of transactions and a neighborhood of an interaction of the plurality of interactions; and~~

~~match at least one transaction signature of the plurality of transaction signatures to at least one interaction signature of the plurality of interaction signatures based on the match score.~~

1. A computer-implemented method, comprising:

generating, with at least one processor, a plurality of regions within a geographic area, each region of the plurality of regions associated with a region identifier;

receiving, with at least one processor, transaction data associated with a plurality of transactions conducted between a plurality of accounts and a plurality of merchants using a plurality of account identifiers, the transaction data comprising, for each transaction, an account identifier, a transaction time, and a transaction location;

receiving, with at least one processor, mobile application data associated with a plurality of interactions between a plurality of mobile device users and at least one mobile application using a plurality of mobile user identifiers, the mobile application data comprising, for each interaction, a mobile user identifier, an

interaction time, and an interaction location, wherein the transaction data and the mobile application data do not comprise a common unique identifier;

determining, with at least one processor, a region of the plurality of regions for each transaction of the plurality of transactions by applying at least one geographic information system (GIS) tool to each transaction location to match the transaction location to a region of the plurality of regions;

determining, with at least one processor, a region of the plurality of regions determining, with at least one processor, a region of the plurality of regions for each interaction of the plurality of interactions by applying the at least one GIS tool to each interaction location to match the interaction location to a region of the plurality of regions;

generating, with at least one processor, a transaction signature for each account identifier of the plurality of account identifiers based on the region and transaction time for each transaction of the plurality of transactions initiated with the account identifier, resulting in a plurality of transaction signatures, each transaction signature comprising at least one region identifier in association with an account identifier used to transact in at least one region corresponding to the at least one region identifier corresponding to at least one transaction time, wherein the plurality of transaction signatures comprises a first transaction signature of a first account identifier of the plurality of account identifiers, wherein the first transaction signature comprises a plurality of transactions initiated by the first account identifier, each of the plurality of transactions initiated by the first account identifier having an associated region identifier and transaction time;

generating, with at least one processor, an interaction signature for each mobile user identifier of the plurality of mobile user identifiers based on the region and interaction time for each interaction of the plurality of interactions associated with a corresponding mobile user identifier, resulting in a plurality of interaction signatures, each interaction signature comprising at least one region identifier in association with a mobile user identifier for a user interacting in at least one

region corresponding to the at least one region identifier corresponding to least one interaction time, wherein the plurality of interaction signatures comprises a first interaction signature of a first mobile user identifier of the plurality of mobile user identifiers, wherein the first interaction signature comprises a plurality of interactions initiated by the first mobile user identifier, each of the plurality of interactions initiated by the first mobile user identifier having an associated region identifier and interaction time, wherein the first account identifier and the first mobile user identifier do not comprise a common unique identifier;

matching, with at least one processor, the first transaction signature of the plurality of transaction signatures to the first interaction signature of the plurality of interaction signatures by comparing the region identifiers for each of the plurality of transactions initiated by the first account identifier with the region identifiers for each of the plurality of interactions initiated by the first mobile user identifier and comparing the transaction times for each of the plurality of transactions initiated by the first account identifier with the interaction times for each of the plurality of interactions initiated by the first mobile user identifier; and

linking, with at least one processor in at least one database, the first account identifier of the plurality of account identifiers associated with the first transaction signature to the first mobile user identifier of the plurality of mobile user identifiers associated with the first interaction signature based on matching the first transaction signature to the first interaction signature.

