

**Toyota Motor Corp. and Kia Corp.
v.**

Emerging Automotive LLC

IPR2024-00981

U.S. Patent No. 9,365,188

United States Patent and Trademark Office

'188 Patent



US009365188B1

(12) **United States Patent**
Penilla et al. (10) **Patent No.:** **US 9,365,188 B1**
(45) **Date of Patent:** ***Jun. 14, 2016**

(54) **METHODS AND SYSTEMS FOR USING CLOUD SERVICES TO ASSIGN E-KEYS TO ACCESS VEHICLES** (56) **References Cited**
U.S. PATENT DOCUMENTS

(71) Applicant: **Angel A. Penilla**, Sacramento, CA (US);
Albert S. Penilla, Sunnyvale, CA (US)

3,600,397 A 9/19/72 Parker
3,799,663 A 3/19/74 Reed
4,462,400 A 3/10/76 Reed

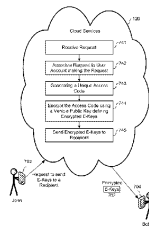
METHODS AND SYSTEMS FOR USING CLOUD SERVICES TO ASSIGN E-KEYS TO ACCESS VEHICLES

- (63) Continuation-in-part of application No. 13/452,382, filed on Apr. 22, 2012, now Pat. No. 9,123,035, and a continuation of application No. 14/063,638, filed on Oct. 25, 2013, now Pat. No. 9,189,900, which is a continuation-in-part of application No. 13/824,158, filed on Mar. 15, 2013, now Pat. No. 9,200,694.
- (60) Provisional application No. 61/478,436, filed on Apr. 22, 2011, provisional application No. 61/745,729, filed on Dec. 24, 2012.

identifies recipient of use of vehicle. The request includes identifying information for enabling sending of the e-key to the recipient via an electronic transmission. The request includes a condition of use of the vehicle. The method includes generating the e-key. The e-key is associated with the condition of use of the vehicle. The method includes transmitting the e-key to a device or user account of the recipient. The method further includes transmitting data to the vehicle to enable use of the vehicle via the e-key and receiving use data regarding use of the vehicle for when the

Date of Patent: ***Jun. 14, 2016**

- (58) **Field of Classification Search**
USPC 320/109
See application file for complete search history.
- and for communicating with devices local to the vehicle.
- 20 Claims, 40 Drawing Sheets**



Kia Ex. 1001, Page 1 of 70

In one embodiment, access can be by way of electronic keys (e.g., e-keys), which can be sent by a vehicle owner/admin to some person or entity. For example, the user-owner of the vehicle can assign a valet with access to the vehicle by going on an application (App or website) on a computing device (e.g., mobile or non-mobile device), identifying the recipient, identifying a mode for communicating with the recipient (e.g., text, email, message, notification, etc.), selecting the account privileges (e.g., what type of access, speed limits, geographic restrictions, amount of time the e-keys will be valid (or else expire)), and requesting that e-keys be sent to the recipient.

Ex. 1001 ('188 Patent), 8:52-63

'188 Patent



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(56) **References Cited**

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METHODS AND SYSTEMS FOR USING CLOUD SERVICES TO ASSIGN E-KEYS TO ACCESS VEHICLES

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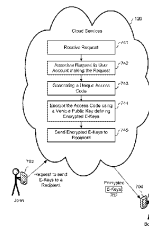
identifies recipient of use of vehicle. The request includes identifying information for enabling sending of the e-key to the recipient via an electronic transmission. The request includes a condition of use of the vehicle. The method includes generating the e-key. The e-key is associated with the condition of use of the vehicle. The method includes transmitting the e-key to a device or user account of the recipient. The method further includes transmitting data to the vehicle to enable use of the vehicle via the e-key and receiving use data regarding use of the vehicle for when the

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20 Claims, 40 Drawing Sheets



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The present invention relates to systems and methods for generating and sharing electronic keys (e-Keys) with users and cloud-based processing systems.

Ex. 1001 ('188 Patent), 1:33-35

'188 Patent



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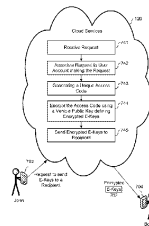
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identifying recipient to use a vehicle. The request includes identifying information for enabling sending of the e-key to the recipient via an electronic transmission. The request includes a condition of use of the vehicle. The method includes generating the e-key. The e-key is associated with the condition of use of the vehicle. The method includes transmitting the e-key to a device or user account of the recipient. The method further includes transmitting data to the vehicle to enable use of the vehicle via the e-key and receiving use data regarding use of the vehicle when the

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See application file for complete search history. **20 Claims, 40 Drawing Sheets**



Kia Ex. 1001, Page 1 of 70

The methods, systems and apparatus are provided for connected vehicles and cloud based processing.

In one embodiment, a method is provided that includes receiving a request to generate electronic key (e-key) for an identified recipient to use a vehicle. The request includes identifying information for enabling sending of the e-key to the recipient via an electronic transmission. The request includes a condition of use of the vehicle. The method includes generating the e-key. The e-key is associated with the condition of use of the vehicle. The method includes

Ex. 1001 ('188 Patent), 1:54-63

'188 Patent, Claims 1[a], 16[a]

Each of the independent claims of the '188 patent requires:

- a server receiving a ***“request from a user ... to generate an electronic key (e-key)”***
- The ***“request includes a condition of use of the vehicle as set by the user via the user account”***

1. A method, comprising,
receiving, by a server, a request from a user via a user account that has a vehicle associated therewith to generate an electronic key (e-key) for an identified recipient to use the vehicle, the request includes identifying information for enabling sending of the e-key to the recipient via an electronic transmission, the request includes a condition of use of the vehicle as set by the user via the user account;

16. A method, comprising,
receiving, by a server, a request from a user via a user account that has a vehicle associated therewith to generate an electronic key (e-key) for an identified recipient to use the vehicle, the request includes identifying information for enabling sending of the e-key to the recipient via an electronic transmission, the request includes a condition of use of the vehicle as set by the user via the user account;

'188 Patent, Claim 19[a]

Each of the independent claims of the '188 patent requires:

- a server receiving a ***“request from a user ... to generate an electronic key (e-key)”***
- The ***“request includes a condition of use of the vehicle as set by the user via the user account”***

19. A method, comprising,

receiving, by a server, a request from a user via a user account that has a vehicle associated therewith to generate an electronic key (e-key) for an identified recipient to use the vehicle, the request includes identifying information for enabling sending of the e-key to the recipient via an electronic transmission, the request includes a condition of use of the vehicle as set by the user via the user account;

Ex. 1001 ('188 Patent), Claim 19

'188 Patent, Claims 1[b], 16[b], 19[b]

Each of the independent claims of the '188 patent requires:

- ***generating***, by the server, the e-key, ***the e-key being assigned with the condition of use of the vehicle***
(1[b], 19[b])
- ***generating***, by the server, the e-key, ***the e-key being associated with the condition of use of the vehicle***
(16[b])

generating, by the server, the e-key, the e-key being assigned with the condition of use of the vehicle;

EX1001 ('188 Patent), Claim 1[b]

generating, by the server, the e-key, the e-key being associated with the condition of use of the vehicle;

EX1001 ('188 Patent), Claim 16[b]

generating, by the server, the e-key, the e-key being assigned with the condition of use of the vehicle;

EX1001 ('188 Patent), Claim 19[b]

All Kleve-based grounds fail, neither alleged “request” nor “e-key” “includes a condition of use of the vehicle as set by the user ...”

1. A method, comprising,
receiving, by a server, a request from a user via a user account that has a vehicle associated therewith to generate an electronic key (e-key) for an identified recipient to use the vehicle, the request includes identifying information for enabling sending of the e-key to the recipient via an electronic transmission, the request includes a condition of use of the vehicle as set by the user via the user account;

Ex. 1001 ('188 Patent), Claim 1

16. A method, comprising,
receiving, by a server, a request from a user via a user account that has a vehicle associated therewith to generate an electronic key (e-key) for an identified recipient to use the vehicle, the request includes identifying information for enabling sending of the e-key to the recipient via an electronic transmission, the request includes a condition of use of the vehicle as set by the user via the user account;

Ex. 1001 ('188 Patent), Claim 16

19. A method, comprising,
receiving, by a server, a request from a user via a user account that has a vehicle associated therewith to generate an electronic key (e-key) for an identified recipient to use the vehicle, the request includes identifying information for enabling sending of the e-key to the recipient via an electronic transmission, the request includes a condition of use of the vehicle as set by the user via the user account;

Ex. 1001 ('188 Patent), Claim 19

- Neither Kleve, nor Kleve in combination, discloses or suggests 1[a]’s required “request includes a condition of use” nor 1[b]’s e-key assigned/associated with “the condition of use”

generating, by the server, the e-key, the e-key being assigned with the condition of use of the vehicle;

EX1001 ('188 Patent), Claim 1[b]

generating, by the server, the e-key, the e-key being assigned with the condition of use of the vehicle;

EX1001 ('188 Patent), Claim 19[b]

generating, by the server, the e-key, the e-key being associated with the condition of use of the vehicle;

EX1001 ('188 Patent), Claim 16[b]

Neither Kleve's virtual key nor any "request" includes any "condition of use"

All Kleve-based grounds fail because:

- (1) Kleve lacks any request to generate an e-key that includes a "condition of use ... as set by the user"
- (2) Kleve's "virtual key" is not generated with any assigned/associated "condition of use"
- (3) Petitioners' proposed modifications are wholly incompatible with Kleve's existing solution:
 - Kleve dictates that the Owner, alone, should have the ability to "set rental restrictions" – modification thwarts Kleve's express purpose
 - Kleve teaches separate mechanism to input restrictions to "enforce compliance with rental agreement terms" – unnecessarily duplicative if Kleve modified
 - Kleve's solution is already *more secure, less vulnerable* to tampering than modifications

Kleve does not disclose generating a virtual key assigned or associated with any “condition of use”, nor including any “condition of use” in any request

- Kleve’s “terms and conditions for the rental period” reflect the agreed-to terms of a “rental contract”—Kleve never teaches to generate the virtual key assigned/associated with the rental agreement terms nor to include any rental agreement terms in the request for a virtual key

[0084] At step 812, if the owner decides he has no interest in accepting the Temporary User’s offer, he may decline and wait for the vehicle rental authorization system to notify of any other offers. If the owner has decided to accept the offer he may begin the process of developing terms and conditions of the rental period. At step 814, the owner may negotiate additional terms and conditions based on the specific use and needs the Temporary User may use the vehicle for. These additional terms and conditions may include, but not limited to, cargo load weight restrictions, tow load restrictions, or the amount of miles that can be driven during the rental period. The negotiation of the terms and conditions may be done using the vehicle authorization rental system.

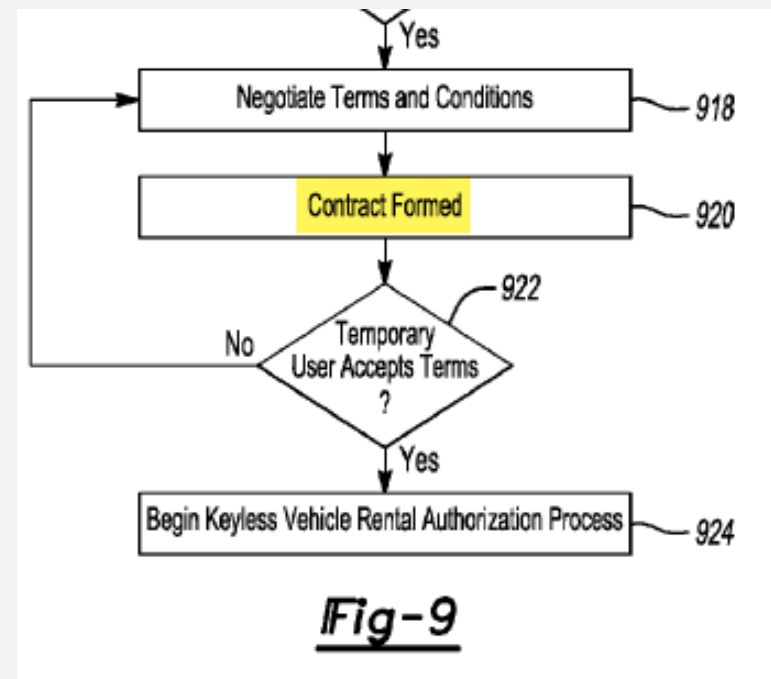
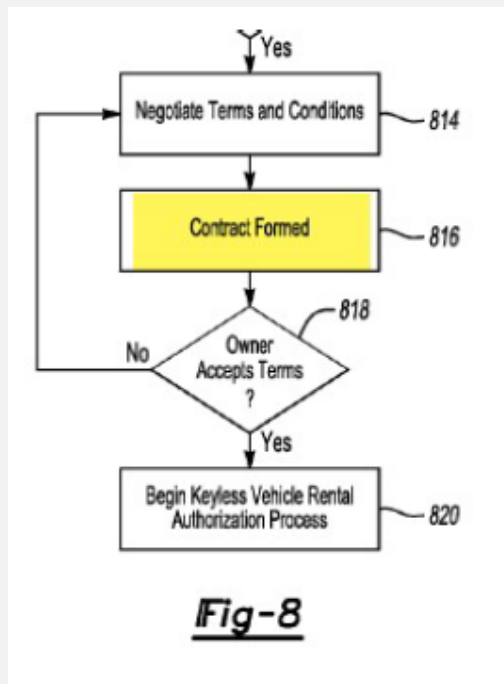
EX1004 (Kleve), ¶ 84

[0085] At step 818, once the contract is formed, the Owner and Temporary User may use the vehicle authorization rental system to accept the terms and conditions. The vehicle authorization rental system may begin the keyless vehicle rental authorization process at step 820. The owner may complete the entire vehicle rental process using the vehicle rental authorization system without meeting the Temporary User.

