Acme Taxi

Acme, Inc. is a holding that encompasses many companies worldwide. One of them is Acme Taxi, a service where users can get in contact to share vehicles in order to travel from one city to another, request private drivers to drive them around their city and search for repair shops where they can tune their vehicle

Information requirements

1. The system must support two kinds of actors: Administrators, users, drivers, sponsors and mechanics. It must store the following information regarding all of them: Their names, surnames, birthdate, phone numbers (optional), and email addresses. Phone numbers are sequences of digits that may optionally start with a “+”. In addition to that, the system will store the following information regarding each specific type of actor:

* Regarding users, the system will store a picture and their city of residence.
* Regarding drivers, the system will store a picture, the maximum number of passengers they can take at once, a number plate corresponding to their vehicle, their city of residence and their DNI.
* Regarding sponsors, the system will store their DNI
* Regarding mechanics, the system will store an optional photo and their DNI.

1. Actors can exchange messages. For every message, the system must keep track of the sender, the recipient, the moment when it was sent, the subject and the body. Every actor has the following system folders: “in box”, “out box”, “notification box”, “trash box”, and “spam box”. No additional folders may be created. Actors may manually flag a message the have received as spam. Doing so will move the message to the “spam box”. When an actor receives a message, it gets to the “in box” unless the system flags it as spam, in which case it gets to the “spam box”. When he or she sends a message to another user, a copy is saved to the “out box”. When an actor removes a message from a folder other than “trash box”, it is moved to folder “trash box”; when he or she removes it from folder “trash box”, then it is permanently removed from the system.

Messages an actor receive are initially marked as “unread”. Whenever an actor displays an unread message, it will be automatically set to “read”. An actor can also manually set a message as “read”. Any message flagged as spam or moved to “trash box” is automatically set to “read”

1. A sponsor may create a sponsorship. That means he can pay in order to have an advertisement in the webpage. The system must store the following information regarding to the sponsorship: The url of the picture that will be displayed and a valid credit card the sponsor will use to make the payment. The sponsorship must be accepted by a system admin before the advertisement is displayed in the site.
2. The system must store the following information about credit cards: a holder name, a brand name, a number, an expiration month, an expiration year, and a CVV code.
3. Users can create announcements. These announcements are one of the main foundations of the project: When a user is travelling from one place to another, he may create an announcement so that other users may use him as a “taxi” so to speak, sharing this way the costs of the journey between everyone involved. An announcement must contain a title, the name of the creator, the point of departure, the destination, the price per user and the moment when the car will depart. The user who creates an announcement may also add a description and check whether or not pets or smoking is allowed.
4. Users can comment on the announcements. Each comment is composed by a body and the moment it was created. The system must also store the creator of the comment. Users can also reply to comments. Replies contain the same information as a comment.
5. Users can request for a private driver to take them somewhere. The request must include the point of departure, the destination, the total number of people who are going to use that service(user included) and the moment when they want the car to depart. They may also add an additional comment. There will be a fee stablished that indicates the price depending on the distance between the point of departure and the destination that will be the same for all the requests.
6. Mechanics can publish information about their repair shops. The system must store the following information regarding repair shops: Name, a description, location, phone of contact, an optional email, an optional photo, and a list of services that it offers, along its prices. Users may reserve a service. In their reservation request, they must specify a moment and they may add an additional comment.
7. Users can review other users, drivers and mechanical shops. Reviews must have a title, a body and a punctuation that ranges from 0 to 5. The system will store the moment the review has been created.
8. Users can file a report regarding other actors except the administrator. A report must contain the actor that is being reported, the creator of the report, a reason, and the moment it was filed. In order to prevent spamming, a user can only file maximum number of reports per week.

Functional Requirements.

1. An actor who is not authenticated must be able to:

1. Register to the system as a driver, sponsor, user or mechanic. Only people above 18 can register to the system.

2. Browse the list of announcements that have not yet begun and display them. When displaying an announcement, there must be some way to access to the list of attendants.

3. Search for announcements using a single key word that must be contained either in their titles, descriptions, points of departures and destinations.

4. Access to the profile of the user that has published an announcement. In the user’s profile, the last 10 announcements he has joined or created must appear listed.

5. Browse the list of repair shops and display them. They can be sorted by their score received in reviews.

6. Search for repair shops using a single key word that must be contained either in their names, descriptions, and locations.

