ACME LOGISTICS

Acme, Inc. is a holding that encompasses many companies worldwide. One of them is Acme Logistics, Inc., whose objective consists of supporting the logistics process associated to the fishing market, where fishermen can relate their products and organize markets, and businesses may acquire said produce.

The objective of this project is to develop a web information system so that Acme Logistics may carry their business. This document provides the initial draft of requisites the system will fulfill.

Levels C, B and A

Information requeriments

1. The actors of this system will be fishermen, buyers, businessmen, transporters and administrators. The sistem must store their names, surnames, national ID, city and phone number; optionally, they can also store a postal address, an email address and a credit card.
2. Every stored ID must be valid, following the structure NNNNNNNN-L, where N are numbers and L a letter, which must be correct for the associated number.
3. The system must store valid credit cards. The system will store the following information about them: holder name, brand name, number, expiration month, expiration year, and a CVV code, which is an integer between 100 and 999.
4. Fishermen can register their daily catch to keep an account of their reserves. The system must store the variety of fish and the quantity captured.
5. The system will store certain types of fish, for which it must store only their names.
6. The system will also store measurement units. For each, the system must store their names and the ratio in which they're related to the kilogram, the default measurement which must be implemented in the sistem (with ratio 1.0).

7. The system keeps an open taxonomy of properties which describe the many varieties of fish available. For each property, the system must store its name and a description of what it means.
8. Fishermen can publish a market offer on the wall. About the market, the system must store a date and place, a duration, the type of fish, the amount to be sold, the price and the measurement unit used. Optionally, a market can be placed as static, which means it will periodically be published at set intervals.
9. All actors can access the default wall, where every published market will be ordered by date. The wall cannot be edited, but actors may create other walls specifically for certain fishermen. For every custom wall, the system must store a name, the list of fishermen associated, and the markets published by them.
10. Actors can follow each other. The system must store for every actor a list of followers and a list of actors he or she is followed by.
11. Businessmen can register a store, of which they'll be owners. The system must store a name, a postal address, a city and a VAT identification number.
12. Businessmen can send orders to fishermen for one of their stores. The system must store for each order the ID of the store, the associated fisherman, a VAT identifier, variety and quantity of fish in a determined measurement unit, price of the order and optionally, a transporter ID, in case the services of one were required.
13. Transporters can publish transport offers for which the system must store: transport ID, origin of route, destination, maximum cargo with its associated measuring unit, price per unit, and a period in which the transport is available, expressed as starting and ending dates.
14. Transport IDs must be valid. For that they must follow the pattern NNNN-LL-LL where N are numbers and L are letters.
15. Businessmen can mark an order as delivered, which will be notified to the associated fisherman with a generated message. Once delivered, it won't be able to be marked as not delivered.
16. The actors of the system can exchange messages. Every actor has the following system folders, whose names cannot be modified at all: inbox, outbox, trashbox, and spambox. When an actor receives a message, it gets to the inbox unless the system flags it as spam, in which case it gets to the spambox. When he or she sends a message to another user, a copy is saved to the outbox. When an actor removes a message from a folder other than trashbox, it is moved to folder trashbox; when an actor removes a message from the trashbox folder, it is then removed from the system. The system flags a message as spam if it contains any of the key words that an administrator has configured. Actors can create their cus-tom folders and manage them. For every message, the system must keep track of the send-er, the recipient, the moment when it was sent, the subject, the body, and its priority. Priorities are HIGH, NEUTRAL, or LOW; no other values are expected.

17. Businessmen can publish items in their stores for their local customers. For each product, the system must store the variety, quantity, measurement unit and price.
18. Buyers can buy products in businessmen's stores. Each purchase will generate a ticker for which the system must store the name of the item, the quantity with its associated measurement unit, and the price to pay.
19. All actors may publish comments on certain entities. For each comment, the system must store the moment in which it was created and the body of the comment in plain text. Currently, the entities within the system that allow comments are stores and items; it is expected that other entities will accept comments in future revisions of the system.

Functional requeriments

1. An actor which is not authenticated will be able to:
   1.1. Register as fisherman.
   1.2. Register as buyer.
   1.3. Register as businessman.
   1.4. Register as transporter.
   1.5. Display the default wall of markets.
2. An actor authenticated as any role will be able to:
   2.1. Do the same as a non authenticated actor, except register to the system.
   2.2. Edit personal data.
   2.3. Publish a comment in an entity which accepts comments.
3. An actor authenticated as buyer will be able to:
   3.1. Search for fishermen using a single keyword that must appear in his or her name or city.
   3.2. Search markets using a single keyword that must appear in its city.
   3.3. Manage their custom walls, which includes listing them, creating them, editing them and deleting them.
   3.4. Follow fishermen.
   3.5. Search a store using a single keyword that must appear in its name or city.
   3.6. Browse and purchase products offered by a store. He or she may choose to pay with their profile's credit card or introduce a different one manually.
   3.7. Exchange messages with other actors.
4. An actor authenticated as fisherman will be able to:
   4.1. Register his or her daily catch.
   4.2. Publish markets. Also, he or she can mark a market as static so it will be published automatically monthly, always the same day as the indicated in the market.
   4.3. Accept orders. This will include altering the quantity of the assigned fish on his or her reserves.