EX1004 (Kleve), ¶ 85

Kleve does not disclose generating a virtual key assigned or associated with any “condition of use”, nor including any “condition of use” in any request

- Kleve’s “terms and conditions for the rental period” reflect the agreed-to terms of a “rental contract”—Kleve never teaches to generate the virtual key assigned/associated with the rental agreement terms nor to include any rental agreement terms in the request for a virtual key



Kleve does not disclose generating a virtual key assigned or associated with any “condition of use”, nor including any “condition of use” in any request

- Kleve’s “terms and conditions for the rental period” reflect the agreed-to terms of a “rental contract”—Kleve never teaches to generate the virtual key assigned/associated with the rental agreement terms nor to include any rental agreement terms in the request for a virtual key

[0089] At step 916, if the owner decides he has no interest in accepting the Temporary User’s offer, therefore declining, the Temporary User may go back and select another potential vehicle to rent. If the owner has decided to accept the offer, he may begin the process of developing terms and conditions of the rental period. The owner may input additional terms and conditions based on the specific use and needs the Temporary User may have for renting the vehicle at step 918. These additional terms and conditions may include, but not limited to, cargo load weight restrictions, tow load restrictions, or the amount of miles that can be driven during the rental period. The negotiation of the terms and conditions may be done using the vehicle authorization rental system. After negotiation of terms and conditions, the authorization rental system may output rental terms for the parties to review.

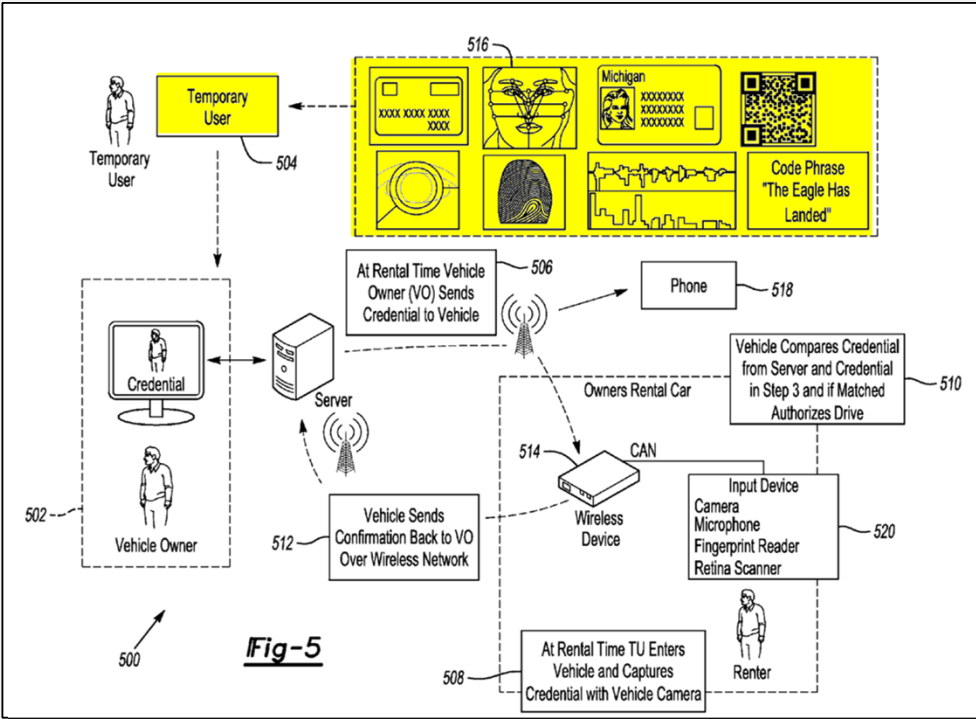
[0090] At step 920, once the contract (e.g. without limitation, a rental contract) is formed, the owner and Temporary User may use the vehicle authorization rental system to accept the terms and conditions. The Temporary User may review the contract and accept the term using the vehicle authorization rental system at step 922. Once the contract is accepted, the vehicle authorization rental system may begin the keyless vehicle rental authorization process at step 924. The Temporary User may complete the entire vehicle rental process using the vehicle rental authorization system without physically meeting the owner.

EX1004 (Kleve), ¶ 90

EX1004 (Kleve), ¶ 89

Kleve's set up and virtual key itself are wholly devoid of any "condition of use"

- Temporary User's unique identification **516 information** is sent to Owner "allowing *this information* to be entered into the server and **used as a virtual key**" –NO condition included in "this information"—no rental period, no use restriction—just "this information" is "entered into the server and used as a virtual key"



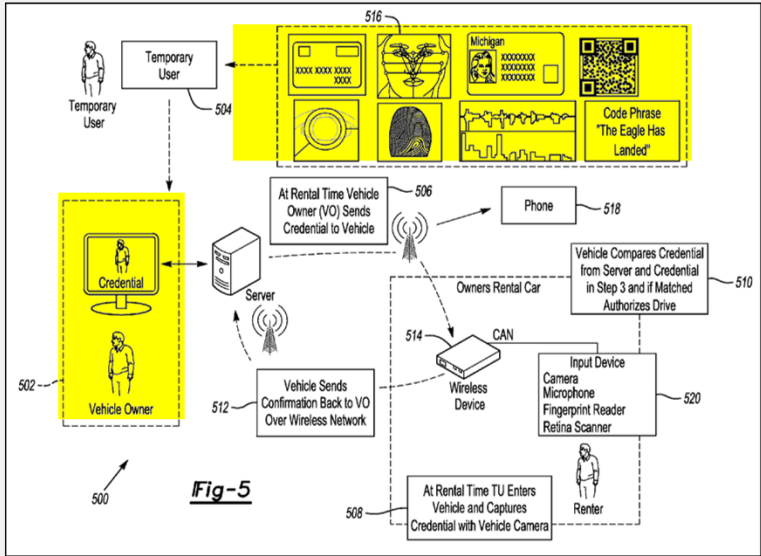
[0063] Additional Temporary User identification 504 may be sent to the vehicle Owner allowing for this information to be entered into the server and used as a virtual key, or in addition to the virtual key, allowing the Temporary User access to the Owner's vehicle while enabling a keyless drive-away. The Temporary User identification and virtual key may be sent in an encrypted message to the VCS, Temporary User's nomadic device, and/or vehicle Owners nomadic device. The Temporary User's information for vehicle authorization credential verification 516 may include, but not limited to fingerprint recognition of user, photos of credit cards, photo of forms of ID, facial recognition, voice print recognition, matrix barcode (ex. two-dimensional code), code word or code phrase for speech recognition, temporary mobile web login IDs and password, or other types of unique Temporary User identification.

EX1004 (Kleve), Fig. 5

EX1004 (Kleve), ¶ 63

Kleve's set up of a virtual key is wholly devoid of any "condition of use"

- "Owner may enter in vehicle authorization credentials" from Temp. User (516) **"to set up a virtual key"**
- **"this information"** to be entered into the server and used as a virtual key"
- No condition of use included in either—no rental period, no use restriction—no condition of use in the alleged "request from a user ... to generate an e-key"

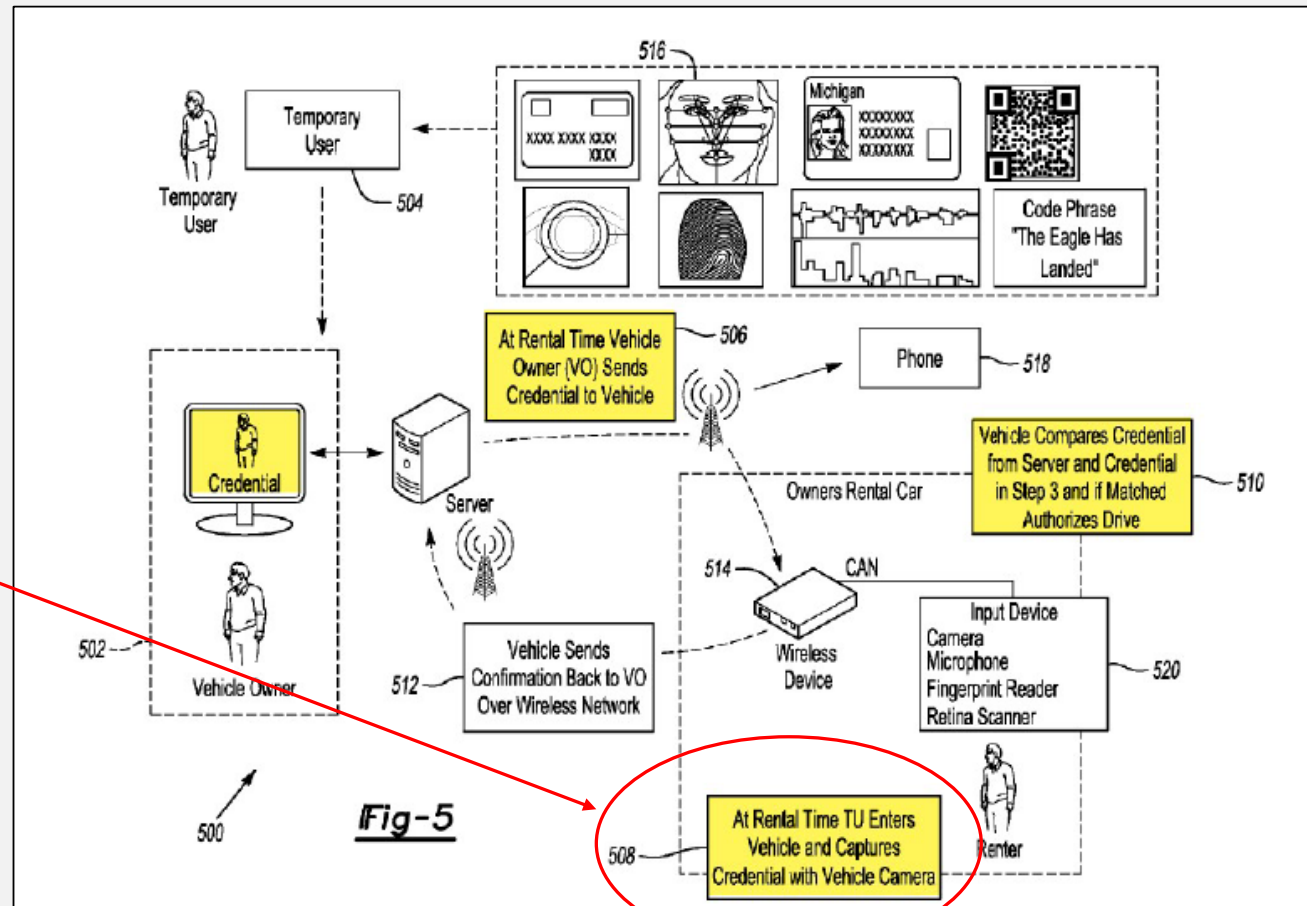


[0062] FIG. 5 shows an illustrative example of an overview of how the vehicle rental micro-business may be structured with a keyless transaction between the Owner of the vehicle and the Temporary User. This example illustrates the process after the vehicle Owner and Temporary User have already setup a user profile within the database and have both agreed to the rental agreement. At step 502, the vehicle Owner may enter in vehicle authorization credentials based on information received by the Temporary User to set up a virtual key. The virtual key may be sent to the vehicle allowing Temporary User access to the Owner's vehicle.

[0063] Additional Temporary User identification 504 may be sent to the vehicle Owner allowing for this information to be entered into the server and used as a virtual key, or in addition to the virtual key, allowing the Temporary User access to the Owner's vehicle while enabling a keyless drive-away. The Temporary User identification and virtual key may be sent in an encrypted message to the VCS, Temporary User's nomadic device, and/or vehicle Owners nomadic device. The Temporary User's information for vehicle authorization credential verification 516 may include, but not limited to fingerprint recognition of user, photos of credit cards, photo of forms of ID, facial recognition, voice print recognition.

