# Acme Packages

Acme, Inc. is a holding that encompasses many companies worldwide, including Acme Packages, Inc. Their business consists in helping customers publish their transport request, carriers publish an offer to deliver packages and both applies to offers or request, respectively.

The goal of this project is to develop a web information system that Acme Packages, Inc. can use to run their business. This document provides a formal requirement specification.

Information requirements

1. The actors of the system are administrators, customers, carriers, auditors and sponsors. For every actor, the system must store a name, an optional middle name, a surname, an optional photo, an email, an optional phone number, an optional address and a valid credit card. The system also stores the NIF of every carrier and the VAT number or the NIF of every sponsor.
2. Actors can exchange messages. For every message, the system must keep track of the sender, the recipients, the moment when it was sent, the subject, the body, its priority, and some optional tags. Priorities are HIGH, NEUTRAL, or LOW; no other values are expected. Every actor has the following message boxes: in box, out box, trash box, spam box and notification 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, it’s saved to the out box. When an actor removes a message from a box other than trash box, it is moved to the trash box; when he or she removes it from the trash box, then it is removed from the system. The previous boxes are pre-defined, and the actors must not be allowed to delete them, to change their names, or to move them. Actors can create new boxes that they can manage arbitrarily; managing boxes includes nesting a folder within another folder. Note that a message may be stored in several boxes and, but the system must keep a unique copy; removing a message from the “trash box” removes it from every other box.
3. Customers publish requests. For every request, the system must store a ticker, the moment when it’s published, a description, an address to be delivered, a maximum price, a deadline, an package list, with at least one package, the total weight, the total volume and the transport, the transport can be selected automatically when the request is created or when a carrier publish a proper offer to transport and a status. Status are “SUBMITTED”, “ACCEPTED”, “REJECTED”, “DELIVERED”. The total weight and the volume its calculated with the package list.
4. For every package the system must store a description, a list of categories, the weight and its dimensions, the dimensions consist in the length, height and width.
5. A category specifies the type of a package. The system must store the catalogue of categories. For every category the system must store its Spanish name and its English name.
6. Carriers publish offers to transports. For every offer the system must store a ticker, sorted list of cities, the prices to give a package to a city in the list, a start date, an end date, the vehicle which will be used for the transport and the list of packages that will be transported. Packages in that list can be added automatically when a carrier creates an offer or when a customer publish a request that fits in the transport.
7. Every transport has a track that is updated by the carrier. For every track the system must store all the updates made and the status of the transport.
8. For every update the system must store the location in which the transport is and the date of the update.
9. Carriers owns vehicles. For every vehicle the system must store the type, the license plate, the maximum volume and weight, some optional photos and some licences and its respective expiration dates.
10. Licenses authorises to transport packages depending on the category that packages belongs. For every license the system must store the categories that the licence allows to transport, the Spanish title, the English title and a description.
11. Licenses are handled by auditors, a carrier can solicitate a license for his vehicle. For every solicitation the system must store the vehicle, the license that the carrier wants, the creation date, some comments and the status. The status can be either accepted, rejected or pending. If the status change to accepted, the system must automatically add the licence at the transport and an expiration date that it is one year from the moment that was accepted.
12. A customer may create an issue about a transport. An issue is handled by auditors. The system must store a ticker, the moment when it’s written, a status that can be “open” or “close”, a comment written by the customer about the problem and the following comments between the auditor who has self-assigned that issue and the author of the issue.
13. An issue may have zero, one or more comments, which can be written by the auditor or the customer who has create the corresponding issue. The system must store the moment when it’s written, the actor who writes it and a comment about the issue involved.
14. Customers may evaluate a customer. For every evaluation, the system must store the moment when it’s written, a mark between 0 and 10 and some comments.
15. Sponsors support a transport. The system must store the following data regarding sponsorships: An URL to a banner, a link to a target page and a valid credit card.
16. The actors of the system can register their social profiles. The system must store the following data regarding them: a nick, the name of the social network, a link to a profile in that social network.
17. Transporter can register their curricula. Every curriculum has a ticker, a personal record, some professional records and some miscellaneous records.
18. A personal record consists of the full name of a transporter, a photo of him or her, his or her email and his or her phone number.
19. A professional record consists of the name of the company for which a transporter was working, the corresponding period of time, an optional link to an attachment, and some optional comments. Note that a professional record may refer to a period that hasn’t finished yet.
20. A miscellaneous record consists of a title, an optional link to an attachment, and some optional comments.
21. Customers have a finder in which they can specify some filters: a category to which the offer must be able to transport; a city; a maximum price; and a maximum end date.
22. 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.
23. Email addresses must adhere to any of the following patterns: "identifier@domain", "alias <identifier@domain>"; administrators may have email addresses of the form "identifier@", or "alias <identifier@>". The identifier is an alpha-numeric string, the domain is a sequence of alpha-numeric strings that are separated by dots, and the alias is a sequence of alpha-numeric strings that are separated by spaces.
24. The system must store the following information about credit cards: a holder name, a brand name, a make, a number, an expiration month, an expiration year, and a CVV code, which is an integer between 100 and 999.

Functional requirements

1. An actor **who is not authenticated** must be able to:
2. Register to the system as a customer, as a transporter and as a sponsor.
3. Browse the catalogue of offers to transport and navigate to the profile of the corresponding transporter, which includes his or her personal data plus his or her curricula.
4. Search for a transport using a single key word that must be contained in…
5. An actor **who is authenticated** must be able to:
6. Do the same as an actor who is not authenticated but register to the system.
7. Edit his or her personal data.
8. Exchange messages with other actors and manage them.
9. Manage his or her message boxes, except for the system boxes.
10. Manage his or her social profiles, which includes listing, showing, creating, updating, and deleting them.
11. An actor who is authenticated as a **carrier** must be able to:

1. Manage an arbitrary number of offers to transport, which includes listing, showing, creating, updating, and deleting them.

