# Homework 1 (W4111)

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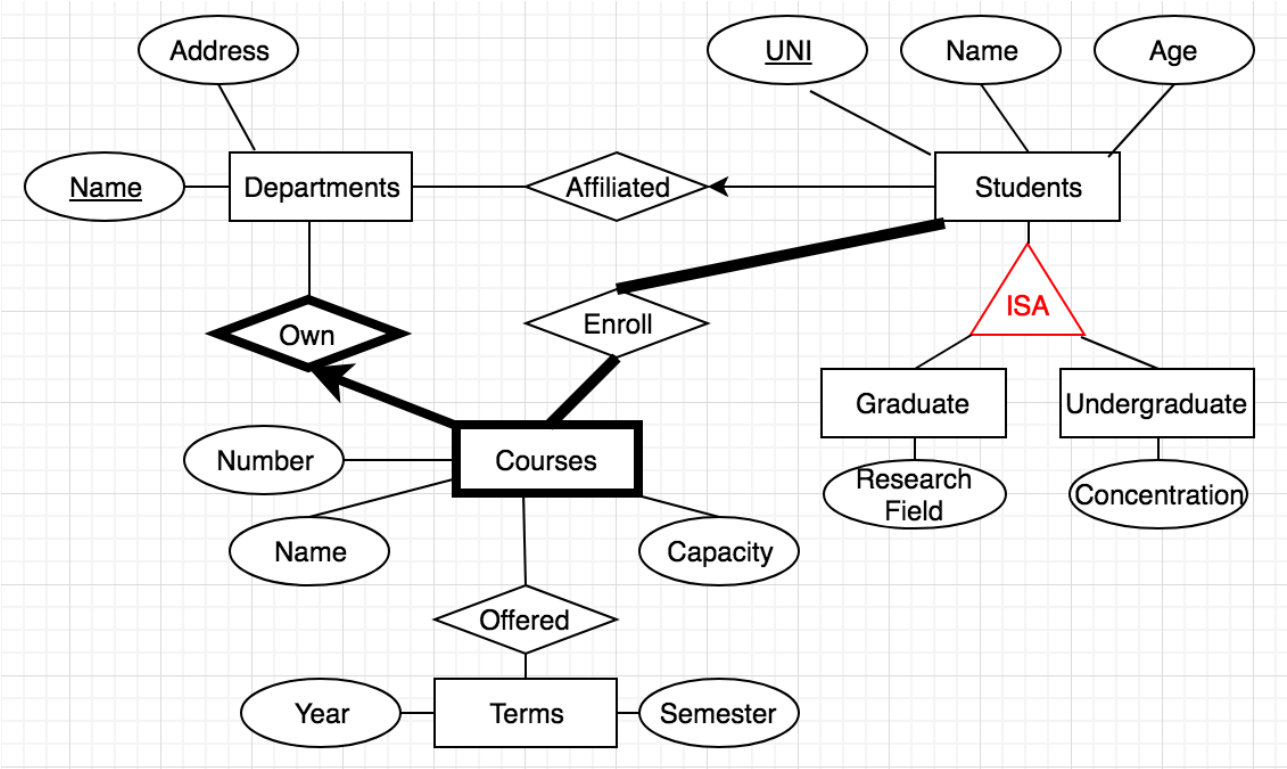
## Part 1

