

Acme Conference

Acme, Inc. is a holding that encompasses many companies worldwide, including Acme Conference, Inc. Their business consists in organising scientific conferences worldwide.

The goal of this project is to develop a web information system that Acme Conference, Inc. can use to run their business. This document provides an informal requirement specification. Ask your lecturers for clarifications and details, if necessary.

C-level requirements

Information requirements

1. The actors of the system are administrators, authors, and reviewers. For every actor, the system must store a name, an optional middle name, a surname, an optional photo, an email, an optional phone number, and an optional address. In the case of reviewers, the system must also store a list of keywords that describe their expertise.
2. Actors can exchange messages. For every message, the system must keep track of the sender, the recipient, the moment when it was sent, the subject, the body, and its topic.
3. Administrators can register conferences. For every conference, the system must store the following data: a title, an acronym, a venue, a submission deadline, a notification deadline, a camera-ready deadline, a start date, an end date, a summary, and a fee. The submission deadline is the latest moment that an author can make a submission to a conference; the notification deadline is the latest moment when the system notifies the results of the submissions to the authors; the camera-ready deadline is latest moment when an author of an accepted submission can send the camera-ready version. Obviously, the submission deadline must be before the notification deadline, which must be before the camera-ready deadline, which must be before the start date, which must be before the end date.
4. Authors make submissions to conferences. For every submission, the system must store a ticker that identifies it uniquely, the moment when it is made, a paper to be reviewed and an optional camera-ready paper. The ticker is a string of the form "ABC-XXXX", where "ABC" refers to the initials of the author who is making the submission and "XXXX" are four random uppercase letters and/or numbers; in cases in which an author does not have a middlename, the corresponding initial is "X". The system must store the following data regarding a paper: its title, its authors (or their aliases), its summary, and the document itself. Submission have status "UNDER-REVIEW" initially; later, it can change to either "REJECTED" or "ACCEPTED".
5. Referees write reports on submissions, which consists of the following data: an originality score, a quality score, a readability score, a decision, and a number of comments. The scores range in interval 0-10 points (the lower the worse, the higher the better). The decision can be either "REJECT", "BORDER-LINE", or "ACCEPT".
6. A conference consist of a number of activities. The activities can be either tutorials, panels, or presentations. For every activity, the system must store a title, the speakers involved, the schedule (start moment plus duration), the room where it's going to be organised, a summary, and some optional attachments. In the case of tutorials, it must also store their sections, which have a title, a summary, and some optional pictures; in the case of presentations, it must also store the camera-ready version of the submission to be presented.
7. Authors register to conferences. For every registration the system must store a credit card to pay the corresponding fee.

8. 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.
9. 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.
10. The system must store the following information about credit cards: a holder name, a brand name, a number, an expiration month, an expiration year, and a CVV code, which is an integer between 000 and 999.

Functional requirements

11. An actor who is not authenticated must be able to:
 1. Browse the catalogue of forthcoming conferences.
 2. Browse the catalogue of past conferences.
 3. Browse the catalogue of running conferences.
 4. Search for a conference using a single keyword that must appear somewhere in its title, its venue, or its description.
 5. Register to the system as an author.
 6. Register to the system as a reviewer.
12. 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.
 2. Edit his or her personal data.
 3. Exchange messages with other actors.
 4. Manage his or her messages, which includes: listing them all, listing them by topic, listing them by sender, listing them by recipient, and deleting them.
13. An actor who is authenticated as an author must be able to:
 1. Manage his or her submissions, which includes: making a submission to a conference as long as the corresponding submission deadline has not elapsed (the submission must include a paper to review only, not a camera-ready version), listing them, and displaying their details.
 2. Upload the camera-ready version of their submissions with status "ACCEPTED" as long as the camera-ready deadline has not elapsed.
 3. Manage his or her registrations, which includes: registering to a conference as long as it has not started, listing them, and displaying their details.
14. An actor who is authenticated as an administrator must be able to:
 1. List the conferences according to the following criteria: conferences whose submission deadline elapsed in the last five days; conferences whose notification deadline elapses in less than five days; conferences whose camera-ready deadline elapses in less than five days; conferences that are going to be organised in less than five days.
 2. Register a new conference to the system. The information must not be shown publicly until the administrator saves it in final model. The information about a conference can be changed as long as it is not saved in final mode.
 3. Manage the submissions to a conference, which includes listing them grouped by status and assigning them to reviewers. Every submission must be assigned to at

- least a reviewer. The system must provide an option to complete the assignment of reviewers automatically; such process must guarantee that every submission is assigned to three reviewers such that any of their keywords are contained within the title or the summary of the corresponding conference. In exceptional cases in which not enough such reviewers are available, a submission might have less than three reviewers, possibly none.
4. Run a decision-making procedure on a conference, as long as the corresponding submission deadline has elapsed. Making a decision on a submission means analysing the reports written by the reviewers to decide if the corresponding submission must change its status to either "REJECTED" or "ACCEPTED". A submission is accepted if the number of reports with decision "ACCEPT" that it's got is greater than or equal to the number of reports with decision "REJECT" that it's got; in cases of ties, reports whose decision is "BORDER-LINE" are considered to "ACCEPT" the paper; in cases in which ties persist, then the corresponding submissions are accepted.
 5. Run a notification procedure that informs the authors that have made a submission to a conference regarding the decision made on it. The authors may not have access to the reports that the reviewers have written on their submissions before the notification is performed.
 6. Manage the activities of a conference, which includes listing, creating, updating, and deleting them.
 7. Broadcast a message to either: the authors who have made a submission to a conference; the authors who have registered to a conference; all of the authors in the system; all of the actors in the system (including administrators).
 8. Display a dashboard with the following information:
 - Minimum, maximum, average and standard deviation of the number of submissions per conference.
 - Minimum, maximum, average and standard deviation of the number of registrations per conference.
 - Minimum, maximum, average and standard deviation of the conference fees.
 - Minimum, maximum, average and standard deviation of the number of days per conference.

