Cairo University
Faculty of Engineering
Computer Engineering Department
CMP 202

Introduction to Database Systems

Veller

Project Proposal

Team Number: #9

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Veller

- **Problem Definition**

  Veller is a website gathering articles (posts) about cultural and educational stuff; scholarships, internships, contests…etc. Organizations that have something to offer make an account on the website to post about their opportunities. Applicants sign up to apply for these opportunities.

- **Users**
  1. **Applicants** (undergraduate student or graduates)
  2. **Organizations** (university, company, volunteering organization or a travel agency)
  3. **Supervisors**
  4. **Admins**

- **Privileges**
  1. **Applicant**
     - He can apply to a scholarship, contests, internship, exchange programs or volunteering programs.
     - He can add his own information to the website like skills, experience...etc.
     - He can contact organizations asking for details about opportunities they are offering.
     - He can contact supervisors via support tickets.
     - He can search on the website for opportunities that fits him.
  2. **Organization**
     - It can offer scholarship, exchange programs, volunteering program, internship, or a contest.
     - It can view, approve or reject applicants' applications.

- It can modify and add its own info to the website like industry, departments…etc.
- It can search for applicants that fit their requirements.
- It can contact supervisors via support tickets.

3. **Supervisor**
    - He can review applicants and organizations profiles.
    - He can help other users via support tickets.
    - He can review posted opportunities and approve them to appear on the website.
    - He can ban other users if they didn't follow the website rules.

4. **Admins**
    - They assign the supervisors of the website
    - They have the source code of the website
    - They update the website from coders side
    - They can add or remove supervisors of the website

- **Entities**
    1. Opportunity (Super-entity for all posts on website)
    2. Scholarships (sub-entity for Opportunity)
    3. Internships (sub-entity for Opportunity)
    4. Contests (sub-entity for Opportunity)
    5. Volunteering (sub-entity for Opportunity)
    6. Exchange programs (sub-entity for Opportunity)
    7. User account (Super entity for all users on database)
        a. Applicant (Users who applies in opportunities, sub-entity)
        b. Organization (Users who post opportunities, sub-entity)
        c. Supervisor (Users that supervise posts & answer support tickets, sub-entity)
    8. Message
    9. Support tickets

- **Relationships**
    - An organization posts an opportunity
        - It's a one-to-many relation as one organization can post multiple opportunities, but only one organization can post opportunity with a unique ID.

    - An applicant applies for opportunities
        - It's a many-to-many relation as multiple applicants can apply for same opportunities and multiple opportunities can be taken by same applicant.

    - An organization sends or receives messages
        - It's a one-to-many relation as one organization can send multiple messages, but only one message could be sent or received by a certain organization.

