

Artificial, Composite and Secondary UUIDs

Objectives

- Define the different types of unique identifiers (UUIDs)
- Define a candidate UUID and explain why an entity can sometimes have more than one candidate UUID
- Analyze business rules and choose the most suitable primary UUID from the candidates
- Recognize and discuss the issues of identification in the real world

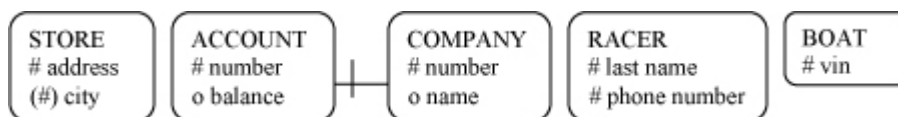
Vocabulary

Directions: Identify the vocabulary word for each definition below.

1. _____ Unique identifier
2. _____ A UUID that is a single attribute
3. _____ A UUID that is a combination of attributes
4. _____ A UUID that does not occur in the natural world but is created for identification purposes in a system
5. _____ A UUID that identifies a person
6. _____ A candidate UUID that is the primary identifier of a person
7. _____ A candidate UUID that also identifies a person, but is not the primary UUID

Try It / Solve It

1. Match the type of Unique identifier to the entity.
 - a. Simple UUID
 - b. Composite UUID
 - c. Composite UUID comprising an attribute and a relationship
 - d. Primary Key & Secondary Key



2. Consider an entity for Library Member. Sometimes an entity can have more than one candidate UID. Describe a scenario where you would want more than one candidate UID for a Library Member – why would you want to find the member in the database using alternative information?

3. Describe how you would identify the entities listed below, making up any attributes and relationships you consider appropriate. For example, for the Student entity you may say that the UID is comprised of the first name, last name, and address. Or you might suggest that the Student entity contains an artificial UID called student number.

- a. A city
- b. A contact person for a customer
- c. A train
- d. A road
- e. A financial transaction
- f. An award (for example: movies)
- g. A painting

4. Identify one of the issues with respect to a national identification system. Provide your point of view on the issue.

5. You have previously reviewed the video store business requirements stated below:

“I’m the owner of a small video store. We have over 3,000 videotapes that we need to keep track of.

"Each of our videotapes has a tape number. For each movie, we need to know its title and category (e.g., comedy, suspense, drama, action, war, or sci-fi). Yes, we do have multiple copies of many of our movies. We give each movie a specific ID, and then we track which movie a tape contains. A tape may be either Beta or VHS format. We always have at least one tape for each movie we track, and each tape is always a copy of a single, specific movie. Our tapes are very long, although we don’t have any movies that require multiple tapes."

For this activity read the new business requirements below and resolve the M:M relationship. Identify UIDs for all the entities that require multiple tapes.

"We are frequently asked for movies starring specific actors. John Wayne and Katherine Hepburn are always popular. So we’d like to keep track of the star actors appearing in each movie. Not all of our movies have star actors. Customers like to know each actor’s “real” birth name and date of birth. We track only actors who appear in the movies in our inventory.

"We have lots of customers. We only rent videos to people who have joined our video club. To belong to our club, they must have good credit. For each club

member, we'd like to keep the first and last name, current phone number, and current address. And, of course, each club member has a membership number.

"Then we need to keep track of what video tapes each customer currently has checked out. A customer may check out multiple video tapes at any given time. We just track current rentals. We don't keep track of any rental histories."