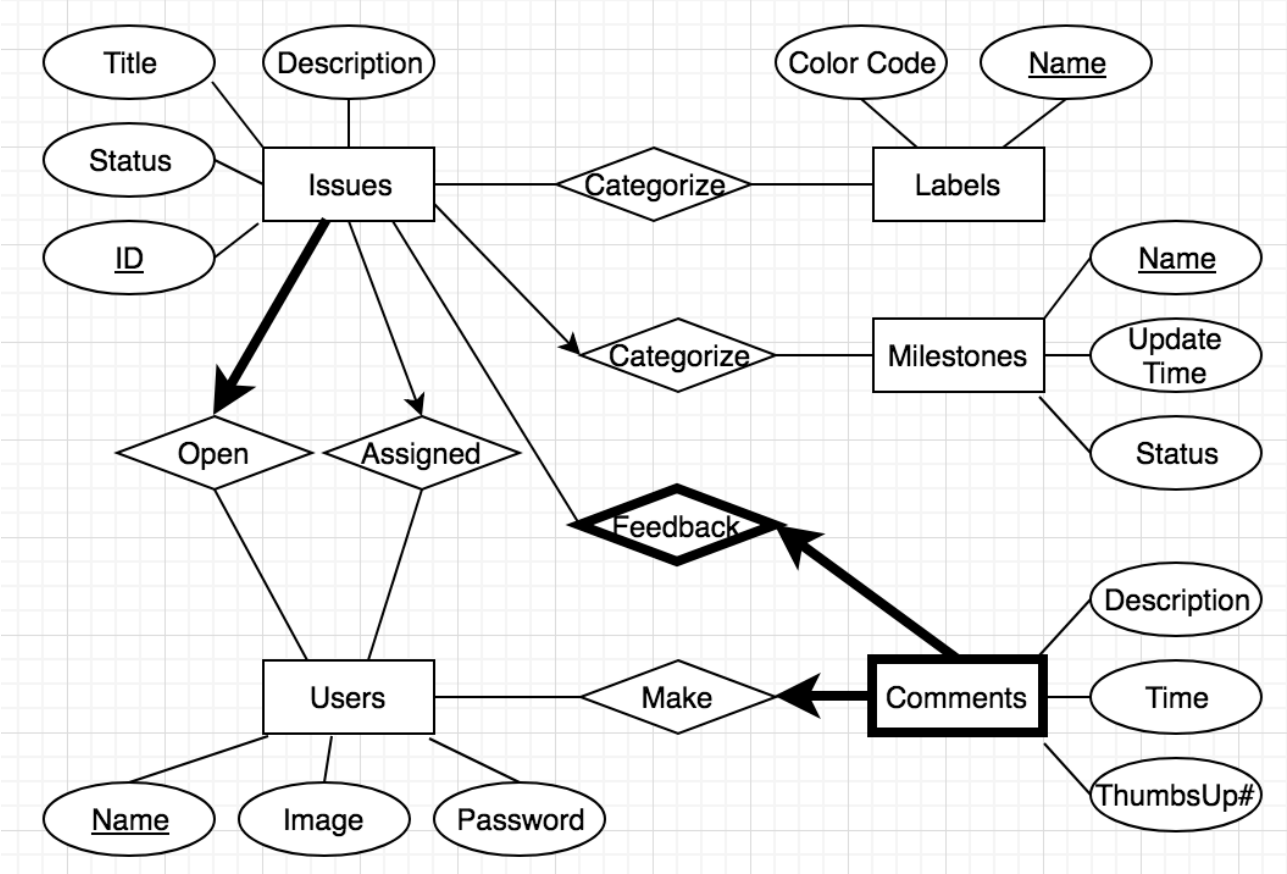
### 1.1 Database Design: UniDB




Assumptions:

1) Overlap constraint and Covering Constraint of ISA Hierarchies. The students are either graduates or undergraduates.
2) The ages of students are no smaller than 18.
3) A course cannot have multiple sections in one term.

## 1.2 More Database Design




Description of the E-R diagram above:

1) Information about **Issues** includes their ID (unique), title, status (open or closed) and description.
2) Issues can be categorized by multiple **Labels** and at most one **Milestones**.
3) Information about **Labels** includes their name (unique) and color code.
4) Information about **Milestones** includes their name (unique), update time and status.
5) Each Issue is opened by one user and can be assigned to at most one user who are called assignees.
6) Information about **Users** includes their name (unique), image and password.
7) Users make **Comments** to give issues feedback. Each comment is made by one user while one user could make multiple comments.
8) One issue could have 0 to multiple comments but one comment depends on one issue. If the issue is deleted, the comments would be gone too. So the **Comments** is a weak entity.
9) Information about **Comments** includes their description, time and number of thumbs up.

* In fact, some entities have more attributes than those are shown in the E-R diagram. I chose several attributes to make the diagram clear.