2. The computer-implemented method of claim 1, further comprising:

determining, with at least one processor, that at least two account identifiers of the plurality of account identifiers are linked to one mobile user identifier of the plurality of mobile user identifiers;

generating, with at least one processor, a plurality of new regions within the geographic area when at least two account identifiers of the plurality of account identifiers are linked to one mobile user identifier of the plurality of mobile user

identifiers, wherein at least two new regions of the plurality of new regions overlap with a region for at least one transaction initiated with at least one linked account identifier;

determining, with at least one processor, a new region of the plurality of new regions for each transaction of the plurality of transactions associated with the at least two linked account identifiers by applying the at least one GIS tool to each transaction location to match the transaction location to a new region of the plurality of new regions, wherein at least two transactions of the plurality of transactions associated with the at least two linked account identifiers located in the same region are located in different new regions;

determining, with at least one processor, a new region of the plurality of new regions for each interaction of the plurality of interactions associated with the linked mobile user identifier by applying the at least one GIS tool to each interaction location to match the interaction location to a new region of the plurality of new regions;

generating, with at least one processor, a new transaction signature for each linked account identifier based on the new region for each transaction of the plurality of transactions associated with the at least two linked account identifiers, resulting in a plurality of new transaction signatures;

generating, with at least one processor, a new interaction signature for the linked mobile user identifier based on the new region for each interaction of the plurality of interactions associated with the linked mobile user identifier, resulting in a new interaction signature;

matching, with at least one processor, one new transaction signature of the plurality of new transaction signatures to the new interaction signature; and

linking, with at least one processor, one account identifier of the plurality of account identifiers to one mobile user identifier of the plurality of mobile user identifiers based on matching the one new transaction signature to the new interaction signature.

3. The computer-implemented method of claim 1, further comprising:

determining, with at least one processor, that one account identifier of the plurality of account identifiers is linked to at least two mobile user identifiers of the plurality of mobile user identifiers;

generating, with at least one processor, a plurality of new regions within the geographic area when one account identifier of the plurality of account identifiers is linked to at least two mobile user identifiers of the plurality of mobile user identifiers, wherein at least two new regions of the plurality of new regions overlap with a region for at least one interaction initiated with at least one linked mobile user identifier;

determining, with at least one processor, a new region of the plurality of new regions for each interaction of the plurality of interactions associated with the at least two linked mobile user identifiers by applying the at least one GIS tool to each interaction location to match the interaction location to a new region of the plurality of new regions, wherein at least two interactions of the plurality of interactions associated with the at least two linked mobile user identifiers that are located in the same region are located in different new regions;

determining, with at least one processor, a new region of the plurality of new regions for each transaction of the plurality of transactions associated with the linked account identifier by applying the at least one GIS tool to each transaction location to match the transaction location to a new region of the plurality of new regions;

generating, with at least one processor, a new transaction signature for the linked account identifier based on the new region for each transaction of the plurality of transactions associated with the linked account identifier, resulting in a new transaction signature;

generating, with at least one processor, a new interaction signature for each linked mobile user identifier based on the new region for each interaction of the plurality of interactions associated with the at least two linked mobile user identifiers, resulting in a plurality of new interaction signatures;

matching, with at least one processor, the new transaction signature to one new interaction signature of the plurality of new interaction signatures; and

linking, with at least one processor, one account identifier of the plurality of account identifiers to one mobile user identifier of the plurality of mobile user identifiers based on matching the new transaction signature to the one new interaction signature.

4. The computer-implemented method of claim 1, wherein matching the first transaction signature of the plurality of transaction signatures to the first interaction signature of the plurality of interaction signatures is based on a difference between the transaction time and the interaction time satisfying a predetermined threshold.

5. The computer-implemented method of claim 4, wherein at least two account identifiers are linked to one mobile user identifier and/or at least two mobile user identifiers are linked to one account identifier, the method further comprising:

shortening, with at least one processor, the predetermined threshold;

matching, with at least one processor, the first transaction signature of the plurality of transaction signatures to the first interaction signature of the plurality of interaction signatures; and

linking, with at least one processor, the first account identifier of the plurality of account identifiers to the first mobile user identifier of the plurality of mobile user identifiers based on matching the first transaction signature to the first interaction signature.