Non-functional requirements

15. 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.)
16. 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 Conference" by default); the banner shown at the header (it's the one available at <https://i.ibb.co/GVpZCtM/acme-conference.png> by default); the message that is shown on the welcome page ("Welcome to Acme Conference! Your scientific event manager" is the default welcome message in English; "¡Bienvenidos a Acme Conference! Su gestor de eventos científicos" is the default welcome message in Spanish); 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).
17. The system must provide the following topics by default: "INQUIRY", "REBUTTAL", "REGISTRATION", "TOPICS", and "OTHER". They must be available in both English and Spanish and administrators must be able to manage them.
18. Photos, documents, attachments, and other such resources are not required to be stored in the database, but linked from external cloud-storage systems like Flickr.com or Dropbox.com.

B-level requirements

Information requirements

19. The administrators can manage a catalogue of categories. Each conference belongs to a category. For each category, the system must store its title, its parent categories, and its child categories. There's a pre-defined root category called "CONFERENCE".
20. Every actor, including anonymous ones, can comment on conferences and activities. For every comment, the system must store a title, the moment when it is written, the author, and a piece of text.
21. Every actor has a finder that helps him or her find conferences. The search criteria are the following (they all are optional): a single keyword that must be somewhere in its title, its acronym, its venue, or its summary; a category to which the conference must belong; a range of dates for the conference; and a maximum fee. Every conference meets a null criterion.

Functional requirements

22. Every actor, including actors who are not authenticated, must be able to:
 1. List the comments on a particular conference or activity.
 2. Write a new comment on a particular conference or activity.
23. An actor who is authenticated must be able to:
 1. Browse the catalogue of conferences grouped by category.
24. An actor who is authenticated as an author must be able to:
 1. Use his or her finder, which includes changing the search criteria and displaying the results.
25. An actor who is authenticated as an administrator must be able to:
 1. Manage the catalogue of categories, which includes listing, creating, updating, and deleting them. Note that a category can be deleted at any time; conferences in that category get assigned automatically to the parent category. The root category cannot be updated or deleted; it pre-exists when the system is deployed.
 2. Display a dashboard with the following information:
 - The minimum, the maximum, the average, and the standard deviation of the number of conferences per category.
 - The minimum, the maximum, the average, and the standard deviation of the number of comments per conference.
 - The minimum, the maximum, the average, and the standard deviation of the number of comments per activity.

Non-functional requirements

26. The system must provide the following catalogue of categories by default: (CONFERENCE -> (Computer Science -> (Artificial Intelligence -> (Deep Learning, Instance-based learning, Regression), Software Engineering -> (Big Data, Big Processing, Methods, Tools)), Physics -> (Cinematic, Electricity, Electronics), Biology -> (Animals, Plants, Fungi))). Their names must be displayed appropriately in Spanish or English depending on the language that the principal's selected.
27. It's expected that actors can comment on more entities in future releases of the project. So the system must be flexible enough to add new entities on which the users can comment as inexpensively as possible.

A-level requirements

Information requirements

28. There's a new kind of actor in the system: conference sponsors. For every sponsorship, the system must store a banner, a target URL, and a credit card. Sponsorships are shown randomly when a conference's displayed.

Functional requirements

29. An actor who is not authenticated must be able to:
1. Register to the system as a sponsor.
30. An actor who is authenticated as a sponsor must be able to:
1. Manage his or her sponsorships, which includes listing, creating, updating, and deleting them.
31. An actor who is authenticated as an administrator must be able to:
1. Launch a process that computes a score for every author. The score is related to how often an author mentions buzz words in the camera-ready version his or her papers. A buzz word is a non-void word whose frequency is in the top 20% most frequent words in the titles or the summaries of the conferences that have been organised in the last 12 months or are going to be organised in future. Every time that an author mentions a buzz word, he or she gets one point; his or her score is computed as the ratio of points of a particular author to the number of points of the author who has more points. The scores are rounded up to two decimal places. For instance, assume that the system has the following conferences: "Conference on Data", with summary "This science conference focuses on technologies to deal with nowadays data"; "International Data Science Conference", with summary "Data Science is a hot topic nowadays; find the latest research results in this conference"; and "World Multi-Conference on Big Data Science", with "Nowhere have you found more papers on big data science". After removing usual void words, the word frequencies are the following: "data" -> 6, "science" -> 5, "nowadays" -> 2, "big" -> 2, "world" -> 1, "technologies" -> 1, "results" -> 1, "research" -> 1, "nowhere" -> 1, "multi" -> 1, "latest" -> 1, "hot" -> 1, "found" -> 1, "focuses" -> 1, "find" -> 1, "deal" -> 1. The maximum frequency is 6, so every word whose frequency is equal or greater than $6 - 0.20 * 6 = 4.8$ are considered buzz words. In our example, "data" and "science" are the buzz words.

Non-functional requirements

32. The default list of void words is available at <https://www.textfixer.com/tutorials/common-english-words.txt> and <http://googleseo.marketing/lista-de-stop-words-o-palabras-vacias-en-espanol>. The administrators must be able to manage this list.
33. Wherever the profile of an author is shown, the system must show his or her score; if it was not been computed so far, the system must not show anything.