Claims

1. A data processing system for reconciling ~~electronic~~ transaction data, the data processing system comprising:

a wallet application server operably coupled to a payment transaction database, the wallet application server comprising:

a computer processor and a data storage device, the data storage device storing instructions operative by the processor to:

receive, via an application programming interface (api) of a merchant server, transaction data indicating a payment transaction;

store the transaction data in the payment transaction database;

receive, via the api of the merchant server, refund transaction data indicating a refund transaction, the refund transaction data comprising an indication of an original transaction and an indication of a refund amount;

look up original transaction data for the original transaction in ~~a~~ the payment transaction database;

generate reconciled transaction data from the refund transaction data and the original transaction data~~; and~~, wherein the reconciled transaction data comprises an interactive table showing the original transaction and the refund transaction, wherein the interactive table comprises an offset between the refund transaction data and the original transaction data; and

provide the reconciled transaction data to a user device, wherein the user device has an option to view a link between the original transaction and the refund transaction in the interactive table, and wherein the user device, via a wallet application running on the user device, displays the reconciled transaction data and receives a selection of the option to view the link between the original transaction and the refund transaction in the interactive table.

2. A data processing system according to claim 1, wherein the refund transaction data further comprises an indication of a refunded item, and wherein the original transaction data comprises an indication of purchased items, and wherein the data storage device further comprises instructions operative by the processor to generate the reconciled transaction data from the refund transaction data and the original transaction data by matching the refunded item with a corresponding item from the purchased items.

3. A data processing system according to claim 2, wherein the refund transaction data further comprises an indication of a value associated with the refunded item, and wherein the original transaction data further comprises indications of values associated with each

of the purchased items, and wherein the data storage device further comprises instructions operative by the processor to generate reconciled transaction data from the refund transaction data and the original transaction data by calculating an offset between the value associated with the refunded item and the value associated with the corresponding item from the purchased items.

4. A data processing system according to claim 2 ~~or claim 3~~, wherein the wallet application server is operably coupled to a shopping cart database, wherein the indication of purchased items comprises a shopping cart identifier and wherein the data storage device further comprises instructions operative by the processor to ~~use~~ look up, using the shopping cart identifier, ~~to look up~~ product identifiers for the purchased items in ~~a~~ the shopping cart database.

5. A data processing system according to ~~any preceding~~ claim 1, wherein the wallet application server is operably coupled to a refund transaction database, wherein the data storage device further comprises instructions operative by the processor to store the refund transaction data in ~~a~~ the refund transaction database.

6. A data processing system according to claim 5, wherein the wallet application server is operably coupled to a shopping card database, wherein the refund transaction data comprises an indication of a refunded item, and wherein the data storage device further comprises instructions operative by the processor to store an indication of a product identifier for the refunded item with a shopping cart identifier in ~~a~~ the shopping cart database and to store an indication of the shopping cart identifier with an indication of the refund transaction in the refund transaction database.

~~7. A data processing system according to any preceding claim wherein the data storage device further comprises instructions operative by the processor to receive the refund transaction data by accessing an application programming interface provided by a merchant server.~~

~~8.~~7. A data processing system according to ~~any preceding~~ claim 1, wherein the data storage device further comprises instructions operative by the processor to receive, via the api of the merchant server, the original transaction data for the original transaction and to store the original transaction data in the payment transaction database.

~~9.~~8. A data processing method for reconciling ~~refund~~ transaction data, wherein a wallet application server is operably coupled to a payment transaction database, the method comprising:

receiving, by the wallet application server and via an application programming interface (api) of a merchant server, transaction data indicating a payment transaction;

storing, by the wallet application server, the transaction data in the payment transaction database;

receiving, by the wallet application server and via the api of the merchant server, refund transaction data indicating a refund transaction, the refund transaction data comprising an indication of ~~an original~~ the payment transaction and an indication of a refund amount;

looking up, ~~original~~ by the wallet application server, transaction data for the ~~original~~ payment transaction in ~~a~~ the payment transaction database;

generating, by the wallet application server, reconciled transaction data from the refund transaction data and the payment transaction data, wherein the reconciled transaction data comprises an interactive table showing the original transaction and the refund transaction, wherein the interactive table comprises an offset between the refund transaction data and the original transaction data; and

providing, by the wallet application server, the reconciled transaction data to a user device, wherein the user device has an option to view a link between the original transaction and the refund transaction in the interactive table and wherein the user device, via a wallet application running on the user device, displays the reconciled transaction data and receives a selection of the option to view the link between the original transaction and the refund transaction in the interactive table.

