

# Acme Barter

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Acme, Inc. is a holding that encompasses many companies worldwide. One of them is Acme Barter, Inc., which specialises in helping people barter their useless items.

The goal of this project is to develop a web information system that Acme Barter, Inc. can use to 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 actors of the system are users and administrators. The system must store their names, surnames, and contact phones.
2. Users can optionally register one or more social identities. Such an identity consist of a nick in a social network, the name of a social network, a home page in that social network, and a picture of his or hers.
3. A user may register a barter, regarding which the system stores the following data: the moment when it is registered, a title, the item that is offered, and the item that is requested.
4. For every item, the system must store the following data: a name, a description, and some pictures (possibly none).
5. Any user can create a match between any of the barters has he or she's registered and a barter that was created by another user. Matches must not involve barters that are involved in other matches or barters that are involved in matches that are cancelled.
6. The system stores the following information for every match: the moment when the match is created, the date when the user who offers the barter signs it, and the date when the user who requests the barter signs it. Every barter is regulated by a legal text that is selected by the user who creates the match.
7. The system must allow its actors to exchange messages. Every actor must have the following system folders, namely: "in box", which stores the messages that he or she receives, "out box", which stores the messages that he or she sends, "trash box", which stores the messages that he or she deletes, and "spam box", which stores the messages that are considered spam messages.
8. Every message has a sender and a recipient (who must be actors of the system), a subject, a body, the moment when it was sent, and a priority that can be -1 (to indicate that it is low priority), 0 (to indicate that it is normal priority), or +1 (to indicate that it is high priority).

### Functional requirements

9. An actor who is not authenticated must be able to:
  1. Register to the system as a user.
  2. Navigate through the catalogue or barters and display their details.
  3. Search for a barter using a single key word that must appear in its title, the name, or the description of the corresponding items.
  4. List and see the profile of the users who have registered to the system, which consists of the following data: their name and surname, their social identities (if any), the list of barters that they have registered, and the list of matches in which they are involved.

10. An actor who is authenticated must be able to:
  1. Do the same as a user who is not authenticated, except for registering to the system.
  2. Exchange messages with other users.
  3. Manage his or her messages and message boxes. When a message is deleted from a folder other than “trash box”, it is moved to “trash box”; when it is deleted from “trash box”, it is actually removed from the system. Actors can create additional folders, rename, or delete them. Actors can flag their messages as spam, in which case they are moved automatically to the “spam box” folder.
11. An actor who is authenticated as a user must be able to:
  1. Do the same as a user who is not authenticated, except for registering to the system.
  2. Change his or her personal information.
  3. Create a barter.
  4. Create a match between two barterers.
  5. Cancel a match as long as he or she is involved in that match.
  6. Sign a match in which he or she’s involved.
12. An actor who is authenticated as an administrator must be able to:
  1. Do the same as a user who is not authenticated, except for registering to the system.
  2. Manage the collection of legal texts that are available to the users.
  3. Cancel a barter if he or she thinks that it is inappropriate. Barterers that are cancelled are not displayed to users, only to administrators.
  4. Execute a procedure that cancels every barter that remains unsigned one month after they were created.
  5. Display a dashboard with the following information:
    - The total number of users who have registered to the system.
    - The total number of barterers that have been registered.
    - The total number of barterers that have been cancelled.
    - The users who have created at least 90% the maximum number of barterers that a user has created.
    - The users who have not created any barter during the last month.

## B-level requirements

### Information requirements

1. A barter may be related to another barter.
2. Users may follow other users.

### Functional requirements

3. An actor who is authenticated a user must be able to:
  1. Follow another user.
  2. List the users that he or she follows.
  3. List the users who follow him or her.
  4. Display a stream of bulletins in which the system provides information about the barterers that the users that he or she follows have created.
  5. Display a stream of bulletins in which the system provides information about the matches in which the users that he or she follows is involved.
4. An actor who is authenticated as an administrator must be able to:

1. Relate any two barterers.
2. Display a dashboard with the following information:
  - The minimum, the maximum, and the average number of barterers per customer.
  - The ratio of barterers that are not related to any other barterer.
  - The users who have registered more barterers.
  - The users who have more cancelled barterers.
  - The users who have more matches.

## Non-functional requirements

1. Whenever a barterer is displayed, the system must list the barterers with which it is related.

## A-level requirements

### Information requirements

1. There is a new kind of actor in the system: auditors. Auditors audit some matches and write reports with their conclusions.

### Functional requirements

2. A user who is authenticated as an auditor must be able to:
  1. Self-assign an existing match to audit it. Obviously, no match can be self-assigned to two different auditors.
  2. Write an auditing report regarding the matches that he or she's self-assigned.
3. A user who is authenticated as an administrator must be able to:
  1. Register an auditor to the system.
  2. Display a dashboard with the following information:
    - The auditors who have audited more matches.
    - The users who have got more matches audited.

### Non-functional requirements

4. Whenever a match is displayed, the audit report must be shown, if any.