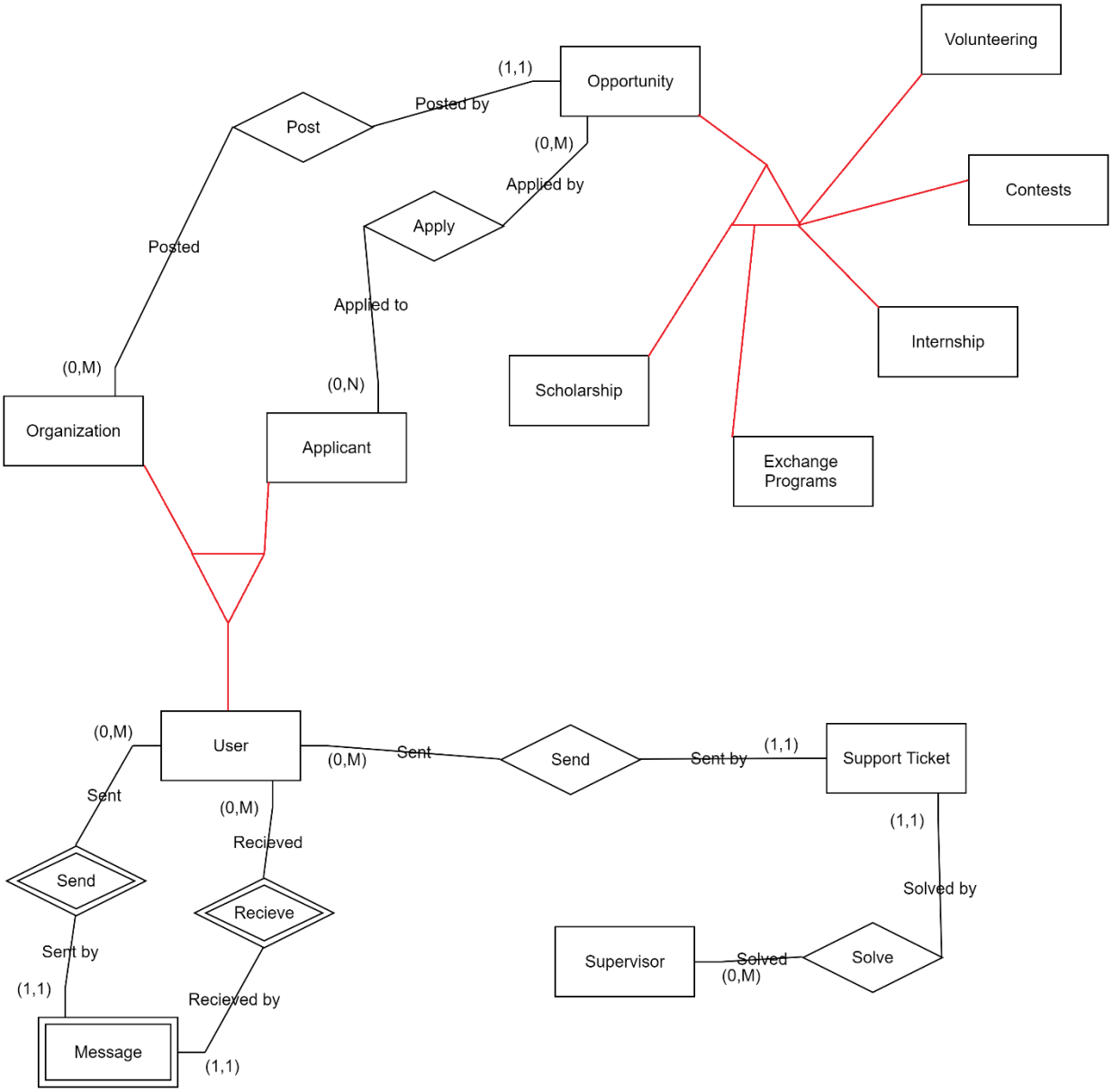
    - An applicant sends or receives messages
        - It's a one-to-many relation as one applicant can send multiple messages, but only one message could be sent or received by a certain applicant.

    - An organization sends support tickets
        - It's a one-to-many relation as one organization can send multiple support tickets, but the support ticket could be sent by a certain organization.