6. The computer-implemented method of claim 1, further comprising:

generating, with at least one processor, a plurality of neighborhoods, wherein each neighborhood of the plurality of neighborhoods encompasses a center region and all regions adjacent to the center region;

determining, with at least one processor, a neighborhood of the plurality of neighborhoods for each transaction of the plurality of transactions based on the transaction location;

determining, with at least one processor, a neighborhood of the plurality of determining, with at least one processor, a neighborhood of the plurality of neighborhoods for each interaction of the plurality of interactions based on the interaction location;

generating, with at least one processor, a match score, wherein the match score is calculated based on a distance between a neighborhood of a transaction of the plurality of transactions and a neighborhood of an interaction of the plurality of interactions; and

matching, with at least one processor, the first transaction signature of the plurality of transaction signatures to the first interaction signature of the plurality of interaction signatures based on the match score.

7. A system, comprising:

at least one processor; and

at least one non-transitory computer readable medium including one or more instructions that, when executed by the at least one processor, cause the at least one processor to:

generate a plurality of regions within a geographic area, each region of the plurality of regions associated with a region identifier;

receive transaction data associated with a plurality of transactions conducted between a plurality of accounts and a plurality of merchants using a plurality of account identifiers, the transaction data comprising,

for each transaction, an account identifier, a transaction time, and a transaction location;

receive mobile application data associated with a plurality of interactions between a plurality of mobile device users and at least one mobile application using a plurality of mobile user identifiers, the mobile application data comprising, for each interaction, a mobile user identifier, an interaction time, and an interaction location, wherein the transaction data and the mobile application data do not comprise a common unique identifier;

determine a region of the plurality of regions for each transaction of the plurality of transactions by applying at least one geographic information system (GIS) tool to each the transaction location to match the transaction location to a region of the plurality of regions;

determine a region of the plurality of regions for each interaction of the plurality of interactions by applying the at least one GIS tool to each the interaction location to match the interaction location to a region of the plurality of regions;

generate a transaction signature for each account identifier of the plurality of account identifiers based on the region and transaction time for each transaction of the plurality of transactions initiated with the account identifier, resulting in a plurality of transaction signatures, each transaction signature comprising at least one region identifier in association with an account identifier used to transact in at least one region corresponding to the at least one region identifier corresponding to at least one transaction time, wherein the plurality of transaction signatures comprises a first transaction signature of a first account identifier of the plurality of account identifiers, wherein the first transaction signature comprises a plurality of transactions initiated by the first account identifier, each of the plurality of transactions initiated by the

first account identifier having an associated region identifier and transaction time;

generate an interaction signature for each mobile user identifier of the plurality of mobile user identifiers based on the region and interaction time for each interaction of the plurality of interactions associated with a corresponding mobile user identifier, resulting in a plurality of interaction signatures, each interaction signature comprising at least one region identifier in association with a mobile user identifier for a user interacting in at least one region corresponding to the at least one region identifier corresponding to least one interaction time, wherein the plurality of interaction signatures comprises a first interaction signature of a first mobile user identifier of the plurality of mobile user identifiers, wherein the first interaction signature comprises a plurality of interactions initiated by the first mobile user identifier, each of the plurality of interactions initiated by the first mobile user identifier having an associated region identifier and interaction time, wherein the first account identifier and the first mobile user identifier do not comprise a common unique identifier;

match the first transaction signature of the plurality of transaction signatures to the first interaction signature of the plurality of interaction signatures by comparing the region identifiers for each of the plurality of transactions initiated by the first account identifier with the region identifiers for each of the plurality of interactions initiated by the first mobile user identifier and comparing the transaction times for each of the plurality of transactions initiated by the first account identifier with the interaction times for each of the plurality of interactions initiated by the first mobile user identifier; and

link the first account identifier of the plurality of account identifiers associated with the first transaction signature to the first mobile user identifier of the plurality of mobile user identifiers associated with the first interaction signature in at least one database based on matching the first transaction signature to the first interaction signature.

