

# Acme Newspaper 2.0

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Acme Newspaper, Inc. has contacted us to request some maintenance to their project. This document provides an informal description of their new requirements; ask your lecturers for clarifications and details.

## C-level requirements

### Information requirements

1. There's a new kind of actors: agents.
2. Agents register advertisements that are placed in newspapers. For each advertisement, the system must store a title, a URL to a banner, a URL to a target page, and a valid credit card (which must not expire during the current month).

### Functional requirements

3. An actor who is not authenticated must be able to:
  1. Register to the system as an agent.
4. An actor who is authenticated as an agent must be able to:
  2. Register an advertisement and place it in a newspaper.
  3. List the newspapers in which they have placed an advertisement.
  4. List the newspapers in which they have not placed any advertisements.
5. An actor who is authenticated as an administrator must be able to:
  1. List the advertisements that contain taboo words in its title.
  2. Remove an advertisement that he or she thinks is inappropriate.
  3. Display a dashboard with the following information:
    - The ratio of newspapers that have at least one advertisement versus the newspapers that haven't any.
    - The ratio of advertisements that have taboo words.

### Non-functional requirements

6. Whenever an article from a newspaper is shown, the system must select a random advertisement to show, if any.

## B-level requirements

### Information requirements

7. Publishers may create volumes, which are collections of newspapers. For every volume, the system must store a title, a description, and a year.

### Functional requirements

8. An actor who is not authenticated must be able to:

1. List the volumes in the system and browse their newspapers as long as they are authorised (for instance, a private newspaper cannot be fully displayed to unauthenticated actors).
9. An actor who is authenticated as a customer must be able to:
  1. Subscribe to a volume by providing a credit card. Note that subscribing to a volume implies subscribing automatically to all of the newspapers of which it is composed, including newspapers that might be published after the subscription takes place.
10. An actor who is authenticated as a user must be able to:
  1. Create a volume with as many published newspapers as he or she wishes. Note that the newspapers in a volume can be added or removed at any time. The same newspaper may be used to create different volumes.
11. An actor who is authenticated as an administrator must be able to:
  1. Display a dashboard with the following information:
    - The average number of newspapers per volume.
    - The ratio of subscriptions to volumes versus subscriptions to newspapers.

## A-level requirements

### Information requirements

12. 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 priority. Priorities are HIGH, NEUTRAL, or LOW; no other values are expected. Actors can create custom folders, which may be arbitrarily nested, and use them to organise their messages. Furthermore, every actor has the following system folders: “in box”, “out box”, “notification box”, “trash box”, and “spam box”. When an actor receives a message, it gets to the “in box” unless the system flags it as spam, in which case it gets to the “spam box”. When he or she sends a message to another user, a copy is saved to the “out box”. When an actor removes a message from a folder other than “trash box”, it is moved to folder “trash box”; when he or she removes it from folder “trash box”, then it is actually removed from the system. System folders are pre-defined and the actors must not be allowed to delete them, to change their names, or to move them.

### Functional requirements

13. An actor who is authenticated must be able to:
  1. Exchange messages with other actors and manage them, which includes deleting and moving them from one folder to another folder.
  2. Manage his or her message folders, except for the system folders.
14. An actor who is authenticated as an administrator must be able to:
  1. Broadcast a message to the actors of the system.

### Non-functional requirements

Intentionally blank.