Kleve's credential, "used as a virtual key," is verified "at rental time"

- **credential** itself is "**used as a virtual key**," or in addition to the virtual key, allowing the Temporary User access to the Owner's vehicle while enabling a keyless drive-away" ¶ 63
- "**at rental time** vehicle owner sends credential to vehicle" Fig. 5
- "[a]t step 508, the Temporary User may use their **virtual key credential to access the vehicle**" ¶ 67
- "step 510, the vehicle **may verify the Temporary User** by communicating with the server to compare the credential and **verify the Temporary User's access.**" ¶ 68

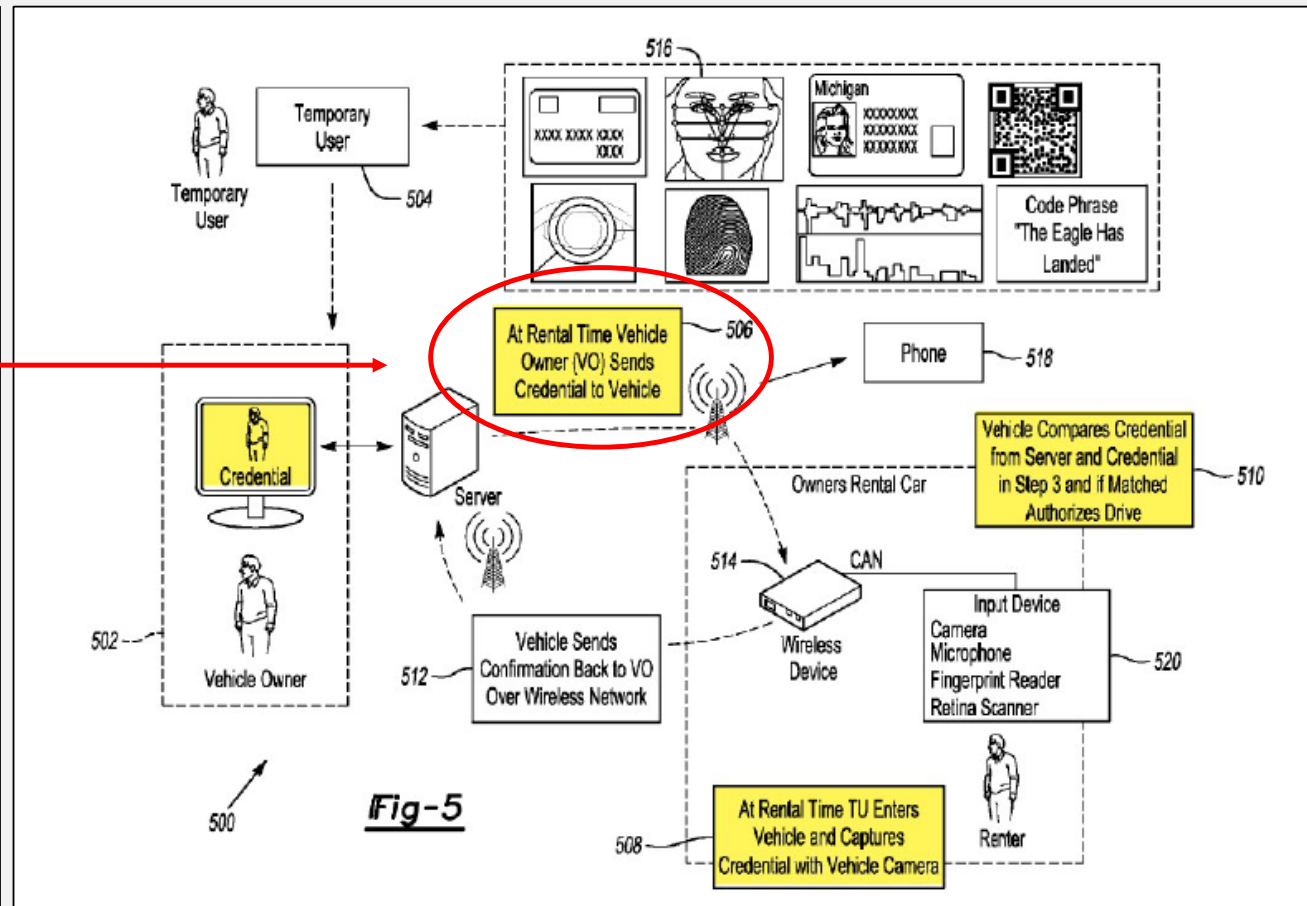


EX1004 (Kleve), Fig. 5

Response 8-12, Sur-Reply at 20-22

Were “rental period” already associated with/assigned to the virtual key, no need to have owner send credential “at rental time”

- **credential** itself is “*used as a virtual key*,” or in addition to the virtual key, allowing the Temporary User access to the Owner’s vehicle while enabling a keyless drive-away.” ¶ 63
- “**at rental time** vehicle owner sends credential to vehicle” Fig. 5
- “**when the scheduled rental period of time begins**, the vehicle owner may send the credentials to the vehicle with the use of the server” ¶ 66
- **Unnecessary to have the vehicle owner send the credential “at rental time”** if the rental period were already assigned to the virtual key or included in the request

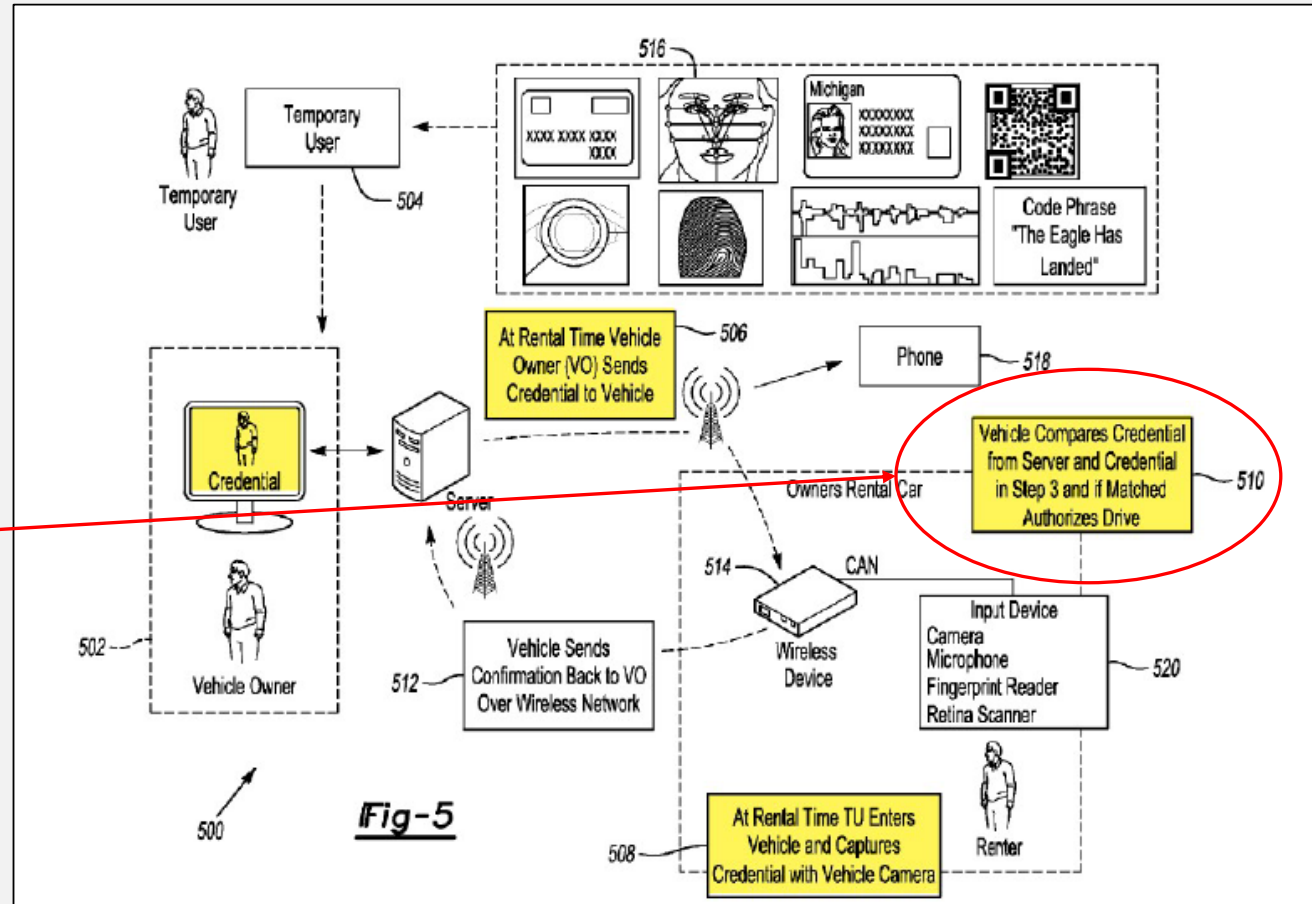


Response 8-12, 35-36, Sur-Reply 20-22

EX1004 (Kleve), Fig. 5

Kleve's "vehicle compares credential"—if matched, "authorizes drive"

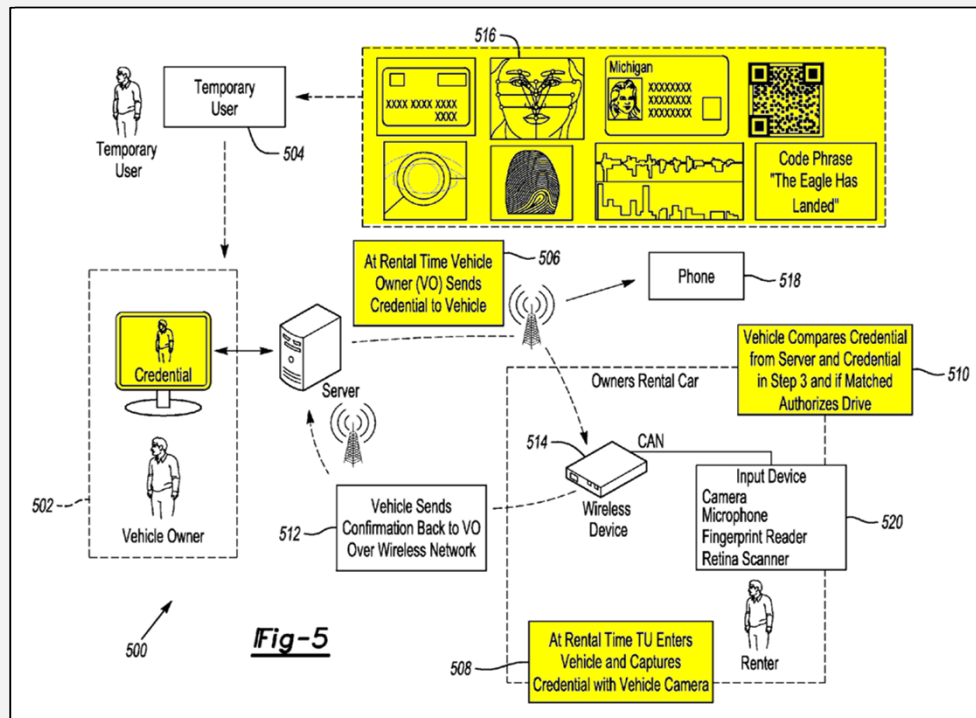
- **"at rental time** vehicle owner sends credential to vehicle" Fig. 5
- "[a]t step 508, the Temporary User may use their **virtual key credential to access the vehicle**" ¶ 67
- At step 510, the "vehicle compares credential" entered by Temporary User and sent by Vehicle Owner, and "if matched authorizes drive" Fig. 5, ¶ 68
- No comparison of "rental period" or any alleged "condition of use"—solely if credential "matched authorizes drive" Fig. 5



EX1004 (Kleve), Fig. 5

Response 8-12, Sur Reply 20-22 | 17

Were “rental period” already associated with/assigned to the virtual key, no need to have owner send credential to vehicle “at rental time”



EX1004 (Kleve), Fig. 5

[0066] The Temporary User’s information for credential verification may be sent to both the vehicle computer system and the Temporary User’s nomadic device 518 including, but not limited to, a smart phone. When the scheduled rental period of time begins the vehicle Owner may send the credentials to the vehicle with the use of a server 506 and the vehicle may be able to receive the information using a wireless device 514. The wireless device 514 may include, but not limited to, an embedded cellular modem, embedded WiFi device, Near Field Communication connected phone, brought-in cellular device like a USB modem, MiFi, smart phone that may be connect to the vehicle through SYNC or other Bluetooth pairing device, or a PC (ex. IPAD) that may be connected to the vehicle through SYNC or other Bluetooth pairing device. Additional hardware input device 520 for credential verification may include but not limited to a camera, microphone, matrix barcode scanner, fingerprint reader, or retina scanner integrated with the vehicle control system.

EX1004 (Kleve), ¶ 66

Kleve allows Owner to “set” vehicle use restrictions “at the beginning of the rental term” – and not before

[0043] At step 224, the system may notify the Temporary User that the agreed upon rental period may expire soon, and if the rental period has ended the system may prompt the Temporary User with a message asking if he would like to purchase additional rental time. The system may allow the Temporary User to purchase additional rental time or decline the offer with the use of the vehicle touchscreen display or a nomadic device at step 226. If the rental term has ended, and no additional time is purchased, the system may begin the vehicle rental exit process within the VCS at step 228. If the rental period is still within the agreed upon rental period, the system may carry on to monitor the vehicle allowing the Owner continued control of the vehicle with the use of vehicle restriction limits initially set by the Owner at the beginning of the rental term. At step 226, if the Temporary User decides that he may need to purchase additional rental time, the system may update the new rental period end time restriction and continue to monitor usage of the vehicle.

EX1004 (Kleve), ¶ 43

[0075] In the illustrative embodiment as shown in FIG. 7 is an overview of a vehicle rental micro-business monitoring process integrated with a VCS. At step 702, the VCS may begin monitoring and report usage of the vehicle to the owner. The system may wait for the rental period to start at step 704. Once the Temporary User initiates the rental event, the system detects a rental time start at step 706. The system may begin to download performance limitations and restrictions assigned by the vehicle owner at the start of the rental period at step 708. The performance limitations and restrictions downloaded to the VCS may include, but not limited to: setting a top vehicle speed, limiting the cargo load, and alerting the vehicle owner if the driver enters an area deemed to be prohibited by the owner.