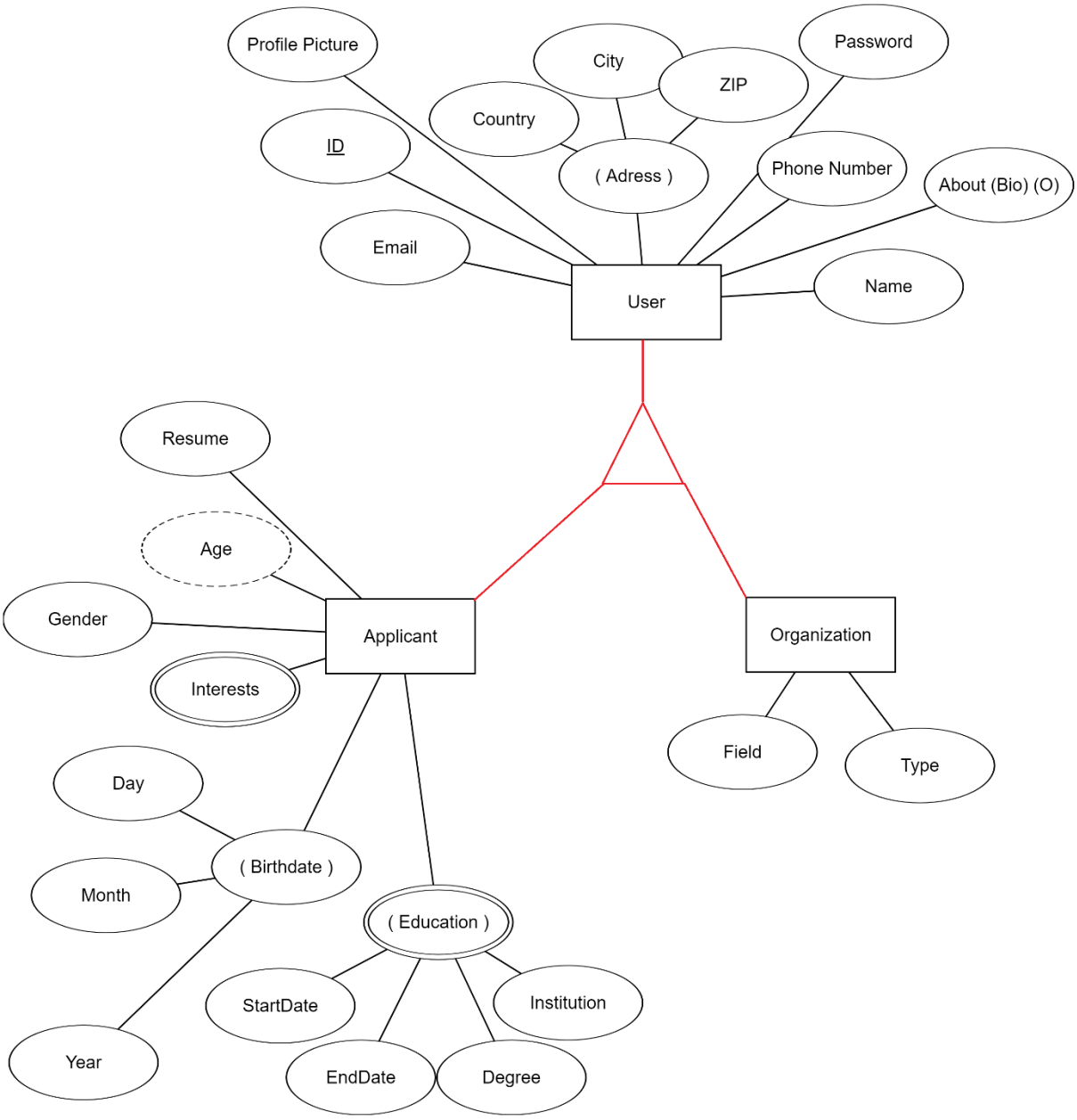
    - An applicant sends support tickets
        - It's a one-to-many relation as one applicant can send multiple support tickets, but the support ticket could be sent by a certain applicant.

