Acme Raffle

Acme, Inc. is a holding that encompasses many companies worldwide. One of them is Acme Raffle, Inc., which specialises in managing raffles that are organised by other companies in order to promote their products and/or services.

The goal of this project is to develop a web information system that Acme Raffle, Inc. can use to run 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 actors of the system are managers, users, and administrators. The system must store their names, surnames, and email addresses; optionally, it might also store a phone number, a postal address, a city, and a country. Phone numbers must adhere to one of the following patterns: "+CC (AC) PN" or "PN", where CC is a two digit country code, "(AC)" is an optional area code that consists of up to three digits, and "PN" is a phone number that consists of at least four digits.
2. A manager can manage an arbitrary number of raffles. For every raffle, the system must store a logo, a title, a description, a publication time, which is a date before which it is private and can be edited or deleted, and a deadline, which is a date after which no user can participate in the raffle.
3. A raffle offers an arbitrary number of prizes. For each prize, the system must store a name and a description. When a raffle is registered, the system must automatically generate a number of codes, some of which are winners. The number of codes generated and the number of winner codes is input by the manager who registers the corresponding raffle.
4. Codes have two parts, each of which is a string of exactly four uppercase letters and/or digits. For instance "MALD-IVES", "JULY-2019", or "LETS-GO2G" are valid codes. Note that the "-" in between the two parts or the code can be replaced by a space, a slash, or omitted when it's entered. That is, the previous codes may be input alternatively as "MALDIVES", "JULY 2019", and "LETS/GO2G", respectively.
5. A prize may have a number of properties, which are picked from an open taxonomy.

Functional requirements

CELESTE: MIGUEL
DORADO: REME
VERDE: ENRIQUE
MORADO KARLI
ROJO: JOSE
GRIS: ADRIAN

6. An actor who is not authenticated must be able to:
   1. Register to the system as a manager or a user.
   2. Browse the catalogue of raffles and navigate to the corresponding prizes.
   3. Search for raffles using a single key word that must appear in their titles or their descriptions.
7. An actor who is authenticated must be able to:
   1. Do the same as an actor who is not authenticated, except for registering to the system.
   2. Edit his or her personal data.
8. An actor who is authenticated as a manager must be able to:

1. Manage his or her raffles, which includes listing, creating, editing, and deleting them. Note that a raffle can be edited and deleted as long as its publication time has not passed; once the publication time passes, no raffle can be edited or deleted.
2. Manage the prizes that are associated with any of his or her raffles, which includes listing, creating, editing, deleting them, or re-generating its codes. Editing, deleting, or re-generating the codes of a prize is allowed as long as the corresponding raffle has not started.

9. An actor who is authenticated as a user must be able to:
   1. Enter a code for a prize in a given raffle. The system must inform the user on whether: a) the code is a winner code and then he or she's won the corresponding price; b) the code is invalid, that is, it's not registered in the database; c) the code was entered before by him- or herself; d) the code was entered by another user.
   2. List the raffles in which he or she's participated, then navigating to the prizes for which they've entered at least a valid code, and then displaying the codes and the moment when they were entered.

10. An actor who is authenticated as an administrator must be able to:
    1. Ban or unban a user, which prevents him or her from logging in to the system.
    2. Manage the taxonomy of properties that are used to describe the prizes.
    3. Display a dashboard with the following information:
       - The ration of banned versus non-banned users.
       - The minimum, the maximum, the average, and the standard deviation of prizes per raffle.
       - The minimum, the maximum, the average, and the standard deviation of codes per prize.
       - The minimum, the maximum, the average, and the standard deviation of valid codes entered by the users.
       - The customers who have entered more valid codes.

Non-functional requirements

11. The system must be available in English and Spanish. (The data themselves are not required to be available in several languages, only the messages that the system displays.)
12. 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.
13. The system must be as efficient and difficult to hack as possible (including GET, POST, XSS, and SQL hacking).
14. The system must not generate a code that contains a taboo word. Taboo words are words that are commonly considered inappropriate in a formal context. The default listing of taboo words must be provided at deployment time and must include at least ten taboo words in Spanish and ten taboo words in English, but administrators must be able to change them very easily.
15. On deployment, the system must be pre-loaded with a Raffle with the following data: logo = "https://vignette1.wikia.nocookie.net/conworld/images/c/c1/Pepa-Cola.jpg"; title = "The Pepa-Cola Vacation", publication time = "December 01, 2017"; deadline = "June 15, 2018". This raffle must have two prizes, namely: a) name = "Maldives"; description = "A dream paradise on earth" (with codes "MALD-IVES", "JULY-2019", and "LETS-GO2G"; the winner code is "4500-EURO"; b) name = "Tanzania"; description = "An adventurer's dream made true"

(with codes "TANZ-ANIA", "DECX-2018", and "LETS-GO2G"; the winner code is "BEMY-BAIT").

B-level requirements

Information requirements

16. There's a new kind of actors: auditors. Auditors write audit reports about raffles. For every audit report, the system must store the moment when it's written and the corresponding piece of text.
17. Actors may comment on other actors, raffles, and prizes. For every comment, the system must store the moment when it's written, a piece of text, and a rating (in range zero up to three stars).

Functional requirements

18. An actor who is not authenticated must be able to:
    1. Display the comments that are associated with the entities that he or she can list.
19. An actor who is not authenticated must be able to:
    2. Write a comment and post it to any actor, raffle, or prize.
20. An actor who is authenticated as an auditor must be able to:
    1. Manage his or her audit reports, which includes listing, creating, editing, and deleting them. An audit report can be edited or deleted as long as the corresponding auditor keeps it in draft model; once he or she saves it in final model, it is published and no more edits are allowed; neither can it be deleted.
21. An actor who is authenticated as an administrator must be able to:
    1. Display a listing of potentially inappropriate comments, which are comments that contain taboo words.
    2. Delete a comment that he or she thinks is inappropriate.
    3. Display a dashboard with the following information:
       - The average and the standard deviation of the number of comments per commentable entity.
       - The average and the standard deviation of the number of stars per commentable entity.
       - The average number of stars per actor, grouped by country.
       - The average number of stars per actor, grouped by city.

Non-functional requirements

22. Every time a commentable entity is shown, the system must show the average number of stars that it's got. It's not a strong requirement that this figure is accurate all the time.
23. New commentable entities are expected to be found in future.

A-level requirements

Information requirements

24. Actors may register their social identities, for which the system must store their nick and the URLs to the corresponding profiles.

Functional requirements

25. An actor who is authenticated must be able to:
    1. Manage his or her social identities, which includes listing, creating, editing, and deleting them.

Non-functional requirements

26. The system must mask taboo words using asterisks. For instance, if a user enters a comment like "Have fun and sex in Maldives", then the system must show "Have fun and *** in Maldives". Note that the system must store the original text; it's only when it's displayed that it's masked.

A⁺-level requirements

Information requirements

Intentionally blank.

Functional requirements

Intentionally blank.

Non-functional requirements

27. The communications must be secured by using HTTPS where appropriate. A short report to explain how this A⁺ has been implemented is required.
28. The user interface must be as responsive as possible. Students are requested to use Bootstrap. They must produce a short report to explain how this A⁺ has been implemented.