8. The system of claim 7, wherein the one or more instructions further cause the at least one processor to:

determine that at least two account identifiers of the plurality of account identifiers are linked to one mobile user identifier of the plurality of mobile user identifiers;

generate a plurality of new regions within the geographic area when at least two account identifiers of the plurality of account identifiers are linked to one mobile user identifier of the plurality of mobile user identifiers, wherein at least two new regions of the plurality of new regions overlap with a region for at least one transaction initiated with at least one linked account identifier;

determine a new region of the plurality of new regions for each transaction of the plurality of transactions associated with the at least two linked account identifiers by applying the at least one GIS tool to each transaction location to match the transaction location to a new region of the plurality of new regions, wherein at least two transactions of the plurality of transactions associated with the at least two linked account identifiers located in the same region are located in different new regions;

determine a new region of the plurality of new regions for each interaction of the plurality of interactions associated with the linked mobile user identifier by applying the at least one GIS tool to each interaction location to match the interaction location to a new region of the plurality of new regions;

generate a new transaction signature for each linked account identifier based on the new region for each transaction of the plurality of transactions associated with the at least two linked account identifiers, resulting in a plurality of new transaction signatures;

generate a new interaction signature for the linked mobile user identifier based on the new region for each interaction of the plurality of interactions associated with the linked mobile user identifier, resulting in a new interaction signature;

match one new transaction signature of the plurality of new transaction signatures to the new interaction signature; and

link one account identifier of the plurality of account identifiers to one mobile user identifier of the plurality of mobile user identifiers based on matching the one new transaction signature to the new interaction signature.

9. The system of claim 7, wherein the one or more instructions further cause the at least one processor to:

determine that one account identifier of the plurality of account identifiers is linked to at least two mobile user identifiers of the plurality of mobile user identifiers;

generate a plurality of new regions within the geographic area when one account identifier of the plurality of account identifiers is linked to at least two mobile user identifiers of the plurality of mobile user identifiers, wherein at least two new regions of the plurality of new regions overlap with a region for at least one interaction initiated with at least one linked mobile user identifier;

determine a new region of the plurality of new regions for each interaction of the plurality of interactions associated with the at least two linked mobile user identifiers by applying the at least one GIS tool to each interaction location to match the interaction location to a new region of the plurality of new regions, wherein at least two interactions of the plurality of interactions associated with the at least two linked mobile user identifiers that are located in the same region are located in different new regions;

determine a new region of the plurality of new regions for each transaction of the plurality of transactions associated with the linked account identifier by

applying the at least one GIS tool to each transaction location to match the transaction location to a new region of the plurality of new regions;

generate a new transaction signature for the linked account identifier based on the new region for each transaction of the plurality of transactions associated with the linked account identifier, resulting in a new transaction signature;

generate a new interaction signature for each linked mobile user identifier based on the new region for each interaction of the plurality of interactions associated with the at least two linked mobile user identifiers, resulting in a plurality of new interaction signatures;

match the new transaction signature to one new interaction signature of the plurality of new interaction signatures; and

link one account identifier of the plurality of account identifiers to one mobile user identifier of the plurality of mobile user identifiers based on matching the new transaction signature to the one new interaction signature.

10. The system of claim 7, wherein matching the first transaction signature of the plurality of transaction signatures to the first interaction signature of the plurality of interaction signatures is based on a difference between the transaction time and the interaction time satisfying a predetermined threshold.

11. The system of claim 10, wherein at least two account identifiers are linked to one mobile user identifier and/or at least two mobile user identifiers are linked to one account identifier, the one or more instructions further cause the at least one processor to:

shorten the predetermined threshold;

match the first transaction signature of the plurality of transaction signatures to the first interaction signature of the plurality of interaction signatures; and

link the first account identifier of the plurality of account identifiers to the first mobile user identifier of the plurality of mobile user identifiers based on matching the first transaction signature to the first interaction signature.