EX1004 (Kleve), ¶ 75

Kleve is unambiguous on when the owner can set use restrictions – “initially set by the Owner at the beginning of the rental term”

The patent recites “the condition of use of the vehicle *as set by the user*” – Kleve’s only teaching for the owner to set any use restriction is “initially” “at the beginning of the rental term” – not at any time before

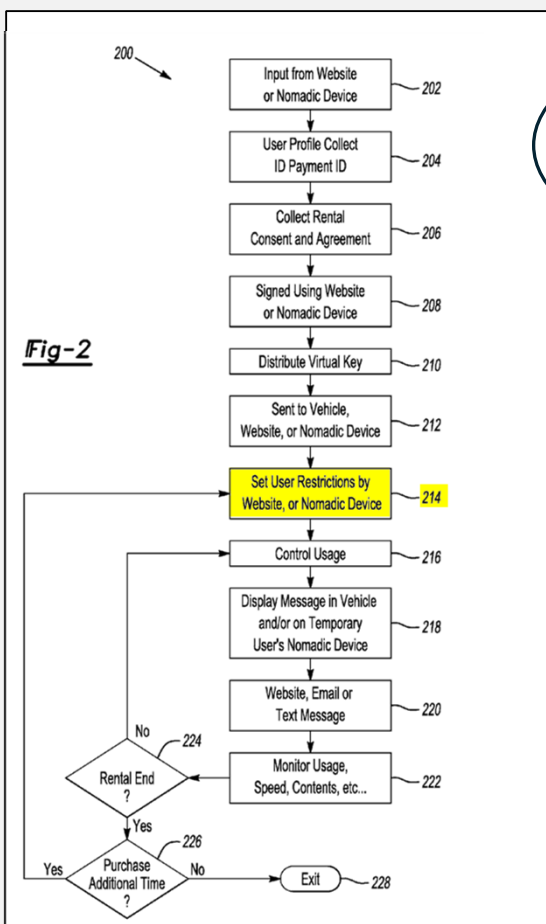
[0075] In the illustrative embodiment as shown in FIG. 7 is an overview of a vehicle rental micro-business monitoring process integrated with a VCS. At step 702, the VCS may begin monitoring and report usage of the vehicle to the owner. The system may wait for the rental period to start at step 704. Once the Temporary User initiates the rental event, the system detects a rental time start at step 706. The system may begin to download performance limitations and restrictions assigned by the vehicle owner at the start of the rental period at step 708. The performance limitations and restrictions downloaded to the VCS may include, but not limited to: setting a top vehicle speed, limiting the cargo load, and alerting the vehicle owner if the driver enters an area deemed to be prohibited by the owner.

EX1004 (Kleve), ¶ 75

[0043] At step 224, the system may notify the Temporary User that the agreed upon rental period may expire soon, and if the rental period has ended the system may prompt the Temporary User with a message asking if he would like to purchase additional rental time. The system may allow the Temporary User to purchase additional rental time or decline the offer with the use of the vehicle touchscreen display or a nomadic device at step 226. If the rental term has ended, and no additional time is purchased, the system may begin the vehicle rental exit process within the VCS at step 228. If the rental period is still within the agreed upon rental period, the system may carry on to monitor the vehicle allowing the Owner continued control of the vehicle with the use of vehicle restriction limits initially set by the Owner at the beginning of the rental term. At step 226, if the Temporary User decides that he may need to purchase additional rental time, the system may update the new rental period end time restriction and continue to monitor usage of the vehicle.

EX1004 (Kleve), ¶ 43

Kleve Teaches “Owner May Set Restrictions”—only mechanism allowing Owner “control of the vehicle with the use of restriction limits”



[0040] At step 214, the Owner may have access to control usage of the vehicle being rented by the Temporary User. The Owner may set user restrictions by use of the website or nomadic device. The restrictions may be based on, but not limited to, the owner's selection of parameters including, but not limited to, speed, global position coordinates, or load weight restrictions. At step 216, the control parameters use restrictions may be monitored and if a restriction exceeds a limit the Temporary User and Owner may be notified. The monitoring information may be sent to the Owner through the website, with an email notification, or on the Owner's nomadic device at step 220. Email notification, text messages or an in-vehicle display message may be sent to notify the Temporary User if a restriction limit has been exceeded at step 218.

[0051] At 326, the VCS may implement assigned vehicle control limitations during the use of the rental term by mitigating vehicle performance while preventing the Temporary User to exceed a limitation set by the Owner. The Owner may have the options to set rental restrictions based on, but not limited to, speed, destination location, or load weight limitations. Controlling usage to enforce compliance with the rental agreement terms may be of more importance to a vehicle rental micro-business owner as this may be the only vehicle the Owner possesses. These restrictions can be input using the vehicle rental website, a smart phone application or the Owner's nomadic device interacting with the VCS.

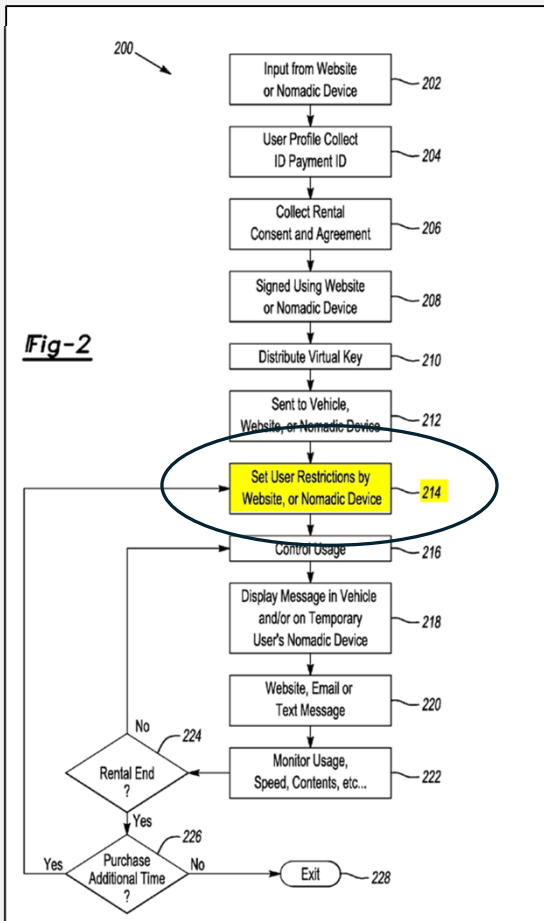
[0043] At step 224, the system may notify the Temporary User that the agreed upon rental period may expire soon, and if the rental period has ended the system may prompt the Temporary User with a message asking if he would like to purchase additional rental time. The system may allow the Temporary User to purchase additional rental time or decline the offer with the use of the vehicle touchscreen display or a nomadic device at step 226. If the rental term has ended, and no additional time is purchased, the system may begin the vehicle rental exit process within the VCS at step 228. If the rental period is still within the agreed upon rental period, the system may carry on to monitor the vehicle allowing the Owner continued control of the vehicle with the use of vehicle restriction limits initially set by the Owner at the beginning of the rental term. At step 226, if the Temporary User decides that he may need to purchase additional rental time, the system may update the new rental period end time restriction and

an overview of a vehicle rental micro-business monitoring process integrated with a VCS. At step 702, the VCS may begin monitoring and report usage of the vehicle to the owner. The system may wait for the rental period to start at step 704. Once the Temporary User initiates the rental event, the system detects a rental time start at step 706. The system may begin to download performance limitations and restrictions assigned by the vehicle owner at the start of the rental period at step 708. The performance limitations and restrictions downloaded to the VCS may include, but not limited to: setting a top vehicle speed, limiting the cargo load, and alerting the vehicle owner if the driver enters an area deemed to be

EX1004 (Kleve), Fig. 2, ¶¶ 40, 51, 43, 75

Kleve Teaches “Owner May Set Restrictions”—“initially” “at the beginning of the rental period”— not before

Fig-2



[0040] At step 214, the Owner may have access to control usage of the vehicle being rented by the Temporary User. The Owner may set user restrictions by use of the website or nomadic device. The restrictions may be based on, but not limited to, the owner's selection of parameters including, but not limited to, speed, global position coordinates, or load weight restrictions. At step 216, the control parameters use restrictions may be monitored and if a restriction exceeds a limit the Temporary User and Owner may be notified. The monitoring information may be sent to the Owner through the website, with an email notification, or on the Owner's nomadic device at step 220. Email notification, text messages or an in-vehicle display message may be sent to notify the Temporary User if a restriction limit has been exceeded at step 218.

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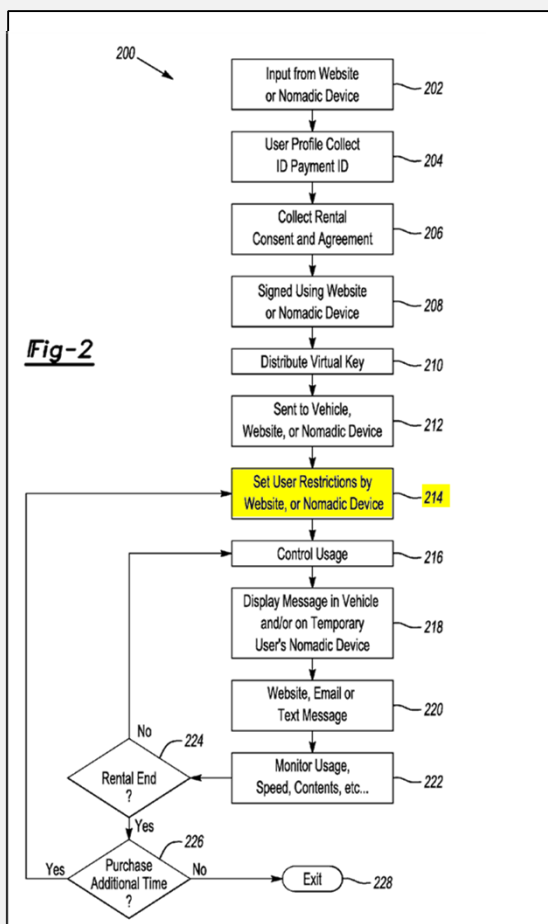
[0043] At step 224, the system may notify the Temporary User that the agreed upon rental period may expire soon, and if the rental period has ended the system may prompt the Temporary User with a message asking if he would like to purchase additional rental time. The system may allow the Temporary User to purchase additional rental time or decline the offer with the use of the vehicle touchscreen display or a nomadic device at step 226. If the rental term has ended, and no additional time is purchased, the system may begin the vehicle rental exit process within the VCS at step 228. If the rental period is still within the agreed upon rental period, the system may carry on to monitor the vehicle allowing the Owner continued control of the vehicle with the use of vehicle restriction limits initially set by the Owner at the beginning of the rental term. At step 226, if the Temporary User decides that he may need to purchase additional rental time, the system may update the new rental period end time restriction and

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EX1004 (Kleve), ¶¶ 40, 51, 43, 75, Fig. 2

Kleve Teaches “Owner May Set Restrictions”—only mechanism to “enforce compliance with the rental agreement terms”

Fig-2



[0040] At step 214, the Owner may have access to control usage of the vehicle being rented by the Temporary User. The Owner may set user restrictions by use of the website or nomadic device. The restrictions may be based on, but not limited to, the owner's selection of parameters including, but not limited to, speed, global position coordinates, or load weight restrictions. At step 216, the control parameters use restrictions may be monitored and if a restriction exceeds a limit the Temporary User and Owner may be notified. The monitoring information may be sent to the Owner through the website, with an email notification, or on the Owner's nomadic device at step 220. Email notification, text messages or an in-vehicle display message may be sent to notify the Temporary User if a restriction limit has been exceeded at step 218.