~~10.~~9. A data processing method according to claim ~~9~~ 8, wherein the refund transaction data further comprises an indication of a refunded item, and wherein the ~~original~~ payment transaction data comprises an indication of purchased items, and wherein generating, by the wallet application server, reconciled transaction data from the refund transaction data and the ~~original~~ payment transaction data comprises matching, by the wallet application server, the refunded item with a corresponding item from the purchased items.

~~11.~~10. A data processing method according to claim ~~10~~ 9, wherein the refund transaction data further comprises an indication of a value associated with the refunded item, and wherein the ~~original~~ payment transaction data further comprises indications of values associated with each of the purchased items, and wherein generating, by the wallet application server, reconciled transaction data from the refund transaction data and the ~~original~~ payment transaction data comprises calculating, by the wallet application server, an

offset between the value associated with the refunded item and the value associated with the corresponding item from the purchased items.

~~12.~~11. A data processing method according to claim ~~10 or claim 11~~ 9, wherein the indication of purchased items comprises a shopping cart identifier and wherein the method further comprises looking up, by the wallet application server and using the shopping cart identifier, ~~to look up~~ product identifiers for the purchased items in ~~a~~ the shopping cart database.

~~13.~~12. A data processing method according to ~~any one of~~ claim~~s 9 to 12~~ 8, wherein the wallet application server is operably coupled to a refund transaction database, and further comprising storing, by the wallet application server, the refund transaction data in ~~a~~ the refund transaction database.

~~14.~~13. A data processing method according to claim ~~13~~ 12, wherein the wallet application server is operably coupled to a shopping cart database, wherein the refund transaction data comprises an indication of a refunded item, the method comprising storing, by the wallet application server, an indication of a product identifier for the refunded item with a shopping cart identifier in ~~a~~ the shopping cart database and storing, by the wallet application server, an indication of the shopping cart identifier with an indication of the refund transaction in the refund transaction database.

~~15. A data processing method according to any one of claims 9 to 14, wherein receiving the refund transaction data comprises accessing an application programming interface provided by a merchant.~~

~~16. A data processing method according to any one of claims 9 to 15, further comprising receiving original transaction data for the original transaction and storing the original transaction data in the payment transaction database.~~

~~17.~~14. A non-transitory computer readable medium carrying computer executable instructions which when executed ~~on~~ by at least one processor of a wallet application server, cause the at least one processor of the wallet application server to perform operations comprising: ~~carry out a method according to any one of claims 9 to 16.~~

receiving, via an application programming interface (api) of a merchant server, transaction data indicating a payment transaction, wherein the wallet application server is operably coupled to a payment transaction database;

storing the transaction data in the payment transaction database;

receiving, via the api of the merchant server, refund transaction data indicating a refund transaction, the refund transaction data comprising an indication of the payment transaction and an indication of a refund amount;

looking up transaction data for the payment transaction in the payment transaction database;

generating reconciled transaction data from the refund transaction data and the payment transaction data, wherein the reconciled transaction data comprises an interactive table showing the original transaction and the refund transaction, wherein the interactive table comprises an offset between the refund transaction data and the original transaction data; and

providing the reconciled transaction data to a user device, wherein the user device has an option to view a link between the original transaction and the refund transaction in the interactive table, and wherein the user device, via a wallet application running on the user device, displays the reconciled transaction data and receives a selection of the option to view the link between the original transaction and the refund transaction in the interactive table.

15. A non-transitory computer readable medium according to claim 14, wherein the refund transaction data further comprises an indication of a refunded item, and wherein the payment transaction data comprises an indication of purchased items, and wherein generating reconciled transaction data from the refund transaction data and the payment transaction data comprises matching the refunded item with a corresponding item from the purchased items.

16. A non-transitory computer readable medium according to claim 15, wherein the refund transaction data further comprises an indication of a value associated with the refunded item, and wherein the payment transaction data further comprises indications of values associated with each of the purchased items, and wherein generating reconciled transaction data from the refund transaction data and the payment transaction data comprises calculating an offset between the value associated with the refunded item and the value associated with the corresponding item from the purchased items.

17. A non-transitory computer readable medium according to claim 15, wherein the wallet application server is operably coupled to a shopping cart database, wherein indication of purchased items comprises a shopping cart identifier and wherein the computer executable instructions, when executed by the at least one processor of the wallet application server, cause the at least one processor of the wallet application server to further perform operations comprising:

looking up, using the shopping cart identifier, product identifiers for the purchased items in the shopping cart database.

18. A non-transitory computer readable medium according to claim 14, wherein the wallet application server is operably coupled to a refund transaction database, wherein the computer executable instructions, when executed by the at least one processor of the wallet application server, cause the at least one processor of the wallet application server to further perform operations comprising:

storing the refund transaction data in the refund transaction database.