mobile wallet impractical.

[5] In addition, with much focus on mobile commerce, many competing service providers may seek providing their services to the consumers. However, such services may be offered to the consumer without regard to the mobile terminal capabilities or mobile service providers utilized by the consumers. Due to technical or business compatibility, there may be numerous applications that may be inapplicable to the consumer's attributes. Accordingly, consumers are often bombarded with various applications that may be inapplicable to the consumer, making the process more difficult than necessary.

Disclosure of Invention

[6] The present disclosure provides a method for providing an application product using a trusted service manager (TSM) server including a processor, a memory and an interface, the method comprising:

receiving by the processor of the TSM server, at least two of an application profile, a load file profile, a secure element (SE) profile, and a mobile terminal profile of a mobile terminal from service providers through the interface of the TSM server;

establishing by the processor of the TSM server, a link between two profiles among the received at least two profiles, wherein the link is established for assembling the application product;

applying by the processor of the TSM server, a limitation to the application product, wherein the applied limitation determines whether the application product is accessible to a user;

receiving by the processor of the TSM server, mobile terminal information, wherein the mobile terminal information comprises at least one of operating system information, SE type information, hardware information, and application information stored in the mobile terminal; and

filtering by the processor of the TSM server, an applicable application product based on the applied limitation and the mobile terminal information,

wherein said applying the limitation comprises determining whether there is a business incompatibility between the service providers based on business rules of the service providers aggregated by the TSM server and stored in the memory of the TSM server and applying a business rule limitation to the application product in response to a determination that there is the business incompatibility between the service providers, and

wherein said applying the limitation further comprises determining whether the application product is certified by a financial institution and applying a certification limitation to the application product in response to a determination that the application product is not certified by the financial institution, and said applying the limitation is performed during a process for preregistering the service providers in the TSM server and before provisioning of a mobile application in the mobile terminal.

[7] The present disclosure also provides a method for filtering an application product using a trusted service manager (TSM) server including a processor, a memory and an interface, the method comprising:

receiving by the processor of the TSM server, a key profile and at least two of an application profile, a load file profile, a key profile, a secure element (SE) profile, and a mobile terminal profile of a mobile terminal from service providers through the interface of the TSM server;

receiving by the processor of the TSM server, a key;

establishing by the processor of the TSM server, a first link between the key profile and the key;

establishing by the processor of the TSM server, a second link between two profiles among the received at least two profiles, wherein the second link is established for assembling the application product;

applying by the processor of the TSM server, a limitation to the application product, wherein the limitation is selected from the group consisting of a technical limitation, a business rule limitation, and a certification limitation;

receiving by the processor of the TSM server, mobile terminal information, wherein the mobile terminal information comprises at least one of operating system information, SE type information, hardware information, and application information stored in the mobile terminal; and

filtering by the processor of the TSM server, an applicable application product based on the applied limitation and the mobile terminal information; and

displaying by the processor of the TSM server, the filtered applicable application product,

wherein said applying the limitation comprises determining whether there is a business incompatibility between the service providers based on business rules of the service providers aggregated by the TSM server and stored in the memory of the TSM server and applying the business rule limitation to the application product in response to a

determination that there is the business incompatibility between the service providers, and

wherein said applying the limitation further comprises determining whether the application product is certified by a financial institution and applying the certification limitation to the application product in response to a determination that the application product is not certified by the financial institution, and said applying the limitation is performed during a process for preregistering the service providers in the TSM server and before provisioning of a mobile application in the mobile terminal.

~~[6]~~[8] Exemplary embodiments of the present invention provide a method for providing an application to a user. Exemplary embodiments of the present invention provide a method for providing data preparation based on a data type.

~~[7]~~[9] Additional features of the invention will be set forth in the description which follows, and in part will be apparent from the description, or may be learned by practice of the invention.

~~[8]~~[10] Exemplary embodiments of the present invention provide a method using a non-transitory processor for providing an application product including receiving an application profile, a load file profile, a secure element (SE) profile, and a mobile terminal profile; establishing a link between the received profiles, in which the link is established for assembling the application product; and applying a limitation to the application product, in which the applied limitation determines whether the application product is accessible to a user.