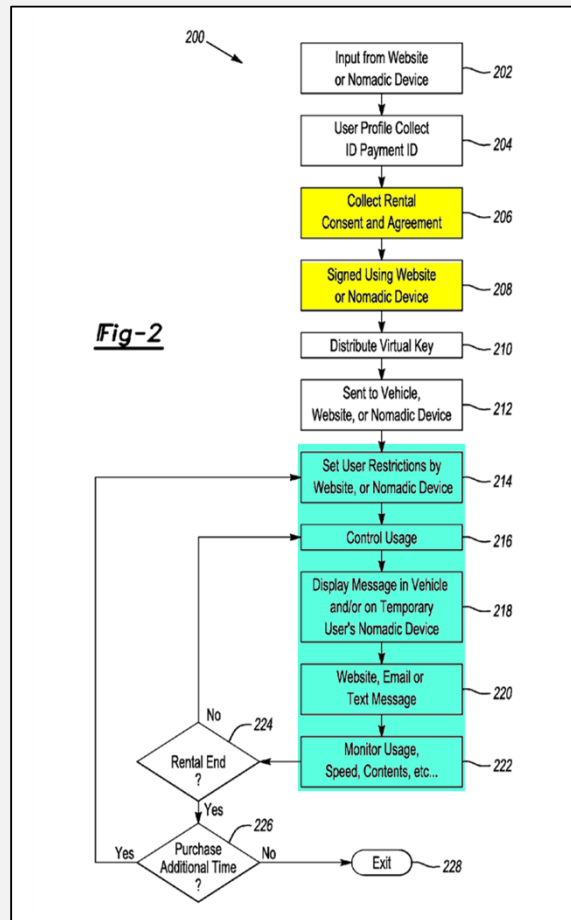
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an overview of a vehicle rental micro-business monitoring process integrated with a VCS. At step 702, the VCS may begin monitoring and report usage of the vehicle to the owner. The system may wait for the rental period to start at step 704. Once the Temporary User initiates the rental event, the system detects a rental time start at step 706. The system may begin to download performance limitations and restrictions assigned by the vehicle owner at the start of the rental period at step 708. The performance limitations and restrictions downloaded to the VCS may include, but not limited to: setting a top vehicle speed, limiting the cargo load, and alerting the vehicle owner if the driver enters an area deemed to be

EX1004 (Kleve), Fig. 2, ¶¶ 40, 51, 43, 75

Kleve teaches mechanism for Owner to “set rental restrictions ... controlling usage to enforce compliance with rental terms”



EX1004 (Kleve), Fig. 2

[0051] At 326, the VCS may implement assigned vehicle control limitations during the use of the rental term by mitigating vehicle performance while preventing the Temporary User to exceed a limitation set by the Owner. The Owner may have the options to set rental restrictions based on, but not limited to, speed, destination location, or load weight limitations. Controlling usage to enforce compliance with the rental agreement terms may be of more importance to a vehicle rental micro-business owner as this may be the only vehicle the Owner possesses. These restrictions can be input using the vehicle rental website, a smart phone application or the Owner's nomadic device interacting with the VCS.

EX1004 (Kleve), ¶ 51

- Were rental agreement terms somehow included in key or request – there would be **NO need** to teach specific mechanism for Owner to “input” restrictions to “control[] usage to enforce compliance with the rental agreement terms”

Kleve teaches mechanism for Owner to “set rental restrictions”—the very same rental agreement restrictions

[0084] At step 812, if the owner decides he has no interest in accepting the Temporary User’s offer, he may decline and wait for the vehicle rental authorization system to notify of any other offers. If the owner has decided to accept the offer he may begin the process of developing terms and conditions of the rental period. At step 814, the owner may negotiate additional terms and conditions based on the specific use and needs the Temporary User may use the vehicle for. These additional terms and conditions may include, but not limited to, cargo load weight restrictions, tow load restrictions, or the amount of miles that can be driven during the rental period. The negotiation of the terms and conditions may be done using the vehicle authorization rental system.

[0040] At step 214, the Owner may have access to control usage of the vehicle being rented by the Temporary User. The Owner may set user restrictions by use of the website or nomadic device. The restrictions may be based on, but not limited to, the owner’s selection of parameters including, but not limited to, speed, global position coordinates, or load weight restrictions. At step 216, the control parameters use restrictions may be monitored and if a restriction exceeds a limit the Temporary User and Owner may be notified. The monitoring information may be sent to the Owner through the website, with an email notification, or on the Owner’s nomadic device at step 220. Email notification, text messages

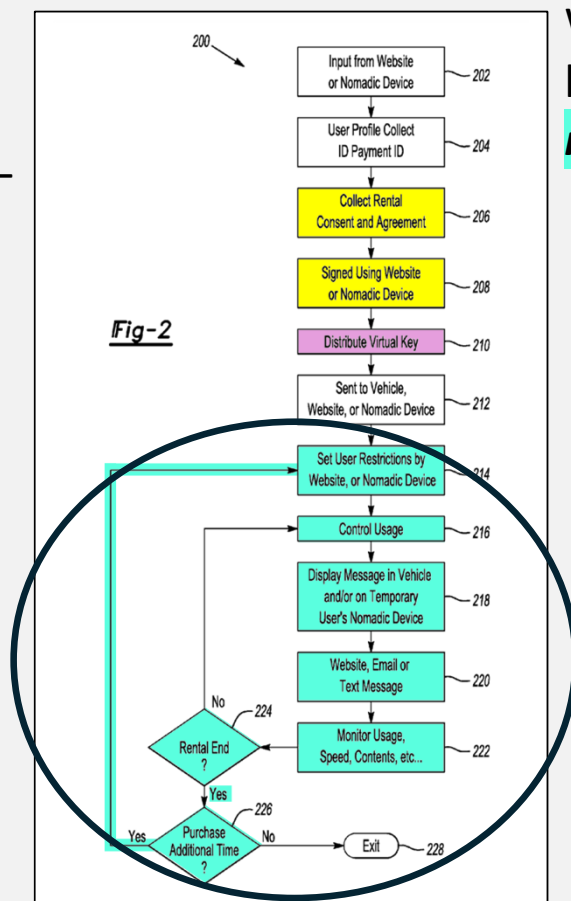
Were rental agreement in key, **NO** need for specific mechanism for Owner to “**set rental restrictions**” for the very same rental agreement restrictions

[0089] At step 916, if the owner decides he has no interest in accepting the Temporary User’s offer, therefore declining, the Temporary User may go back and select another potential vehicle to rent. If the owner has decided to accept the offer, he may begin the process of developing terms and conditions of the rental period. The owner may input additional terms and conditions based on the specific use and needs the Temporary User may have for renting the vehicle at step 918. These additional terms and conditions may include, but not limited to, cargo load weight restrictions, tow load restrictions, or the amount of miles that can be driven during the rental period. The negotiation of the terms and conditions may be done using the vehicle authorization rental system. After negotia-

[0051] At 326, the VCS may implement assigned vehicle control limitations during the use of the rental term by mitigating vehicle performance while preventing the Temporary User to exceed a limitation set by the Owner. The Owner may have the options to set rental restrictions based on, but not limited to, speed, destination location, or load weight limitations. Controlling usage to enforce compliance with the rental agreement terms may be of more importance to a vehicle rental micro-business owner as this may be the only vehicle the Owner possesses. These restrictions can be input using the vehicle rental website, a smart phone application or the Owner’s nomadic device interacting with the VCS.

Kleve teaches mechanism for Owner to “set rental restrictions”—incl. “rental period end time restriction”—unneeded were rental period incl. in key

Step 214 –
“**set user restrictions**” –
specifically
connected to
step 226—
“**update the new rental period end time restriction**”



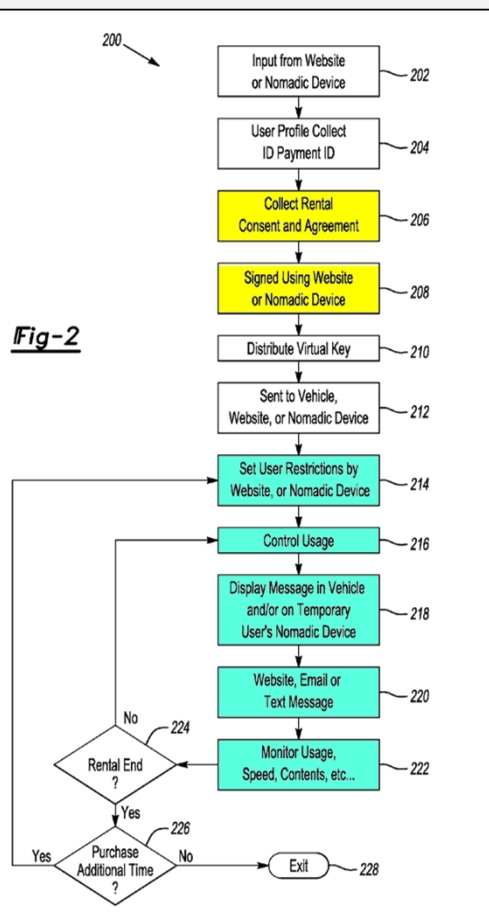
EX1004 (Kleve), Fig. 2

Were rental period already included in the key, there would be no need for specific mechanism for Owner to “**set rental restrictions**”—including “**rental period end time restriction**”

[0043] At step 224, the system may notify the Temporary User that the agreed upon rental period may expire soon, and if the rental period has ended the system may prompt the Temporary User with a message asking if he would like to purchase additional rental time. The system may allow the Temporary User to purchase additional rental time or decline the offer with the use of the vehicle touchscreen display or a nomadic device at step 226. If the rental term has ended, and no additional time is purchased, the system may begin the vehicle rental exit process within the VCS at step 228. If the rental period is still within the agreed upon rental period, the system may carry on to monitor the vehicle allowing the Owner continued control of the vehicle with the use of vehicle restriction limits initially set by the Owner at the beginning of the rental term. At step 226, if the Temporary User decides that he may need to purchase additional rental time, the system may update the new rental period end time restriction and continue to monitor usage of the vehicle.

EX1004 (Kleve), ¶ 43

Vehicle may not “download restrictions” until after Temporary User entered vehicle and *after* User already started vehicle



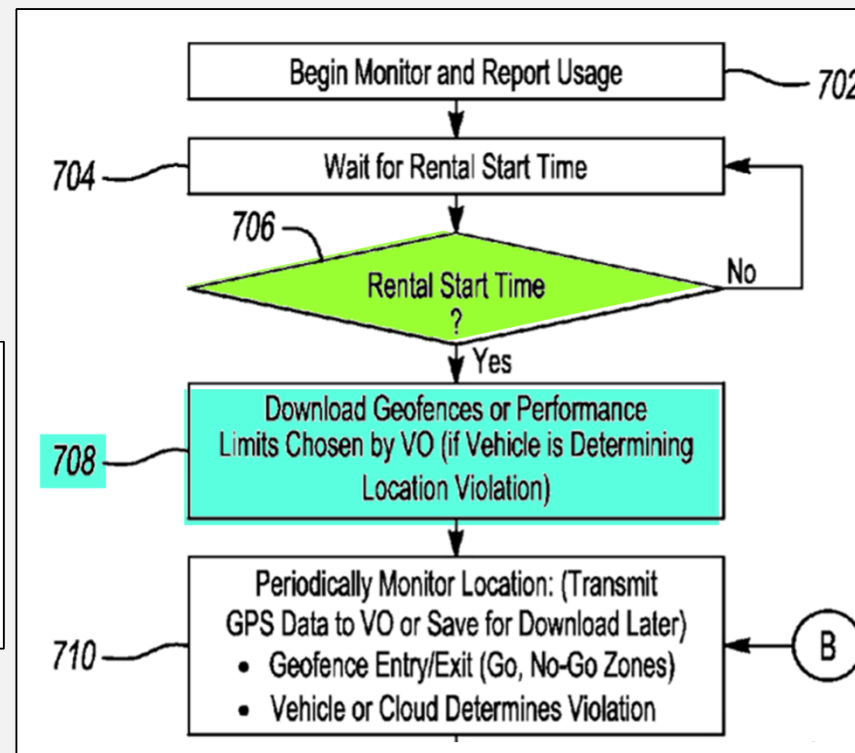
EX1004 (Kleve), Fig. 2

- Restrictions are downloaded by the vehicle – separate and apart from any “virtual key”

- Rental start time = the Temporary User starts vehicle

[0075] In the illustrative embodiment as shown in FIG. 7 is an overview of a vehicle rental micro-business monitoring process integrated with a VCS. At step 702, the VCS may begin monitoring and report usage of the vehicle to the owner. The system may wait for the rental period to start at step 704. Once the Temporary User initiates the rental event, the system detects a rental time start at step 706. The system may begin to download performance limitations and restrictions assigned by the vehicle owner at the start of the rental period at step 708. The performance limitations and restrictions

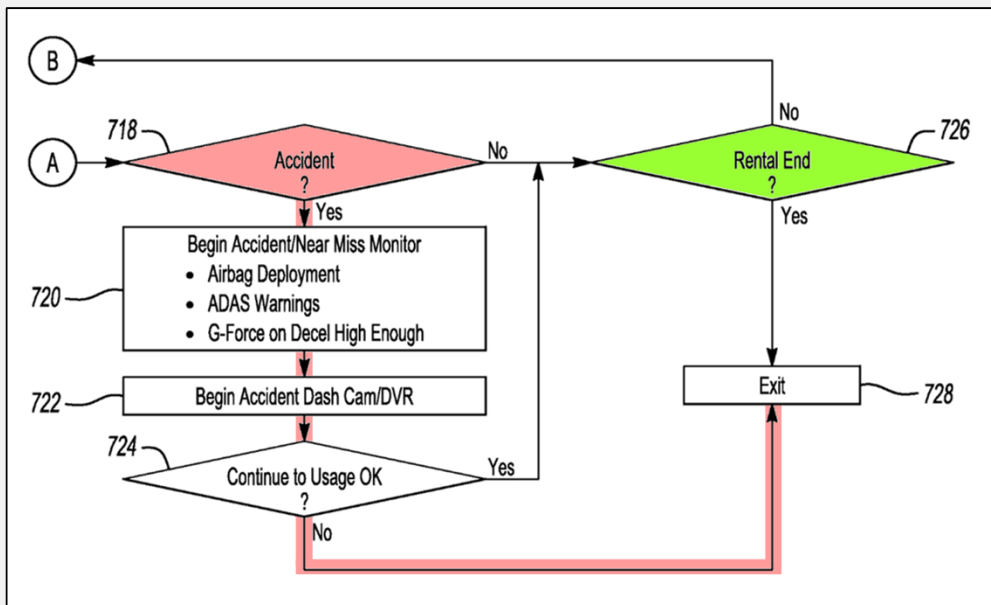
EX1004 (Kleve), ¶ 75



EX1004 (Kleve), Fig. 7A

Kleve's vehicle is operable independent of rental period –instead, Kleve's “**exit mode process**” includes “terminating the virtual key”