4.4. Exchange messages with other actors.
5. An actor authenticated as businessman will be able to:
  5.1. Search fishermen using a single keyword that must appear in his or her name or city.
  5.2. Search markets using a single keyword that must appear in its city.
  5.3. Manage their custom walls, which includes listing them, creating them, editing them and deleting them.
  5.4. Follow fishermen.
  5.5. Register a store.
  5.6. Manage products on his or her store. This includes listing them, creating them, editing them and deleting them. An item can be deleted so long as there are no current tickers made by buyers requesting said item.
  5.7. Send an order to a fisherman. This includes contracting a transporter who's available on the delivery date, origin and destination, as well as sending a generated message to the transporter indicating the order. This process cannot be reversed.
  5.8. Mark an order as delivered, which implies sending a generated message to the fisherman. This process cannot be reversed.
  5.9. Exchange messages with other actors.
6. An actor authenticated as transporter will be able to:
  6.1. Manage his or her transport offers, which includes listing them, creating them, editing them and deleting them. A transport offer can only be deleted as long as it hasn't been accepted.
  6.2. Exchange messages with other actors.
7. An actor authenticated as administrator will be able to:
  7.1. Exchange messages with other actors.
  7.2. Search fishermen using a single keyword that must appear in his or her name or city.
  7.3. Search markets using a single keyword that must appear in its city.
  7.4. Manage their custom walls, which includes listing them, creating them, editing them and deleting them.
  7.5. Search a store using a single keyword that must appear in its name or city.
  7.6. Display the list of items offered by a store.
  7.7. Manage varieties of fish. This includes listing them, creating them, editing them and deleting them. A variety of fish can only be deleted if there are no entities (such as fishing catches, orders or items) currently using said variety.
  7.8. Manage properties of fish. This includes listing them, creating them, editing them and deleting them. A property can only be deleted if there are no fish varieties using said property.
  7.9. Manage measurement units. This includes listing them, creating them, editing them and deleting them. The only exception is the measurement unit "kilogram", which cannot be edited or deleted and must be in the system by default.

7.10. Manage comments, which means being able to delete comments he or she thinks are inappropriate.

7.11. Manage spamwords. This includes listing them, creating them, editing them and deleting them.

7.12. Display a dashboard, which includes:

7.12.1. The average, maximum and minimum of messages sent by actors.

7.12.2. The average, maximum and minimum of messages received by actors.

7.12.3. The average, maximum and minimum of markets published daily.

7.12.4. The average, maximum and minimum of markets published monthly.

7.12.5. The ratio of static markets.

7.12.6. Number of actors registered as fishermen.

7.12.7. Number of actors registered as buyers.

7.12.8. Number of actors registered as businessmen.

7.12.9. Number of actors registered as transporters.

7.12.10. The average, maximum and minimum of orders made daily.

7.12.11. The average, maximum and minimum of orders made monthly.

7.12.12. The average, maximum and minimum of properties per fish variety.

Non-functional requeriments

1. The system must be available in English and Spanish (The data itself doesn't have to be, only the messages which the system displays).
2. The system will run in Spain, so it will have to comply with the following regulations: the Spanish LOPD, the Spanish LSSI and the transpositions law.
3. The system must be as efficient and hard to hack as possible.
4. The system will have the euro (€) as default currency. This currency cannot be changed.
5. The number of results shown after a search will always be 10 for each page.
6. Phone numbers should adhere to the following pattern: "+CC (AC) PN", where CC is a country code of up to three digits, "(AC)" is an optional area code that consists of up to three digits, and "PN" is a telephone number that consists of at least 4 digits. 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.
7. Fish can be measured in many different international or specific units. The administrator of the system may edit the taxonomy of units, but there must always be a default unit "kilogram", which will be the default unit when storing

data in the system. When an actor selects to use another unit, the quantity must be altered using the unit's predetermined ratio. This operation is done only on display; it doesn't alter the system's data.

Level A+

Information requeriments

Intentionally blank.

Functional requeriments

Intentionally blank

Non-functional requeriments

1. The communications must be secured by using HTTPS where appropriate. A short report to explain how this A+ has been implemented is required.
2. Each country represents phone numbers in their own ways. A dictionary must be implemented so that incoming phone numbers in the system are validated and correctly formatted, based on their country code. A short report to explain how this A+ has been implemented is required.