[10A] Exemplary embodiments of the present invention provide a method using a non-transitory processor for data preparation in a Trusted Service Manager (TSM) including receiving data from a service provider, in which the received data is in a Data Grouping Identifier (DGI) format or a raw data format; and processing the data using at least one of a logical data preparation and a physical data preparation.

[10B] Exemplary embodiments of the present invention provide a method using a non-transitory processor for filtering an application product including receiving an application profile, a load file profile, a key profile, a secure element (SE) profile, and a mobile terminal profile; receiving a key; establishing a link between the key profile and the key; establishing a link between the received profiles, in which the link is established for assembling the application product; applying a limitation to the application product, in which the limitation is a technical limitation, a business rule

limitation, or a certification limitation; receiving mobile terminal information, in which the mobile terminal information includes at least one of operating system information,

CLAIMS

[Claim 1] A method using a non-transitory processor for providing an application product, comprising:
receiving at least one of an application profile, a load file profile, a secure element (SE) profile, and a mobile terminal profile;
establishing a link between the received profiles, wherein the link is established for assembling the application product; and
checking one of the received profiles against another one of the received profiles for technical incompatibility;
applying a limitation to the application product, wherein the applied limitation determines whether the application product is accessible to a user.

[Claim 2] The method of claim 1, wherein the application profile describes a smart card application as metadata for creating an instance of the application.

[Claim 3] The method of claim 1, wherein the load file profile describes one or more load files that make up an application code.

[Claim 4] The method of claim 1, wherein the mobile terminal profile describes attributes of a mobile terminal comprising, Near Field Communication (NFC) capability, supported SE types and over-the-air (OTA) channel support.

[Claim 5] The method of claim 1, further comprising: receiving a key profile; receiving a key; and
establishing a link between the key profile and the key.

[Claim 6] The method of claim 1, wherein the application product comprises at least one of a product name, a logo, a product group, a SE type, a security domain application identifier (AID), and an instance AID.

[Claim 7] The method of claim 6, wherein the key profile describes key information as metadata for creating an instance of a key.

[Claim 8] The method of claim 1, wherein checking one of the received profiles against another one of the received profiles for technical incompatibility further comprises applying a technological limitation, wherein the technological limitation is applied in response to a determination of a technological incompatibility being present between at least one of a mobile terminal, an operating system of the mobile terminal, and a SE type.

[Claim 9] The method of claim 1, wherein applying the limitation to the application product comprises applying a business rule limitation, wherein the business limitation is applied in response to a deter-

mination of a business incompatibility between one or more service providers.

[Claim 10] The method of claim 9, wherein the service providers comprise at least one of a financial institution, a mobile network operator, a handset manufacturer, and a card manufacturer.

[Claim 11] The method of claim 1, wherein applying the limitation to the application product comprises applying a certification limitation, wherein the certification limitation is applied in response to a determination that the application product is not certified by a financial institution.

[Claim 12] The method of claim 11, wherein financial institution is a credit card issuer or a debit card issuer.

[Claim 13] The method of claim 1, wherein establishing a link between the received profiles for assembling the application product comprises establishing a link for the application product with a dependent application product.

[Claim 14] A method using a non-transitory processor for filtering an application product, comprising:
receiving at least one of an application profile, a load file profile, a key profile, a secure element (SE) profile, and a mobile terminal profile;
receiving a key;
establishing a link between the key profile and the key; establishing a link between the received profiles, wherein the link is established for assembling the application product;
checking one of the received profiles against another one of the received profiles for technical incompatibility;
applying a limitation to the application product, wherein the limitation is a technical limitation, a business rule limitation, or a certification

limitation;

receiving mobile terminal information, wherein the mobile terminal information comprises at least one of operating system information, SE type information, hardware information, and application information stored in a mobile terminal; and

filtering the applicable application product based on the applied limitation and the mobile terminal information for displaying to a user.