- After “the rental period has ended, the monitoring and control system” starts “**exit mode process**,” in which key will be terminated

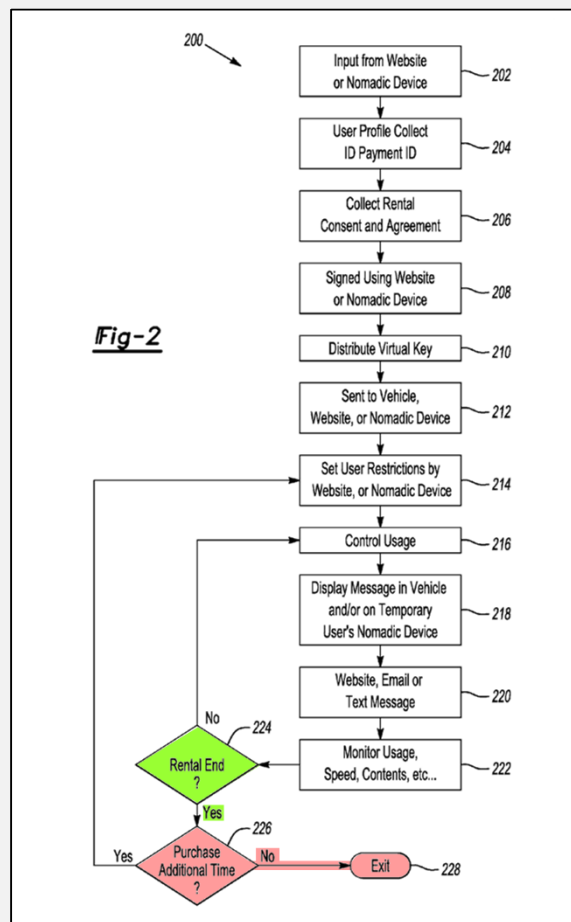


EX1004 (Kleve), Fig. 7B

[0080] At step 718, if the VCS monitoring detects no accident, and the rental period has not expired, the system may continue to monitor the vehicle rental usage. If the rental period has ended, the monitoring and control system of the vehicle rental micro-business may begin to start its Temporary User vehicle rental exit mode process at step 728. The exit mode process may include the monitoring system to store additional variables and data to report to the vehicle Owner including, but not limited to, vehicle location, fuel level, and additional vehicle diagnostic information. The exit mode process may also include, but not limited to, terminating the virtual key while allowing the system to reset any private information stored on the vehicle-based computing system. The system may include a standardized report form that requires certain information the Temporary User must fill out when returning the vehicle.

EX1004 (Kleve), ¶ 80

Kleve's vehicle is operable independent of rental period –instead, Kleve's “**exit mode process**” includes “terminating the virtual key”



EX1004 (Kleve), Fig. 2

- After “the rental period has ended, and no additional time is purchased, the system” begins “**exit mode process**,” in which key will be terminated

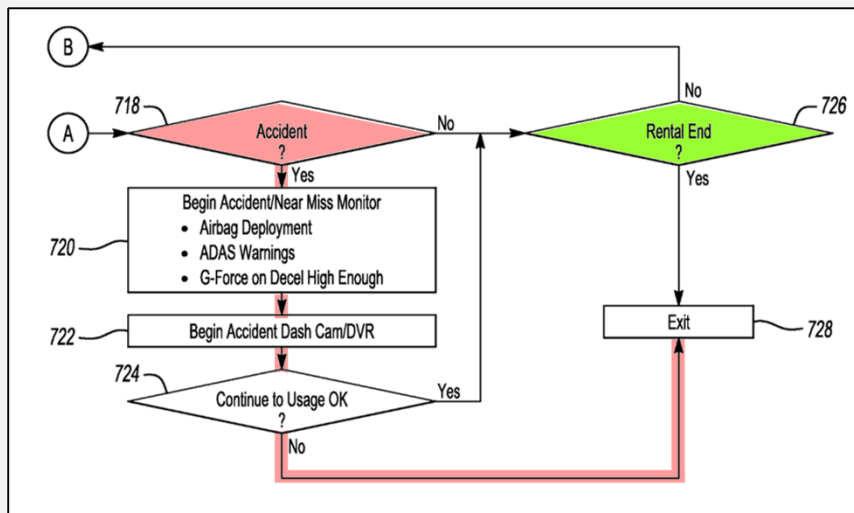
[0043] At step 224, the system may notify the Temporary User that the agreed upon rental period may expire soon, and if the rental period has ended the system may prompt the Temporary User with a message asking if he would like to purchase additional rental time. The system may allow the Temporary User to purchase additional rental time or decline the offer with the use of the vehicle touchscreen display or a nomadic device at step 226. If the rental term has ended, and no additional time is purchased, the system may begin the vehicle rental exit process within the VCS at step 228. If the rental period is still within the agreed upon rental period, the system may carry on to monitor the vehicle allowing the Owner continued control of the vehicle with the use of vehicle restriction limits initially set by the Owner at the beginning of the rental term. At step 226, if the Temporary User decides that he may need to purchase additional rental time, the system may update the new rental period end time restriction and continue to monitor usage of the vehicle.

EX1004 (Kleve), ¶ 43

Kleve's vehicle is operable independent of rental period –instead, Kleve's “**exit mode process**” includes “terminating the virtual key”

Kleve's system relies on “vehicle restriction limits initially set by the Owner at the beginning of the rental period” to dictate when/how the vehicle will remain operable:

- BEFORE the “rental end,” **exit mode process** terminates key
 - e.g. accident, or if “usage extreme”
- AFTER the “rental end,” **exit mode process** terminates key
 - e.g., extension of “rental period end time,” warning if vehicle not returned, controlling action to stop vehicle



[0079] At step 718, the vehicle owner may also be notified if the system has a detected driver behavior event. The vehicle owner may be sent information that the Temporary User has been in an accident or near miss based on airbag deployment, accelerometer data, and/or anti-lock brake information. If the Temporary User is involved in an accident, the system may store and save previous recorded data leading up to the accident at step 720. For example, if the airbag is deployed the VCS may save three minutes of all monitored data leading up to the airbag deployment including, but not limited to, a dashboard camera, accelerator pedal position, speed, and brake pedal position at step 722. The monitoring system may continue to check to see if continued usage of the vehicle is acceptable based on the accident data/near miss data to determine if the vehicle is safe for continued operation at step 724. At 726, if the vehicle is in an acceptable condition for continued usage and rental time has not expired, the system may continue to monitor the vehicle rental usage. If the vehicle cannot be used, the VCS may begin the vehicle rental exit mode process at step 728.

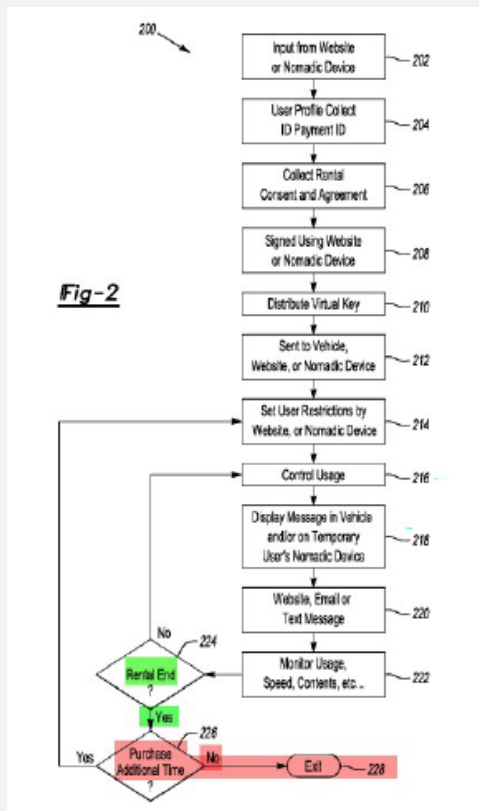
additional vehicle diagnostic information. The exit mode process may also include, but not limited to, terminating the virtual key while allowing the system to reset any private information stored on the vehicle-based computing system. The system may include a standardized report form that requires certain information the Temporary User must fill out when returning the vehicle.

EX1004 (Kleve), Fig. 7B

EX1004 (Kleve), ¶¶ 79-80

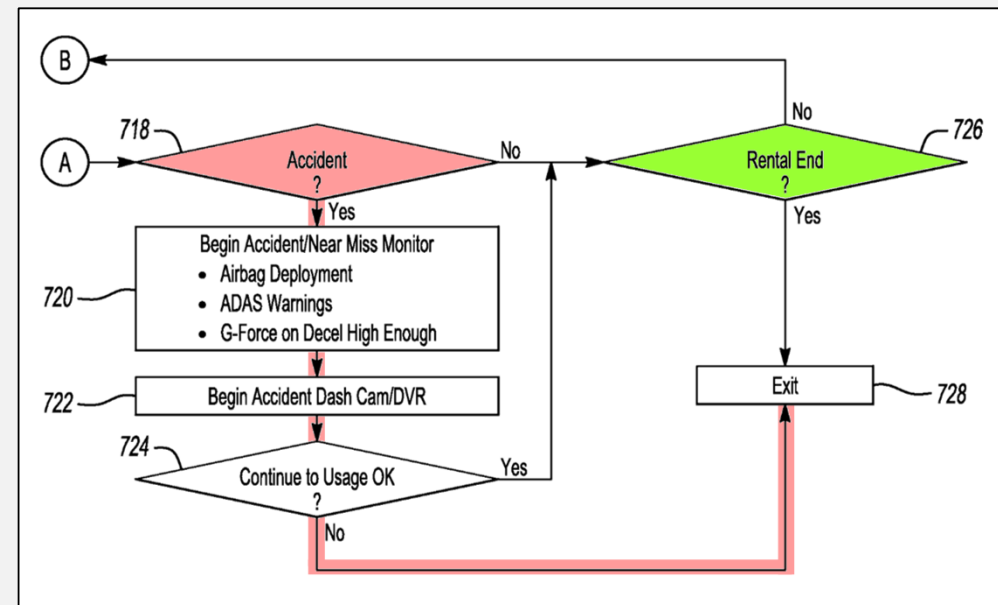
Kleve's virtual key is operable independent of rental period

Instead, virtual key is terminated during “**exit mode process**”—which occurs both BEFORE and AFTER “**rental end**”



EX1004 (Kleve), Fig. 2

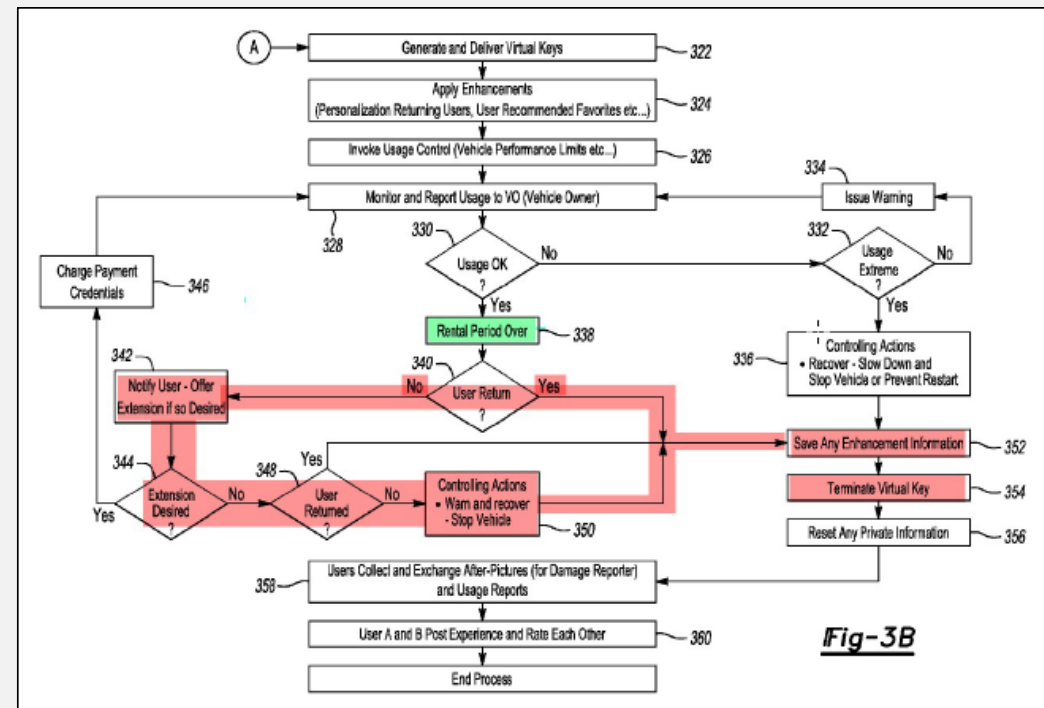
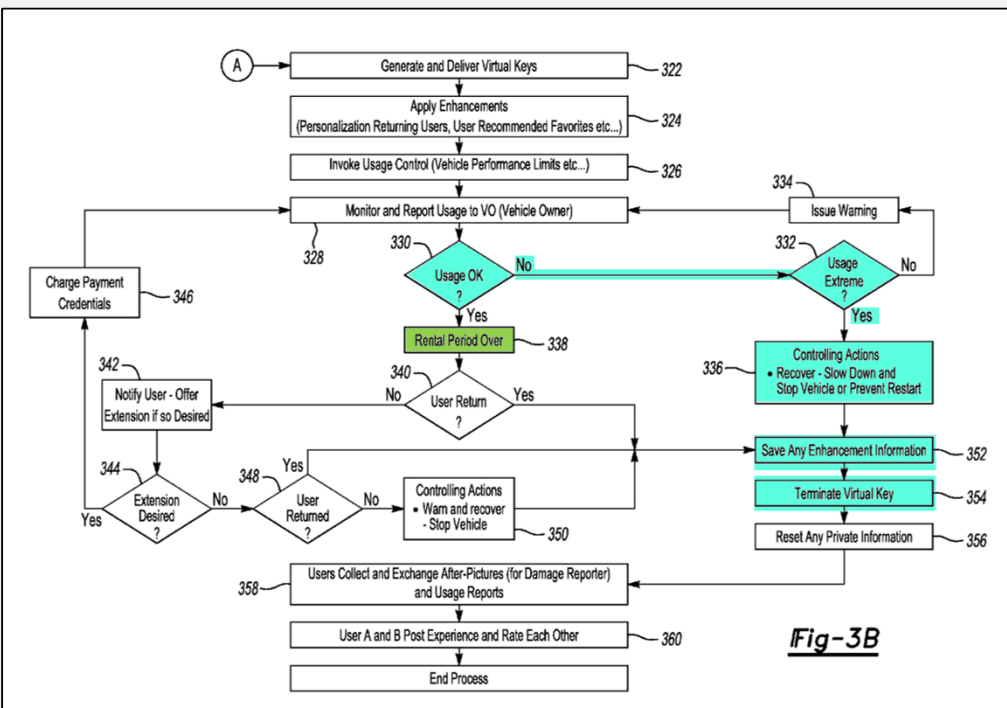
- Kleve's solution to enforce rental agreement terms and control usage provides for “terminating” virtual key” during “exit mode process”—an event that occurs before “rental end”—e.g. “accident,” “extreme usage”—or after “rental end”—e.g., “**exit mode process**,” “**purchase additional time**”