12. The system of claim 7, wherein the one or more instructions further cause the at least one processor to:

generate a plurality of neighborhoods, wherein each neighborhood of the plurality of neighborhoods encompasses a center region and all regions adjacent to the center region;

determine a neighborhood of the plurality of neighborhoods for each transaction of the plurality of transactions based on the transaction location;

determine a neighborhood of the plurality of neighborhoods for each interaction of the plurality of interactions based on the interaction location;

generate a match score, wherein the match score is calculated based on a distance between a neighborhood of a transaction of the plurality of transactions and a neighborhood of an interaction of the plurality of interactions; and

match the first transaction signature of the plurality of transaction signatures to the first interaction signature of the plurality of interaction signatures based on the match score.

13. A computer program product comprising at least one non-transitory computer-readable medium including one or more instructions that, when executed by at least one processor, cause the at least one processor to:

generate a plurality of regions within a geographic area, each region of the plurality of regions associated with a region identifier;

receive transaction data associated with a plurality of transactions conducted between a plurality of accounts and a plurality of merchants using a plurality of account identifiers, the transaction data comprising, for each transaction, an account identifier, a transaction time, and a transaction location;

receive mobile application data associated with a plurality of interactions between a plurality of mobile device users and at least one mobile application using a plurality of mobile user identifiers, the mobile application data comprising, for each interaction, a mobile user identifier, an interaction time and an interaction location, wherein the transaction data and the mobile application data do not comprise a common unique identifier;

determine a region of the plurality of regions for each transaction of the plurality of transactions by applying at least one geographic information system (GIS) tool to each transaction location to match the transaction location to a region of the plurality of regions;

determine a region of the plurality of regions for each interaction of the plurality of interactions by applying the at least one GIS tool to each interaction location to match the interaction location to a region of the plurality of regions;

generate a transaction signature for each account identifier of the plurality of account identifiers based on the region and transaction time for each transaction of the plurality of transactions initiated with the account identifier, resulting in a plurality of transaction signatures, each transaction signature comprising at least one region identifier in association with an account identifier used to transact in at least one region corresponding to the at least one region identifier corresponding to at least one transaction time, wherein the plurality of transaction signatures comprises a first transaction signature of a first account identifier of the plurality of account identifiers, wherein the first transaction signature comprises a plurality of transactions initiated by the first account identifier, each of the plurality of transactions initiated by the first account identifier having an associated region identifier and transaction time;

generate an interaction signature for each mobile user identifier of the plurality of mobile user identifiers based on the region and interaction time for each interaction of the plurality of interactions associated with a corresponding mobile user identifier, resulting in a plurality of interaction signatures, each interaction signature comprising at least one region identifier in association with a mobile user identifier for a user interacting in at least one region corresponding to the at least one region identifier corresponding to least one interaction time, wherein the plurality of interaction signatures comprises a first interaction signature of a first mobile user identifier of the plurality of mobile user identifiers, wherein the first interaction signature comprises a plurality of interactions initiated by the first mobile user identifier, each of the plurality of interactions initiated by the first mobile user identifier having an associated region identifier and interaction time, wherein the first account identifier and the first mobile user identifier do not comprise a common unique identifier;

match the first transaction signature of the plurality of transaction signatures to the first interaction signature of the plurality of interaction signatures by comparing the region identifiers for each of the plurality of transactions initiated by the first account identifier with the region identifiers for each of the plurality of interactions initiated by the first mobile user identifier and comparing the transaction times for each of the plurality of transactions initiated by the first account identifier with the interaction times for each of the plurality of interactions initiated by the first mobile user identifier; and

link the first account identifier of the plurality of account identifiers associated with the first transaction signature to the first user identifier of the plurality of mobile user identifiers associated with the first interaction signature in at least one database based on matching the first transaction signature to the first interaction signature.

