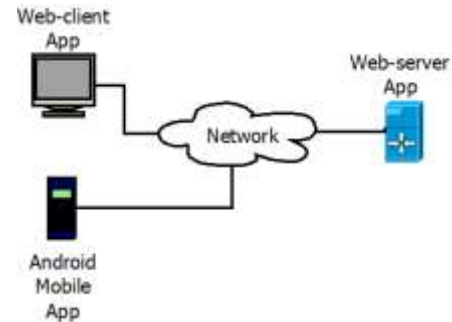


Revision History

- Version 0 (Aug 21, 2020) Original document.
- Version 1 (Sept 29, 2020) Data Requirements:
 - Added italics to emphasize important text in the data requirements.
 - Modified database diagram and dueDate requirement.

Scope

Develop a web-based application and a mobile application to support a to-do list for a single individual. The web-based application will include a client-side and server-side component. The mobile application will be a client-side app which communicates with the web-based server-side component.

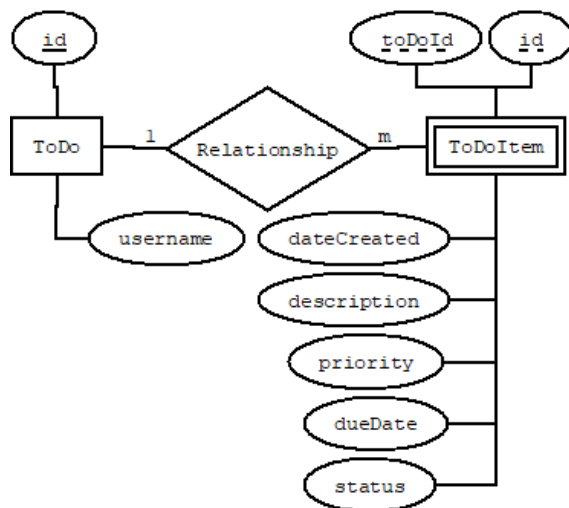


Data Requirements

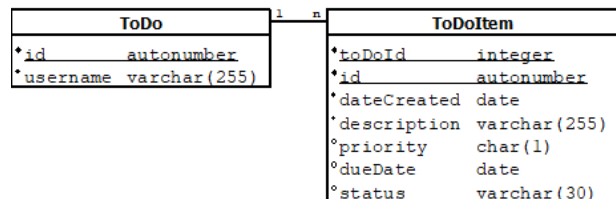
The database used for this to-do list application shall support a single to-do list for each individual user.

The entity-relationship diagram shows the entities, relationships, and attributes. The database diagram shows the tables, columns, and relationships found in the database.

E-R Diagram



Database Diagram



As shown in the E-R and database diagrams:

- 1) Each username shall have a single ToDo list instance made up of zero or more ToDoItem instances.
- 2) A ToDo list:
 - a) Is uniquely identified using an integer value *automatically generated* by the database.
 - b) Must have a username value. Each username value *must be unique and must contain at least one upper or lower-case letter*. Only upper and lower-case letters and the space character are allowed in a username.
- 3) A ToDoItem:
 - a) Is uniquely identified using the ToDo id value (a foreign key field) along with an *integer value automatically generated* by the database.

- b) *Must have* a dateCreated. This value is *created by the system* instead of the user.
- c) *Must have* a description. This value describes the to-do item and must contain at least one character.
- d) *May have* a priority. The priority value, if included by the user, must be a digit (1 through 9) or an uppercase letter (A through Z). Using digits, a priority of 1 is highest and 9 is lowest. Using characters, a priority of A is highest and Z is lowest. When a person uses both digits and uppercase letters, the digits have a higher priority.
- e) *May have* a dueDate. The dueDate value, if included by the user, ~~may must~~ be a valid date in the form mm/dd/yyyy. or any non-empty text value. Examples of text values are: today, tomorrow, and next week.
- f) *May have* a status. The status value, if included by the user, must be one of the following:
 - i) not-started
 - ii) in-progress
 - iii) done

Processing Requirements

- 4) An individual may do any of the following:
 - a) Create as many username values as they wish. Each username has its own to-do list items.
 - b) Create a new item in a to-do list. A new to-do list item is created when all of its data values are valid.
 - c) Update an existing item in a to-do list. An existing to-do list item is updated when all of the changed data values are valid.
 - d) Remove an existing item in a to-do list. Any existing to-do list item may be deleted.
 - e) Display all items in a to-do list. The user may request display of the to-do items using any of the following:
 - i) dateCreated - from oldest to newest.
 - ii) description - in alphabetical order.
 - iii) priority - from highest to lowest.
 - iv) dueDate - in alphabetical order.
 - v) status - in alphabetical order.