EX1004 (Kleve), ¶ 51

Kleve's virtual key is operable independent of rental period

Instead, virtual key is terminated during **"exit mode process,"** wherein **"monitoring and control"** system uses **"remedial action"** to terminate prematurely, e.g., **"usage extreme,"** or terminate after **"rental period over,"** e.g. offering to purchase **additional time, warning if vehicle not returned, controlling action to stop vehicle**



EX1004 (Kleve), Fig. 3B

Dr. Almeroth's opinions directly contradict Kleve's express design

Kleve permits only Vehicle Owners the discretion to select use restrictions to monitor and control vehicle usage

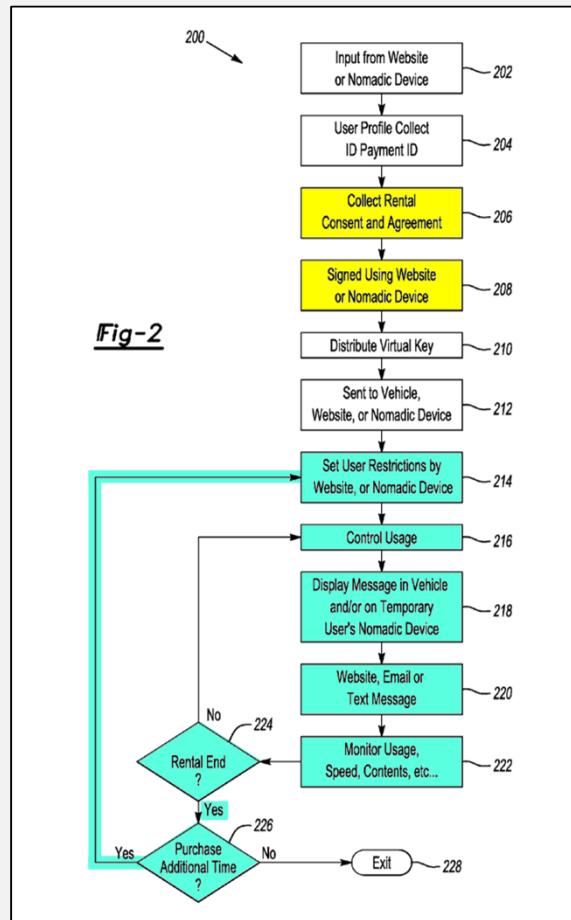
[0076] At step 710, the monitoring of the vehicle's location may be done to reassure the vehicle owner that their asset is being driven in an approved manner and area. The GPS data may be transmitted to the server and monitored using the vehicle owner's nomadic device. The continuous monitoring of the Temporary User's behavior during the rental period may be transmitted to the server, sent to a nomadic device, or stored for a later download at step 712. The monitoring done by the vehicle rental micro-business may include, but not limited to, unauthorized objects or cargo, unauthorized driving behavior, unauthorized driver, and/or an unauthorized trailer tow. The methods to accomplish the monitoring of the mentioned examples above may include, but not limited to, using a camera system, biometric recognition, and the VCS monitoring sensors and subsystems throughout the vehicle.

EX1004 (Kleve), ¶ 76

[0075] In the illustrative embodiment as shown in FIG. 7 is an overview of a vehicle rental micro-business monitoring process integrated with a VCS. At step 702, the VCS may begin monitoring and report usage of the vehicle to the owner. The system may wait for the rental period to start at step 704. Once the Temporary User initiates the rental event, the system detects a rental time start at step 706. The system may begin to download performance limitations and restrictions assigned by the vehicle owner at the start of the rental period at step 708. The performance limitations and restrictions downloaded to the VCS may include, but not limited to: setting a top vehicle speed, limiting the cargo load, and alerting the vehicle owner if the driver enters an area deemed to be prohibited by the owner.

EX1004 (Kleve), ¶ 75

Dr. Almeroth's opinions ignore Kleve's distinct enforcement solution



EX1004 (Kleve), Fig. 2

- Kleve's enforcement approach connects Owner's input "user restrictions"—at step 214—to the system's monitoring, notification, controlling usage, remedial actions and updates

[0040] At step 214, the Owner may have access to control usage of the vehicle being rented by the Temporary User. The Owner may set user restrictions by use of the website or nomadic device. The restrictions may be based on, but not limited to, the owner's selection of parameters including, but not limited to, speed, global position coordinates, or load weight restrictions. At step 216, the control parameters use restrictions may be monitored and if a restriction exceeds a limit the Temporary User and Owner may be notified. The monitoring information may be sent to the Owner through the website, with an email notification, or on the Owner's nomadic device at step 220. Email notification, text messages or an in-vehicle display message may be sent to notify the Temporary User if a restriction limit has been exceeded at step 218.

EX1004 (Kleve), ¶ 40

[0042] Another exemplary example of monitoring vehicle parameters may be the use of the rental vehicle to haul cargo; if the Temporary User exceeds the max cargo weight limitation set as a numerical value by the Owner, the engine may enter a remedial action preventing the Temporary User from starting or stalling the vehicle. Additional vehicle variables being monitored by the Owner may include, but not limited to, vehicle diagnostics, in-vehicle cabin activity, and driver performance. Vehicle diagnostics may include, but not limited to, tire pressure, fuel level, trailer towing, and additional vehicle performance variables monitored by the VCS. In-vehicle cabin activity variables may include, but not limited to, unauthorized pet detection, a smoke detector, interior-viewing video camera, authorized driver verification, and audio control activity. Driver performance variables may include, but not limited to, braking, steering, throttle and accelerator pedal positions.

EX1004 (Kleve), ¶ 42

[0041] At step 222, control use may limit the Temporary User from exceeding the restrictions the Owner has set by several remedial actions that may reduce or stall vehicle performance. The remedial actions may include, but not limited to, reduce engine power, engine shut down, and immobilization. The reduce engine power remedial action may reduce engine power, limiting vehicle speed. An exemplary example of control usage may be limiting the Temporary User from driving to restricted areas defined by the Owner based on the rental terms and conditions. If the Temporary User enters a restricted area, he may be notified by the system and the vehicle may enter a remedial actions limiting vehicle speed.

EX1004 (Kleve), ¶ 41

[0043] At step 224, the system may notify the Temporary User that the agreed upon rental period may expire soon, and if the rental period has ended the system may prompt the Temporary User with a message asking if he would like to purchase additional rental time. The system may allow the Temporary User to purchase additional rental time or decline the offer with the use of the vehicle touchscreen display or a nomadic device at step 226. If the rental term has ended, and no additional time is purchased, the system may begin the vehicle rental exit process within the VCS at step 228. If the rental period is still within the agreed upon rental period, the system may carry on to monitor the vehicle allowing the Owner continued control of the vehicle with the use of vehicle restriction limits initially set by the Owner at the beginning of the rental term. At step 226, if the Temporary User decides that he may need to purchase additional rental time, the system may update the new rental period end time restriction and continue to monitor usage of the vehicle.

EX1004 (Kleve), ¶ 43

Proposed modification to include “condition of use” in key/request wholly incompatible with Kleve’s existing solution to “enforce compliance with the rental agreement terms”



103 burden not met where benefits already achieved by Kleve’s solution, or where modifications “would require a substantial reconstruction and redesign of the elements shown in [the prior art reference] as well as a change in the basic principles under which [that reference’s] construction was designed to operate” *In re Oetiker*, 977 F.2d 1442, 1447 (Fed. Cir. 1992); *In re Dow Chem. Co.*, 837 F.2d 469, 473 (Fed. Cir. 1988); *In re Ratti*, 270 F.2d 810, 813 (CCPA 1959)

- Kleve already teaches a specific mechanism for Owner to “***set rental restrictions*** ... controlling usage to ***enforce compliance with the rental agreement terms***” –which are **wholly controlled by Owner alone**, not needing to be “agreed upon” as part of rental agreement at all
- Kleve’s solution for updating “rental period end time,” via step 214 –***wholly controlled by the Owner***, not connected with virtual key at all; therefore **already more secure, less vulnerable** to “tampering” or “circumventing restrictions” by Temporary User
- Proposed modification renders Kleve’s existing solution inexplicably, ***unnecessarily redundant***: Owner to “set rental restrictions based on” the very same restrictions from the rental agreement
- Kleve requires any restrictions may be downloaded by the vehicle *after* Temp. User starts the vehicle – separate and apart from any “virtual key”

Kleve's Key is Not "Always Generated Following Rental Agreement"

Different embodiments of Kleve teach not only *generating* virtual key BEFORE, but also USE of virtual key to *access vehicle* BEFORE, parties "agree to rental terms"

- Kleve directly contradicts alleged "necessity" to include rental period in virtual key/request
- No dispute that there is no "rental period" included in key or request to set up a virtual key BEFORE the parties agree to rental terms.

payment made through the website at step 320. The agreement to rental terms and conditions between the parties may be done with the website using smart phones or a smart phone application, or any other type of nomadic device. Rental conditions may also be displayed on the vehicle's touchscreen visual display and accepted or rejected through the touchscreen visual display. Acceptance may be sent back to the Owner over the wireless network. A Temporary User may also access the Owner's web page to view and accept rental terms and conditions online at step 320.

EX1004 (Kleve), ¶ 47

[0067] At step 508, the Temporary User may use their virtual key credential to access the vehicle. The virtual key credential can be collected via email, phone message or other established method or in a novel way presented here; or this

[0065] An example for applying Temporary User credential verification at a vehicle may include, but not limited to, the use of additional hardware integrated with the VCS to allow collection and exchange of information to enable a keyless drive-away rental event. For example, the Temporary User may use their credit card at a vehicle with the use of hardware integrated with the VCS to collect payment credentials, identify the user, and/or agree to rental terms. Another exemplary embodiment of applying Temporary User credentials at a vehicle may be with the use of facial recognition done by having a camera integrated with the VCS.

EX1004 (Kleve), ¶¶ 65, 67

Kleve's Key NOT "Always Generated Following Rental Agreement"

Dr. Almeroth Admitted Kleve's Key NOT Always Generated Following Rental Agreement

Q. So are you now clarifying that it's only when embodiment where it's generated always after the rental agreement?

A. I wouldn't characterize it as a clarification. I don't think Kleve is limited in all of its embodiments, where that a person of skill in the art reading Kleve would understand that in every embodiment, the only way the eKey could be generated is after the rental agreement.

EX2030 (Almeroth Deposition-objection omitted), 27:2-10

Q. Okay. So "always generated after the rental agreement" encompasses all embodiments of Kleve, correct?

A. No. Not necessarily.

EX2030 (Almeroth Deposition-objection omitted), 27:21-28:1

Dr. Almeroth's Opinions are Expressly Refuted by Kleve Itself

No POSITA would have “understood” that the “necessity” of including rental agreement restrictions in a virtual key request or virtual key where Kleve teaches repeatedly for Temporary User to “AGREE TO TERMS” after using virtual key to access the vehicle

- Why would Kleve teach a discrete solution “to enforce compliance with rental agreement terms” if the key itself already contained these alleged “conditions of use”?
- Dr. Almeroth's opinions thwart Kleve's express purpose to give the Owner—and the Owner alone—full discretion, flexibility and control to “set user restrictions” for monitoring, controlling and updating vehicle usage
- Dr. Almeroth's opinions lack credibility where Kleve has the Owner input as “user restrictions the very same restrictions already agreed to by the parties' rental agreement, e.g., “load weight restrictions, rental period end time”
- Why teach for Owner to input a “rental period end time restriction,” at step 214, if the rental period is already in the virtual key?
- Were rental period in the virtual key, why connect any update/extension of the “rental period end time” with step 214— but NOT update rental agreement and NOT update any virtual key?