2. Manage an arbitrary number of vehicles, which includes listing, showing, creating, updating, and deleting them.

3. Manage the catalogue of licenses of their vehicles, which includes listing, showing, and deleting them.

4. Manage solicitations of licenses of their vehicles, which includes listing, showing, creating and deleting them.

5. Manage their curricula, which includes listing, showing, creating, updating and deleting them.

6. Manage the records of their curricula, which includes listing, showing, creating, updating and deleting them.

7. Manage the evaluations he did, which includes listing, showing, creating, updating and deleting them.

8. Manage his evaluations, which includes listing, showing.

9. Update his or her tracks.

1. An actor who is authenticated as a **customer** must be able to:

1. Manage an arbitrary number of requests to transport, which includes listing, showing, creating, updating, and deleting them. When a request is published, it cannot be deleted or updated. Request may be saved in draft mode, which implies that they must not be shown in listings to actors other than the corresponding customer.

2. Manage an arbitrary number of packages, which includes listing, showing, creating, updating, and deleting them.

3. Change the filters of his or her finder.

4. Display the offers in his or her finder.

5. Manage an arbitrary number of issues, which includes listing, showing, creating, updating, and deleting them. When an issue is closed, it cannot be deleted or updated.

6. Write some comments on an issue which the customer has created and is in status “open”.

7. Manage the evaluations he did, which includes listing, showing, creating, updating and deleting them.

8. List and display all the tracks of his or her transports.

1. An actor who is authenticated as an **auditor** must be able to:
2. List the licenses that no auditor has self-assigned and self-assign one of them.
3. List the licenses that he or she has self-assigned.
4. Change status of a license. If the
5. List the issues that no auditor has self-assigned and self-assign one of them.
6. List the issues that he or she has self-assigned.
7. Change status of an issue which the auditor has self-assigned. When an
8. Write a comment in an issue which the auditor is involved, if the issue is in “open” status.
9. An actor who is authenticated as a **sponsor** must be able to:
10. Manage his or her sponsorships, which includes listing, showing, creating, updating, and deleting them.
11. An actor who is authenticated as an **administrator** must be able to:
12. Display a dashboard with the following information:

* INSERT QUERIES

1. Display a listing of suspicious actors. An actor is considered suspicious if he or she publishes some data that includes spam words.
2. Ban an actor who is considered suspicious, which means that his or her user account is de-activated.
3. Unban an actor who is considered suspicious, which means that his or her user account is de-activated.
4. Manage the catalogue of categories, which includes listing, creating, updating and deleting them. Note that categories.
5. Broadcast a notification to the actors of the system. The notification must be stored in the notification box by default.
6. Create user accounts for new administrators and auditors.
7. Launch a process that computes the score of every carrier…

Non-functional requirements

1. Whenever a transport is displayed, a random sponsorship must be selected and its banner shown, if any. Banners must be shown as little intrusively as possible.
2. Wherever the profile of a carrier is shown, the system must show his or her score.
3. The system must be available in English and Spanish. (Unless otherwise stated, the data are not required to be available in several languages, only the messages that the system displays.)
4. Photos or pictures are not required to be stored in the database, but links to external systems like Pinterest.com or Flickr.com, just to mention a couple of examples. Attachments also must be links to external sites.
5. The system must be easy to customise at run time. The customisation includes, but is not limited to: the name of the system (it’s “Acme Handy Worker” by default); the banner shown at the header (it’s the one available at https://tinyurl.com/acme-handy-worker-logo by default); the message that is shown on the welcome page (“Welcome to Acme Packages! Price, quality, and trust in a single place” is the default welcome message in English; “¡Bienvenidos a Acme Packages! ” is the default welcome message in Spanish); a list of spam words (it’s “sex”, “viagra”, “cialis”, “one million”, “you’ve been selected”, “Nigeria”, “sexo”, “un millón”, and “ha sido seleccionado” by default); the applicable VAT percentage (it’s “21%” by default); the default country code in telephone numbers (it’s “+34”by default); the default list of credit card makes (it’s “VISA”, “MASTER”, “DINNERS”, and “AMEX” by default).
6. Tickers must adhere to the following pattern: “yymmdd-xxxxxx”, where “yymmdd” refers to the year, month, and day when the corresponding entity is registered, and “xxxxxx” to a random uppercase alpha-numeric string. No two entities may have the same ticker since it’s assumed to be a unique external identifier.
7. Every time a carrier gets an evaluation, he or she will get a notification.
8. The system will send notifications to customers if any new published transport matches any of his or her requests.
9. The default list of spam words includes “sex”, “viagra”, “cialis”, “one million”, “you’ve been selected”, “Nigeria”, and their corresponding Spanish translations.
10. When an actor gets a message that contains a spam word, it must be stored in the spam box instead of the input box.
11. The results of a finder are cached for one hour by default. The administrator should be able to configure that period at will in order to adjust the performance of the system. The minimum time’s one hour and the maximum time’s 24 hours. When a user requests to clear his or her finder, the system must re-compute its results immediately.
12. The maximum number of results that a finder returns is 10 by default. The administrator should be able to change this parameter in order to adjust the performance of the system. The absolute maximum is 100 results.
13. The system must generate notifications on the following events: a request changes its status (pending)

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We will use Docker to store our Hackathon in a docker container to deploy our project.