Acme Poll

Acme, Inc. is a holding that encompasses many companies worldwide. One of them is Acme Poll, Inc., which has specialised in managing polls.

The goal of this project is to develop a web information system that Acme Poll, 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 pollers and administrators. The system must store their names, surnames, and email addresses; optionally, it might also store their phone numbers and postal addresses. 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. Pollers design polls, for which the system must store the following data: a title, a description, a banner, a period of time during which the poll is active, and a ticker that identifies it uniquely. Tickers are strings of the following form: "XX-99999", where "XX" refers to a two letter substring and "99999" to a five-digit substring. Polls must be kept hidden before they become active; they can be answered when they become active; when they become inactive, only the results can be displayed.
3. Polls are composed of questions. For each question, the system must store a statement and the choices to answer it. At least, two choices per question are required.
4. Actors (including unauthenticated ones) may answer polls. The answer to a poll is referred to as an instance; the answers to individual questions are simply referred to as answers. The system stores the following optional data regarding each instance: the name of the person who produced it, his or her gender, and his or her city.

Functional requirements

5. An actor who is not authenticated must be able to:
    1. Browse the catalogue of polls available.
    2. Search for a poll using a single key word that must appear somewhere in its title, description, or ticker.
    3. Answer a poll and produce an instance as long as it's active and he or she does not seem to have answered it before. Tracking must be implemented using appropriate cookies.
    4. See the results of a poll as soon as it starts. The results must list each individual question and the count of users that have selected each answer.
6. An actor who is authenticated must be able to:
    1. Do the same as an actor who is not authenticated.
    2. Edit his or her personal data.
7. An actor who is authenticated as a poller must be able to:
    1. Manage his or her polls, which includes listing, editing, or deleting them. Editing or deleting a poll is allowed as long as its start date has not passed; once the start date has passed, polls must be frozen.

8. An actor who is authenticated as an administrator must be able to:
    1. Ban or unban a poller who he or she thinks is publishing inappropriate polls.
    2. Display a dashboard with the following information:
        - The minimum, the average, the standard deviation, and the maximum number of polls per poller.
        - The minimum, the average, the standard deviation, and the maximum number of instances per poll.
        - The minimum, the average, the standard deviation, and the maximum number of questions per poll.

Non-functional requirements

9. 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.)
10. 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.
11. The system must be as efficient and difficult to hack as possible (including GET, POST, XSS, and SQL hacking).
12. Banners are not required to be stored by the system, but to be available somewhere in the Internet; that is, they can be entered as URLs to sites like Flickr or Tumblr.
13. The system must allow the administrators to configure the minimum period of days that a poll must be active. The system must reject polls with a smaller active period, but it must not prevent the corresponding pollers from saving them. Polls with a smaller active period are flagged as such to the corresponding pollers and not displayed by the system.

B-level requirements

Information requirements

14. Polls may have hints, which are pieces of text that help users understand them.

Functional requirements

15. Every actor of the system who can display a poll must be able to::
    1. Browse its hints.
    2. Write a new hint.
    3. State how useful he or she thinks a hint is using 0-10 stars.
16. An actor who is authenticated as an administrator must be able to:
    1. Delete hints that he or she thinks are inappropriate.
    2. Display a dashboard with the following information:
        - The minimum, the average, and the maximum number of hints per poll.
        - The polls with more or fewer hints.
        - The polls that have hints whose usefulness is above the average.

Non-functional requirements

17. Whenever a hint is displayed, it must also be displayed the average number of stars that it's got. It's not a strong requirement that the average is accurate all the time.

A-level requirements

Information requirements

18. Actors may chirp. For every chirp, the system must store the moment when it's written and a piece of text that must not be longer than 140 characters.

Functional requirements

19. An actor who is authenticated must be able to:
    1. Manage his chirps, which includes listing and writing them. Note that once a chirp is published, it cannot be edited or deleted.
    2. Display other actors' chirps.
20. An actor who is authenticated as an administrator must be able to:
    1. Display a dashboard with the following information:
        - The average number of chirps per actor.
        - The actors who chirp above the average.

Non-functional requirements

Intentionally blank.

A+-level requirements

Information requirements

Intentionally blank.

Functional requirements

Intentionally blank.

Non-functional requirements

21. The communications must be secured by using HTTPS where appropriate. A short report to explain how this A+ has been implemented is required.
22. XML is a language to represent data and XSLT a language to transform such data. Students are required to implement the listing of chirps using XML/XSLT technologies; no pagination is required. A report in which they explain how they've implemented this requirement is also requested.