Kleve Fails to Disclose the learning functionality of Claim 17

- Claim 17 requires server operation to receive and examine inputs/settings to identify patterns
- Claim 17 requires learning functionality
- Claim 17 recites learning “to provide recommendations”

17. The method of claim 16, further comprising, receiving, by the server, data from the vehicle being indicative of interface inputs or settings made during use with the e-key, the inputs or settings being examined to identify patterns; and learning the patterns, by a process executed by the server, to provide recommendations to the recipient or to an account of the recipient, for settings that should or may be made to the vehicle when using the e-key.

EX1001 ('188 Patent), Claim 17

- Kleve never teaches any learning functionality
- Kleve fails to provide any recommendations
- Kleve's personal settings are stored on phone and sent directly from phone to vehicle, discouraging modification to have server store settings to “identify patterns”

Kleve's “presets” are nothing more than “user settings” or “personal preferences,” e.g. “stored frequent destinations”

[0050] At 324, the Temporary User may have vehicle preset settings applied when renting a vehicle. These enhancements may include, but not limited to providing the Temporary User with stored frequent destinations sent to the VCS, radio presets, seat and mirror position, and ambient lighting preferences. The personalization of returning user's may also include a “bread crumb” feature allowing users to mark their usage to leave future users recommendations including which restaurant to eat at, or which routes to avoid.

No server operation –Kleve's settings sent from phone

[0072] At step 624, the Temporary User's nomadic device may be paired with the VCS and may send personal settings to the vehicle including, but not limited to, radio station presets, navigation routes, and/or preferred climate control settings. Another exemplary example of setting personal preferences may include, but not limited to, facial recognition to recognize the driver using a camera mounted in the vehicle cabin on the dash. Once the camera recognizes the Temporary User, the VCS may request additional user settings and preferences including seat adjustment, and climate control temperatures.

EX1004 (Kleve), ¶¶ 50, 72

Response at 57-60, Sur-Reply 22-23 | 39

No reason to include rental period or any other restriction in vehicle owner's request to the server to set up a virtual key

Petitioners concede server already “knows” “the rental agreement between the vehicle owner and temporary user” before the owner requests that the server set up a virtual key

Para 47: Kleve's server generates, stores and maintains rental agreement

Neither Kleve nor Dr. Almeroth offers **any reason to include a rental period—or any other rental agreement restriction—in the vehicle owner's request to the server**, since the server already has and “knows” the rental agreement

EX1003, ¶ 108 (citing EX1004, ¶ 47)

User may also browse other users and proposes an offer directly at step 314. When the Temporary User and vehicle Owner agree to terms 316 the website may generate the exchange or propose a rental agreement 318. The agreement between the Owner and Temporary User can be signed and payment made through the website at step 320. The agreement to rental terms and conditions between the parties may be done with the website using smart phones or a smart phone application, or any other type of nomadic device. Rental conditions may also be displayed on the vehicle's touchscreen visual display and accepted or rejected through the touchscreen visual display. Acceptance may be sent back to the Owner over the wireless network. A Temporary User may also access the Owner's web page to view and accept rental terms and conditions online at step 320.

EX1004, ¶ 47

Sur-Reply at 3-6, 9-13 | 40

Petitioners' Reply offers no evidence, nor expert testimony, to rebut any of the testimony of Dr. Malek or to support prima facie obviousness

Reply relies on “common sense” arguments that are neither persuasive, nor legally sufficient to, sustain §103 burden

Without any evidence, with NO basis in any art of record, Petitioners provide only hollow attorney argument:

- “No POSITA would ever find desirable”
- “nonsensical to”
- “makes no sense that”
- “there must be some mechanism”
- “defies common sense”

The Board is left with no evidence, rationale or even expert testimony to explain why the Owner's request to the server to set up a virtual key should include any of the rental agreement terms the server already has and already “knows”

EX1003, ¶ 108 (citing EX1004, ¶ 47)

Petitioners' Reply offers no evidence, nor expert testimony, to rebut any of the testimony of Dr. Malek or to support prima facie obviousness

Petitioners offer no reason for including the already-known rental period in the request to the server

- Kleve never discloses including any “condition of use” in any virtual key, let alone in any request thereof
- Kleve provides numerous examples refuting notion that the key is “only operable during the rental period”
- But even if the Board were to accept Petitioners’ discredited statement—**Petitioners never offer any reason for including the already-known rental period in the request to the server**

Petitioners' Reply offers no evidence, nor expert testimony, to rebut any of the testimony of Dr. Malek or to support prima facie obviousness

Petitioners offer no reason for including the already-known rental period in the request to the server

- Kleve never discloses including any “condition of use” in any virtual key, let alone in any request thereof
- But even if the Board were to accept Petitioners' stated security concerns / alleged benefits —each is readily resolved by having the server assign or associate the rental period/rental agreement terms in the key itself—**server need not “re-receive” any rental agreement terms in any request**

All Zaid-based grounds fail, as Zaid neither discloses nor suggests the recited limitations of 1[a] / 16[a] / 19[a]

- The “user account” from which a user sends a request to generate an e-key for an identified recipient must be
 - THE SAME “user account” via which THE SAME user sets the “condition of use”

1. A method, comprising, receiving, by a server, a request from a user via a user account that has a vehicle associated therewith to generate an electronic key (e-key) for an identified recipient to use the vehicle, the request includes identifying information for enabling sending of the e-key to the recipient via an electronic transmission, the request includes a condition of use of the vehicle as set by the user via the user account;

- No request from a user via a user account associated therewith to generate an ... e-key for an identified recipient ...”
 - Instead, Petitioners point to a renter’s own reservation made by their own social media acct
- No e-key including a condition of use as set **by the same user via the same user account**
 - Instead, Petitioners point to owner-accessible app for advertising location/availability BUT lacking any functionality to request to generate an e-key

Institution Decision agreed Petitioners use inappropriate hindsight

Petitioners failed to even preliminarily show prima facie obviousness for claims 1, 16, and 19

We do agree with Patent Owner, however, that Petitioner appears to use inappropriate hindsight in its analysis of the requirement for the “request from a user” required by claim 1. *See* Pet. 44–45. Zaid discloses that (i) a vehicle reservation is booked by a vehicle renter through one or more social networking websites (Ex. 1008 ¶ 72), (ii) a vehicle renter (i.e., the user) can access an online reservation system using a browser or other communication interface and then make a reservation online (*id.* ¶ 74), (iii) the vehicle reservation system allows a vehicle user and owner to dynamically send out a vehicle request and/or update the server (*id.* ¶ 79), (iv) the vehicle

Institution Decision rejected notion that Zaid discloses or renders obvious “request from a user via a user account” of claims 1[a] / 16[a] / 19[a]

Petitioners failed to show any teaching or suggestion that request comes from vehicle Owner

We understand this disclosure to mean that the vehicle renter uses their own account to make a reservation and to send a request that generates an electronic key. At this stage of the proceeding, we are not persuaded Zaid provides a teaching or suggestion that such a user account would encompass the vehicle owner, nor do we discern any suggestion that request would emanate from the vehicle owner. *See id.* ¶¶ 72, 74, 79–80. To the extent Petitioner points to a different request (and one sent by the vehicle owner) (*see* Pet. 44), we question whether Petitioner has sufficiently shown that Zaid teaches or suggests such a request, much less one that meets the other requirements of claim 1. Thus, for purposes of institution, we are not persuaded Petitioner has identified sufficiently a teaching or suggestion from Zaid that meets this required limitation of claim 1[a].

Institution Decision rejected the Petition's alternative theories of alleged "request from a user via a user account"

- NO disclosure of any "owner account" from which the owner can send a request to generate an e-key
- Only ***the renter*** logs into social networking account to make reservation
- Relied upon event to generate alleged e-key is not from owner

We understand this disclosure to mean that the vehicle renter uses their own account to make a reservation and to send a request that generates an electronic key. At this stage of the proceeding, we are not persuaded Zaid provides a teaching or suggestion that such a user account would encompass the vehicle owner, nor do we discern any suggestion that request would emanate from the vehicle owner. *See id.* ¶¶ 72, 74, 79–80. To the extent Petitioner points to a different request (and one sent by the vehicle owner) (*see* Pet. 44), we question whether Petitioner has sufficiently shown that Zaid teaches or suggests such a request, much less one that meets the other requirements of claim 1. Thus, for purposes of institution, we are not persuaded Petitioner has identified sufficiently a teaching or suggestion from Zaid that meets this required limitation of claim 1[a].

Ex. 1008, ¶125. A POSITA would understand that the vehicle reservation request is sent to the server from the owner's user account, because the owner advertises when the vehicle is available for reservation, and the owner has "control over the type of user the owner is lending/sharing/renting vehicle to." Ex. 1008, ¶¶ 72, 77, 79; Ex. 1003, ¶210. Thus, Zaid discloses the owner decides whether a reservation will proceed—a POSITA would therefore understand that the reservation request to the server comes from the owner through the owner's account. *Id.*

In the alternative, a POSITA would have found it obvious that the reservation request is sent by the owner through the owner's account. Ex. 1003, ¶¶ 211–12. Since both the renter and the owner accounts are involved in making the reservation, whether the reservation request is sent by the renter or the owner is a mere design choice—the system can handle the request regardless of the source. *Id.* Moreover, a POSITA would have been aware of the known benefits of having the owner account send the request, because that allows the owner greater control over which renters are allowed to reserve the vehicle, especially in view of Zaid's teachings that

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Zaid Fails to Teach Key Elements 1[a], 16[a], and 19[a]

Zaid’s “reservation” cannot disclose/suggest the claimed “request from a user via a user account that has a vehicle associated therewith to generate an ... e-key”

1. A method, comprising,
receiving, by a server, a request from a user via a user account that has a vehicle associated therewith to generate an electronic key (e-key) for an identified recipient to use the vehicle, the request includes identifying information for enabling sending of the e-key to the recipient via an electronic transmission, the request includes a condition of use of the vehicle as set by the user via the user account;

Ex. 1001 ('188 Patent), Claim 1

[0072] In various embodiments, the received vehicle reservation is booked at a central server via a user interface displayed on a computing device. In various embodiments, the reservation is booked through one or more social networking websites, such as FourSquare® and Facebook®. A user must first log into the social networking website before he/she can view the advertisement and make reservation. For example, a tracking mechanism can be established to track group member driving history and reputation and allow the vehicle owner to have better control over the type of user the owner is lending/sharing/renting vehicle to.

EX1008 (Zaid), ¶ 72

Zaid Fails to Teach alleged “request” and alleged “condition of use” by same “user” and same “user account”

Petition identifies the vehicle **renter**—who makes reservation by logging into the social networking website— as the recited “request from a user via a user account ... to generate an ... e-key”; but alleged “condition of use” from owner-accessible app announcing vehicle available

[0077] In various embodiments, the wireless communication device includes a vehicle reservation application or other software function (e.g., an iPhone or Droid application) that enables a vehicle user (e.g., renter and owner) to communicate with backend server(s) (e.g., an online vehicle reservation system) to (a) advertise or announce the location of the vehicle, (b) advertise or announce the location of the user, (c) advertise or announce when the vehicle will be available for sharing (e.g., vehicle owner announces when the vehicle is available for sharing, and/or vehicle user announcing when the vehicle is returned and is available for sharing by others), and/or (d) retrieving a list of nearby vehicles available for sharing.

EX1008 (Zaid), ¶ 77

[0072] In various embodiments, the received vehicle reservation is booked at a central server via a user interface displayed on a computing device. In various embodiments, the reservation is booked through one or more social networking websites, such as FourSquare® and Facebook®. A user must first log into the social networking website before he/she can view the advertisement and make reservation. For example, a tracking mechanism can be established to track group member driving history and reputation and allow the vehicle owner to have better control over the type of user the owner is lending/sharing/renting vehicle to.

EX1008 (Zaid), ¶ 72

Zaid Fails to Teach Key Elements 1[a], 16[a], and 19[a]

Zaid's "Rental Application" enables (a) advertising location of vehicle, (b) advertising location of user, (c) advertising when vehicle will be available, and/or (d) list of nearby vehicles available

NO disclosure or suggestion of any functionality to send a request to generate an e-key, let alone any request that includes "a condition of use as set by the user via the user account"

[0077] In various embodiments, the wireless communication device includes a vehicle reservation application or other software function (e.g., an iPhone or Droid application) that enables a vehicle user (e.g., renter and owner) to communicate with backend server(s) (e.g., an online vehicle reservation system) to (a) advertise or announce the location of the vehicle, (b) advertise or announce the location of the user, (c) advertise or announce when the vehicle will be available for sharing (e.g., vehicle owner announces when the vehicle is available for sharing, and/or vehicle user announcing when the vehicle is returned and is available for sharing by others), and/or (d) retrieving a list of nearby vehicles available for sharing.

EX1008 (Zaid), ¶ 77