Acme Santiago

Acme, Inc. is a holding that encompasses many organisations worldwide. One of them is Acme Santiago, NPO, which runs a social network that is intended to help people go on pilgrimages to Santiago de Compostela.

The goal of this project is to develop a web information system to help Acme Santiago, NPO manage their business. This document provides an informal description of their requirements; ask your lecturers for clarifications and details.

C-level requirements

Information requirements

1. The system must support two kinds of actors, namely: administrators and users. It must store the following information regarding them: their names, surnames, pictures (optional), postal addresses (optional), phone numbers (optional), and email addresses. Phone numbers are sequences of digits that may optionally start with a "+".
2. Users may register routes. For every route, the system must store its name, its length, its description, some pictures, and the hikes of which it is composed. For every hike, the system must store its name, its length, its origin city, its destination city, its description, some pictures, and its difficulty level (which can be EASY, MEDIUM, or DIFFICULT).

Functional requirements

3. An actor who is not authenticated must be able to:
   1. Register to the system as a user.
   2. Browse the routes.
   3. Search for routes using a single key word that must appear somewhere in their names, their descriptions, or their hikes.
   4. Search for routes whose length is in a user-provided range.
   5. Search for routes that have a minimum or a maximum number of hikes.
   6. Browse the users of the system and their profiles, which must include their personal data and the list of routes that they have registered.
4. 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.
5. An actor who is authenticated as a user must be able to:
   1. Manage his or her routes, which includes creating, editing, deleting, and listing them.
   2. Follow/unfollow other users.
   3. Browse the users who he or she follows.
   4. Browse the users who follow him or her.
6. An actor who is authenticated as an administrator must be able to:
   1. Remove a route that he or she thinks is inappropriate. Removing a route involves removing all of the hikes of which it is composed.
   2. Display a dashboard with the following information:

- The average and the standard deviation of routes per user.
- The average and the standard deviation of hikes per route.
- The average and the standard deviation of the length of the routes.
- The average and the standard deviation of the length of the hikes.
- The outlier routes according to their lengths.

Non-functional requirements

7. The system must be available in English and Spanish.
8. The system will be run in Spain, so it must comply with the Spanish regulations except for the following ones: a) the requirement in LOPD regarding keeping files and communications secure and confidential (unless you opt to earn an A$^+$, in which case you're requested to use the HTTPS protocol where appropriate); b) the requirement in LSSI regarding informing the Chamber of Commerce about your internet domain.
9. The system must be as efficient as possible.
10. Pictures are not required to be stored by the system, but their URLs to external storage systems like Flickr.com or Pinterest.com.
11. The "Terms and Conditions" document must make it explicit the reasons why a route or a hike may be considered inappropriate.
12. Given a set of real numbers $X = \{x_1, x_2, \dots x_n\}$ ($n > 0$), the outliers must be computed as follows: $\{x \in X \mid x \leq \mu - 3\sigma \lor x \geq \mu + 3\sigma\}$, where μ denotes the average of set X and σ its standard deviation.

B-level requirements

Information requirements

13. Users may chirp. For every chirp, the system must store the moment when it is posted, a title, and a description.
14. Users may comment on routes and hikes. For every comment, the system must store a title, the moment when it is written, a piece of text, some pictures, and a rating in range zero – three stars.

Functional requirements

15. An actor who is authenticated as a user must be able to:
    1. Post a chirp. Chirps may not be changed or deleted once they are posted.
    2. Display a stream with the chirps posted by all of the users that he or she follows.
16. An actor who is authenticated as an administrator must be able to:
    1. Manage a list of taboo words.
    2. List the chirps that contain taboo words.
    3. Remove a chirp that he or she thinks is inappropriate.
    4. List the comments that contain taboo words.
    5. Remove a comment that he or she thinks is inappropriate.
    6. Display a dashboard with the following information:
       - The average number of chirps per user.
       - The users who have posted more than 75% the average number of chirps per user.

- The users who have posted less than 25% the average number of chirps per user.
- The average number of comments per route (including their hikes).

Non-functional requirements

17. The system must be configured with the following taboo words by default: "sex", "viagra", and "cialis".

A-level requirements

Information requirements

18. There's a new kind of actors: innkeepers.
19. Inkeepers manage inns. For every inn, the system must store its name, its badge, its address (street, number , and city), its phone number, its email (optional), its web site (optional), and a mandatory credit card.

Functional requirements

20. An actor who is not authenticated must be able to:
    1. List the inns that are registered to the system as long as the corresponding credit cards are not expired.
21. An actor who is authenticated as an innkeeper must be able to:
    1. Register the day when a user stayed at his or her inn.
22. An actor who is authenticated as an administrator must be able to:
    1. Display a dashboard with the following information:
       - The average and the standard deviation of the number of inns managed per innkeeper.
       - The average and the standard deviation of the number of users per day who stay in the inns.

Non-functional requirements

23. The badge of an inn must be provided as a URL to an external photo-storage system like Flickr.com or Pinterest.com.

A⁺-level requirements

Information requirements

Intentionally blank.

Functional requirements

Intentionally blank.

Non-functional requirements

24. The system must use the HTTPS protocol where appropriate.
25. The repository that manages the persistence of the routes must be paginated so that listings retrieve the exact page that they are displaying.