14. The computer program product of claim 13, wherein the one or more instructions further cause the at least one processor to:

determine that at least two account identifiers of the plurality of account identifiers are linked to one mobile user identifier of the plurality of mobile user identifiers;

generate a plurality of new regions within the geographic area when at least two account identifiers of the plurality of account identifiers are linked to one mobile user identifier of the plurality of mobile user identifiers, wherein at least two new regions of the plurality of new regions overlap with a region for at least one transaction initiated with at least one linked account identifier;

determine a new region of the plurality of new regions for each transaction of the plurality of transactions associated with the at least two linked account identifiers by applying the at least one GIS tool to each transaction location to match the transaction location to a new region of the plurality of new regions, wherein at least two transactions of the plurality of transactions associated with the at least two linked account identifiers located in the same region are located in different new regions;

determine a new region of the plurality of new regions for each interaction of the plurality of interactions associated with the linked mobile user identifier by applying the at least one GIS tool to each interaction location to match the interaction location to a new region of the plurality of new regions;

generate a new transaction signature for each linked account identifier based on the new region for each transaction of the plurality of transactions associated with the at least two linked account identifiers, resulting in a plurality of new transaction signatures;

generate a new interaction signature for the linked mobile user identifier based on the new region for each interaction of the plurality of interactions associated with the linked mobile user identifier, resulting in a new interaction signature;

match one new transaction signature of the plurality of new transaction signatures to the new interaction signature; and

link one account identifier of the plurality of account identifiers to one mobile user identifier of the plurality of mobile user identifiers based on matching the one new transaction signature to the new interaction signature.

15. The computer program product of claim 13, wherein the one or more instructions further cause the at least one processor to:

determine that one account identifier of the plurality of account identifiers is linked to at least two mobile user identifiers of the plurality of mobile user identifiers;

generate a plurality of new regions within the geographic area when one account identifier of the plurality of account identifiers is linked to at least two mobile user identifiers of the plurality of mobile user identifiers, wherein at least two new regions of the plurality of new regions overlap with a region for at least one interaction initiated with at least one linked mobile user identifier;

determine a new region of the plurality of new regions for each interaction of the plurality of interactions associated with the at least two linked mobile user identifiers by applying the at least one GIS tool to each interaction location to match the interaction location to a new region of the plurality of new regions, wherein at least two interactions of the plurality of interactions associated with the at least two linked mobile user identifiers that are located in the same region are located in different new regions;

determine a new region of the plurality of new regions for each transaction of the plurality of transactions associated with the linked account identifier by applying the at least one GIS tool to each transaction location to match the transaction location to a new region of the plurality of new regions;

generate a new transaction signature for the linked account identifier based on the new region for each transaction of the plurality of transactions associated with the linked account identifier, resulting in a new transaction signature;

generate a new interaction signature for each linked mobile user identifier based on the new region for each interaction of the plurality of interactions associated with the at least two linked mobile user identifiers, resulting in a plurality of new interaction signatures;

match the new transaction signature to one new interaction signature of the plurality of new interaction signatures; and

link one account identifier of the plurality of account identifiers to one mobile user identifier of the plurality of mobile user identifiers based on matching the new transaction signature to the one new interaction signature.

16. The computer program product of claim 13, wherein matching the first transaction signature of the plurality of transaction signatures to the first interaction signature of the plurality of interaction signatures is based on a difference between the transaction time and the interaction time satisfying a predetermined threshold.

17. The computer program product of claim 13, wherein the one or more instructions further cause the at least one processor to:

generate a plurality of neighborhoods, wherein each neighborhood of the plurality of neighborhoods encompasses a center region and all regions adjacent to the center region;

determine a neighborhood of the plurality of neighborhoods for each transaction of the plurality of transactions based on the transaction location;

determine a neighborhood of the plurality of neighborhoods for each interaction of the plurality of interactions based on the interaction location;

generate a match score, wherein the match score is calculated based on a distance between a neighborhood of a transaction of the plurality of

transactions and a neighborhood of an interaction of the plurality of interactions; and

match the first transaction signature of the plurality of transaction signatures to the first interaction signature of the plurality of interaction signatures based on the match score.