7. Access to the different reviews that exist in the system: Those related to users, drivers and repair shops.

1. An actor who is authenticated must be able to:
2. Do the same as an actor who is not authenticated, but register to the system.
3. Send a message to another user. Manage his messages, which includes deleting them and marking them as spam.
4. Reporting another user.
5. Edit his profile.
6. An actor who is authenticated as a user must be able to:
7. Create a new announcement. He may edit or delete the announcement as long as no other user has joined it. Once another user has joined it, it can be if the automobile has not departed. When cancelled, every user that has joined the announcement will receive a message from the system informing them about the cancellation. The message must be stored in folder “notification folder”
8. Join any announcement as long as there’s still more than 2 hours left until the car departs and there are any places left. Users can also drop out from the announcement, and the creator of the announcement will receive a message from the system informing him about it. The message must be stored in folder “notification folder”.
9. List the announcements he has created and the ones he has joined.
10. Comment on any announcement and reply to comments.
11. Request a private driver to take them somewhere. A request can be edited and deleted as long as it has not been taken by any driver.
12. List the requests he has made.
13. Reserve a service from a repair shop. The reserve can be cancelled as long as the moment when it was supposed to take place has not passed. The owner of the repair shop will receive a message from the system informing him about it. The message must be stored in folder “notification folder”.
14. Write reviews about users, drivers and repair shops.

* In order to write a review about another user, the writer of a review must have joined an announcement created by the user reviewed. If the user has dropped out from one announcement, that one will not be taken into consideration when writing the review.
* In order to write a review about a driver, this driver must have accepted a request from the user writing the review.
* In order to write a review about a repair shop, the user must have reserved a service from that repair shop. Cancelled reserves are not taken into consideration.

13. List the reviews he has written.

14. List the reviews other users have written about him.

1. An actor who is authenticated as a driver must be able to:
2. List all the requests made by users that have not been already picked up and that he can accept. In order to accept a request, the number of passengers he can take in must be equal or higher than the number of people that appears in a request.
3. Accept requests.
4. List the reviews other users have made about him.
5. An actor who is authenticated as a mechanic must be able to:
6. List all of his repair shops and edit their data.
7. Add new services to a repair shop. A service may be edited or deleted as long as no user has currently reserved it. Reserves that have already expired are not taken into account.
8. List all the current reserves made to any service belonging to his repair shops.
9. List the reviews other users have written about his repair shops.
10. An actor who is authenticated as a sponsor must be able to:
11. Create a sponsorship.
12. An actor who is authenticated as an admin must be able to:
13. List suspicious actors. An actor is considered suspicious if he has made any publication that contains any spam word.
14. Ban actors whether they are marked as suspicious or not, deactivating their user account. Banned actors can be unbanned at any moment.
15. List actors that are currently banned.
16. Search by username any actor that exists in the system, and display his profile.
17. List comments and replies marked as suspicious.
18. List announcements marked as suspicious.
19. List reviews of any kind marked as suspicious.
20. List repair shops marked as suspicious.
21. List all the reports made and display them. A report can be checked as “read” by the admin.
22. List all unread reports.
23. List all sponsorships that have not yet been accepted.
24. Delete any content that he may consider inappropriate, excluding private messages and requests. This includes sponsorships as long as these have not yet been accepted.
25. Display a dashboard with the following information:

* The minimum, the maximum, the average, and the standard deviation of the number attendants to an announcement.
* The top 10 of unbanned users who have obtained the best scores in reviews.
* The top 10 of unbanned drivers who have obtained the best scores in reviews.
* The top 10 of unbanned mechanics whose repair shops have obtained the best scores in reviews.
* The bottom 10 of unbanned users who have obtained the worst scores in reviews.
* The bottom 10 of unbanned drivers who have obtained the worst scores in reviews.
* The bottom 10 of unbanned mechanics whose repair shops have obtained the worst scores in reviews.
* The average, and the standard deviation of the announcements cancelled.
* The top 10 of unbanned actors who have written more reports.
* The top 10 of unbanned actors who have received more reports.

1. Configure different parameters of the system such as currency, spam words, limit of reports per week, welcome message and any other parameter that may be considered necessary.

Non Functional Requirements.

1. Photos are not required to be stored in the database, but links to external systems like Flickr.com, Tumblr.com, or Pinterest.com.
2. The system must be available in English and Spanish.
3. The system must be easy to customize at deployment and run time.
4. A notification alert must appear whenever any actor has unread messages in his “notification box”.
5. A random advertisement approved by a system admin from a sponsor must be displayed in one of the sides of the webpage.
6. Whenever a sponsor creates a new sponsorship, the credit card form must be automatically filled with the data of the last one he used.
7. The system must comply with the Spanish regulations.
8. The system must be as efficient as possible.