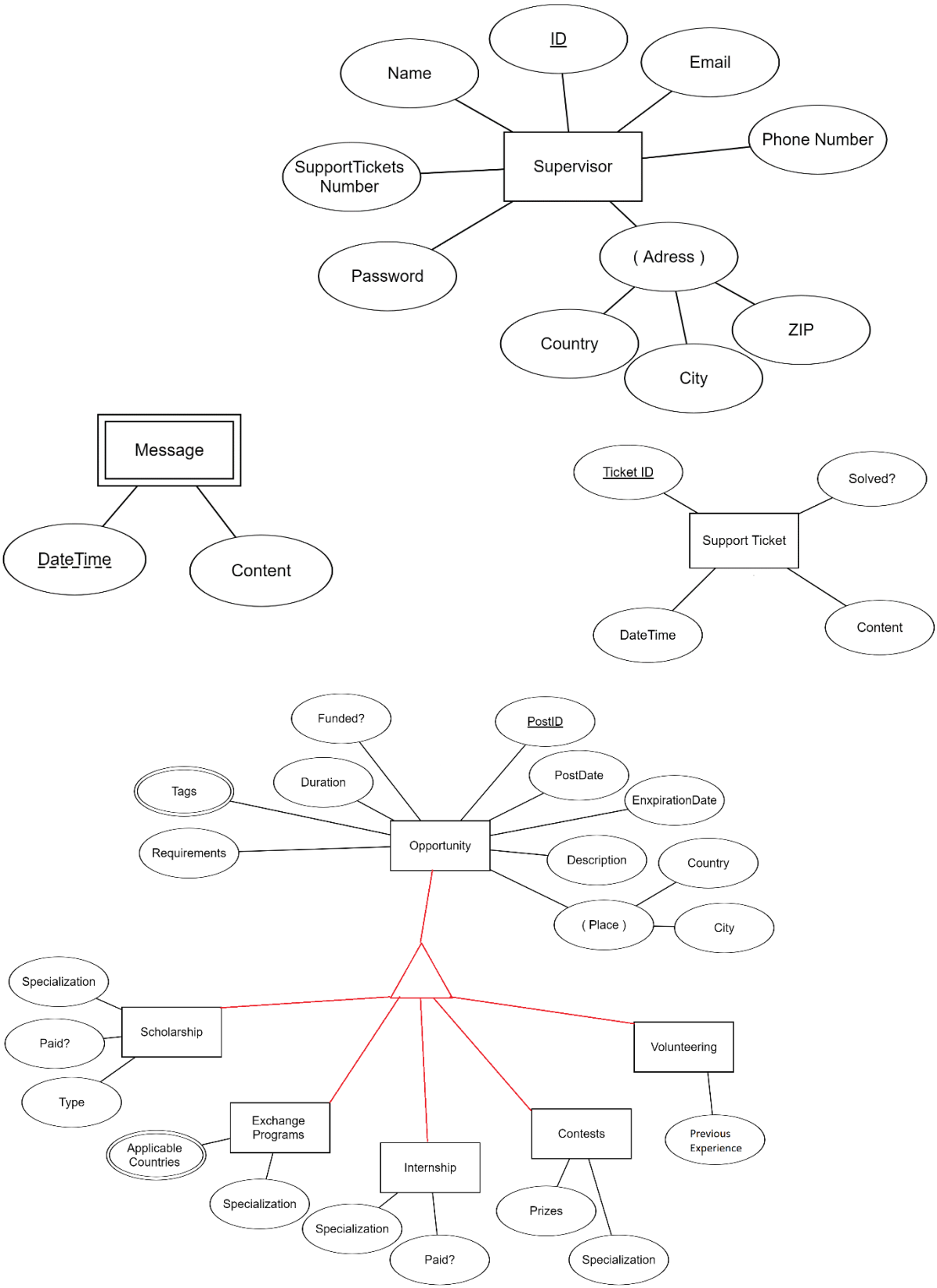
- Supervisor solves the problems mentioned in the support tickets
    - It’s a one-to-many relation, as the supervisor can solve multiple problems mentioned in multiple support tickets, but the support tickets could be handled by only one supervisor.

Relations ERD



Entity-Attributes ERD




ID
Name
Email
Phone Number
Supervisor
SupportTickets Number
Password
(Adress)
Country
City
ZIP
Message
DateTime
Content
Ticket ID
Solved?
Support Ticket
DateTime
Content
Funded?
PostID
Duration
PostDate
Tags
EnxpirationDate
Requirements
Opportunity
Description
Country
(Place)
City
Specialization
Scholarship
Paid?
Type
Volunteering
Exchange Programs
Applicable Countries
Specialization
Internship
Specialization
Paid?
Contests
Prizes
Specialization
Previous Experience

- **Restrictions**

1. Birthdate of applicants have year 2000- not higher
2. Password must be 8 digits at least
3. Any attribute with name ending with “?” means it is a Boolean value; true or false, yes or not. Except for “Funded” it should be one of three values; fully-funded, partially-funded or not-funded.