

Acme Taxi

Grade this group aims to achieve: A+.

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 five 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. 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, their city of residence and their Identity Document number.
 - Regarding sponsors, the system will store their Identity Document number.
 - Regarding mechanics, the system will store an optional photo and their Identity Document number.
2. 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". These default folders cannot be edited nor deleted. Actors may manually flag a message they have received as spam. Doing so will move the message to the "spam box" and will block the communications with the sender, which means the all future messages received written by that blocked sender will be automatically sent 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 a message is flagged by the system as spam, the sender will not be automatically blocked, unlike what happens when manually flagging a message as spam. 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 receives 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".
3. A sponsor may create a sponsorship. That means he can pay in order to have an advertisement displayed in the webpage. The system must store the following information regarding to the sponsorship: The url of the picture that will be displayed, the moment it has been created and a valid credit card the sponsor will use to make the payment. The price of sponsorships is the same for all sponsorships and it is configured by a system admin. The sponsorship must be accepted by a system admin before the advertisement is displayed in the site.

4. 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.
5. 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, the number of seats available 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.
6. 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.
7. 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. Requests will have a price that depends on the distance between the point of departure and the destination. The way this price is calculated is the following: The system stores a minimum fee and a fee per kilometer. These two fees will be the same for any request made. The total price of the request will be the minimum fee plus the product between the fee per kilometer and the distance in kilometers between the point of departure and the destination. The distance will be calculated using the Google Maps API. The total price of the request must be shown to a user when making the request. As well as the total price taking into account the distance between the starting point and the destination. The VAT must be also considered when calculating the price.
8. 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 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.
9. Drivers may register a car and associate it with the repair shop where they usually take it. The system will store the model of the car, its plate number and its maximum number of passengers. Users can review other users, drivers and mechanical shops. Reviews must have a title, a body and a score that ranges from 0 to 5. The system will store the moment the review has been created.
10. Users have an announcement finder in which they can specify some search criteria: a keyword, a price range, a moment, a point of departure and the destination. Initially, every search criteria must be null, which means that every announcement must be displayed.
11. Authenticated actors 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, the moment it was filed and an optional image. In order to prevent spamming, an actor can only file a maximum number of reports per week.
12. Phone numbers should adhere to the following patterns: "+CC (AC) PN", "+CC PN", or "PN": "+CC" denotes a country code in range "+1" up to "+999", "(AC)" denotes an area code in range "(1)" up to "(999)", and "PN" denotes a number that must have at

least four digits. Phone numbers with pattern “PN” must be added automatically a default country, which is a parameter that can be changed by administrators. Note that phone numbers should adhere to the previous patterns, but they are not required to. Whenever a phone number that does not match this pattern is entered, the system must ask for confirmation; if the user confirms the number, it then must be stored.

Functional Requirements.

13. 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.
 8. Search by username any actor that exists in the system and display his profile.
14. An actor who is authenticated must be able to:
 1. Do the same as an actor who is not authenticated, but register to the system.
 2. Send a message to another user.
 3. Manage the messages in their folders, which includes deleting them and marking them as spam.
 4. Report another user.
 5. Edit his profile.
 6. Block another user. This will make said user unable to send him any messages.
15. 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 cancelled 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 seats 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. An accepted request can be cancelled as long as the moment when it was supposed to start has not passed
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. Said request must have not been cancelled and it must have already taken place
 - 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.
16. An actor who is authenticated as a driver must be able to:
 1. Register a car and associate it with a repair shop. A driver can only have one car registered. The car may be edited or deleted as long as the driver has not accepted any requests which have not taken place yet. A driver can change the repair shop his car is associated with at any moment, or not associating the car with any repair shop at all.
 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 his registered car can take in must be equal or higher than the number of people that appears in a request. A driver without a car can not accept requests.
 3. Accept requests.
 4. List the request he has accepted
 5. List the reviews other users have made about him.
 6. Consult the current transport fee established.
17. An actor who is authenticated as a mechanic must be able to:
 1. List all of his repair shops and edit their data. A mechanic shop may be deleted as long as it does not offer any services.
 2. 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. A service may be suspended at any moment. That means users will no longer be able to reserve it. A suspended service may be reopened any time
 3. List all the current reserves made to any service belonging to his repair shops.
 4. List the reviews other users have written about his repair shops.

18. An actor who is authenticated as a sponsor must be able to:
 1. Create a sponsorship.
 2. Delete a sponsorship as long as it has not been accepted by a system administrator.
 3. Cancel a sponsorship that has been accepted by a system administrator.
19. An actor who is authenticated as an admin must be able to:
 1. List suspicious actors. An actor is considered suspicious if he has made any publication that contains any spam word.
 2. Ban actors whether they are marked as suspicious or not, deactivating their user account. Banned actors can be unbanned at any moment.
 3. List actors that are currently banned.
 4. List comments and replies marked as suspicious.
 5. List announcements marked as suspicious.
 6. List requests marked as suspicious.
 7. List reviews of any kind marked as suspicious.
 8. List repair shops marked as suspicious.
 9. List all the reports made and display them. A report can be checked as “read” by the admin.
 10. List all unread reports.
 11. List the reports an actor has written.
 12. List all sponsorships that have not yet been accepted.
 13. Delete any content that he may consider inappropriate, excluding private messages. This includes sponsorships as long as these have not yet been accepted. Accepted requests shall not be deleted.
 14. 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.
 15. Configure different parameters of the system such as currency, spam words, limit of reports per week, prices of sponsorships, the fees associated with private drivers, welcome message and any other parameter that may be considered necessary.

Non Functional Requirements.

20. Photos are not required to be stored in the database, but links to external systems like Flickr.com, Tumblr.com, or Pinterest.com.
21. The system must be available in English and Spanish.
22. The system must be easy to customize at deployment and run time. By default, the system will have the VAT set to 21%, the list of spamwords will be: "viagra", "cialis", "jes extender", "sex", "sexo", "fuck", "pills", "pene", "cock". The price of the announcements will be 20€, the minimum fee of a request will be 5 euros and the default fee per kilometer will be 1.5 euros.
23. A notification alert must appear whenever any actor has unread messages.
24. When a user lists the messages he has received, those which have not been read yet will be highlighted.
25. A random advertisement approved by a system admin from a sponsor must be displayed at the bottom of the website.
26. Whenever a sponsor creates a new sponsorship, the credit card form must be automatically filled with the data of the last one he used.
27. The system must comply with the Spanish regulations, except the requirement in LSSI regarding informing the Chamber of Commerce about the internet domain.
28. The system must be as efficient as possible.

A+ Requirements

Our group proposes in order to obtain the A+ grade integrating the Google Maps API to calculate the distance between the starting point and the destination when making a request to a private driver. This way, the total price will be calculated taking into account the distance obtained.