Claims

1. A method for providing an application product using a trusted service manager (TSM) server including a processor, a memory and an interface, the method comprising:

receiving by the processor of the TSM server, at least two of an application profile, a load file profile, a secure element (SE) profile, and a mobile terminal profile of a mobile terminal from service providers through the interface of the TSM server;

establishing by the processor of the TSM server, a link between two profiles among the received at least two profiles, wherein the link is established for assembling the application product;

applying by the processor of the TSM server, a limitation to the application product, wherein the applied limitation determines whether the application product is accessible to a user;

receiving by the processor of the TSM server, mobile terminal information, wherein the mobile terminal information comprises at least one of operating system information, SE type information, hardware information, and application information stored in the mobile terminal; and

filtering by the processor of the TSM server, an applicable application product based on the applied limitation and the mobile terminal information,

wherein said applying the limitation comprises determining whether there is a business incompatibility between the service providers based on business rules of the service providers aggregated by the TSM server and stored in the memory of the TSM server and applying a business rule limitation to the application product in response to a determination that there is the business incompatibility between the service providers, and

wherein said applying the limitation further comprises determining whether the

application product is certified by a financial institution and applying a certification limitation to the application product in response to a determination that the application product is not certified by the financial institution, and said applying the limitation is performed during a process for preregistering the service providers in the TSM server and before provisioning of a mobile application in the mobile terminal.

2. The method of claim 1, wherein the application profile describes a smart card application as metadata for creating an instance of the application.

3. The method of claim 1, wherein the load file profile describes one or more load files that make up an application code.

4. The method of claim 1, wherein the mobile terminal profile describes attributes of the mobile terminal, the attributes comprise at least one of Near Field Communication (NFC) capability, supported SE types, and over-the-air (OTA) channel supportability.

5. The method of claim 1, further comprising:

receiving a key profile;

receiving a key; and

establishing a link between the key profile and the key.

6. The method of claim 1, wherein the application product comprises at least one of a product name, a logo, a product group, a SE type, a security domain application identifier (AID), and an instance AID.

7. The method of claim 5, wherein the key profile describes key

information as metadata for creating an instance of a key.

8. The method of claim 1, wherein said applying the limitation to the application product further comprises determining whether there is a technical incompatibility between at least two of the mobile terminal, an operating system of the mobile terminal, and a SE type and applying a technical limitation to the application product in response to a determination that there is the technical incompatibility between the at least two of the mobile terminal, the operating system of the mobile terminal, and the SE type.

9. The method of claim 1, wherein the service providers comprise at least two of the financial institution, a mobile network operator, a handset manufacturer, and a card manufacturer.

10. The method of claim 1, wherein the financial institution comprises at least one of a credit card issuer and a debit card issuer.

11. The method of claim 1, wherein said establishing the link between the received profiles comprises establishing a link between the application product and a dependent application product.

12. A method for filtering an application product using a trusted service manager (TSM) server including a processor, a memory and an interface, the method comprising:

receiving by the processor of the TSM server, a key profile and at least two of an application profile, a load file profile, a key profile, a secure element (SE) profile, and a mobile terminal profile of a mobile terminal from service providers through the

interface of the TSM server;

receiving by the processor of the TSM server, a key;

establishing by the processor of the TSM server, a first link between the key profile and the key;

establishing by the processor of the TSM server, a second link between two profiles among the received at least two profiles, wherein the second link is established for assembling the application product;

applying by the processor of the TSM server, a limitation to the application product, wherein the limitation is selected from the group consisting of a technical limitation, a business rule limitation, and a certification limitation;

receiving by the processor of the TSM server, mobile terminal information, wherein the mobile terminal information comprises at least one of operating system information, SE type information, hardware information, and application information stored in the mobile terminal; and

filtering by the processor of the TSM server, an applicable application product based on the applied limitation and the mobile terminal information; and

displaying by the processor of the TSM server, the filtered applicable application product,

wherein said applying the limitation comprises determining whether there is a business incompatibility between the service providers based on business rules of the service providers aggregated by the TSM server and stored in the memory of the TSM server and applying the business rule limitation to the application product in response to a determination that there is the business incompatibility between the service providers, and

wherein said applying the limitation further comprises determining whether the application product is certified by a financial institution and applying the certification limitation to the application product in response to a determination that the application

product is not certified by the financial institution, and said applying the limitation is performed during a process for preregistering the service providers in the TSM server and before provisioning of a mobile application in the mobile terminal.