DOCUMENTATION OF
SOCIAL NETWORK PROJECT

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1 Introduction

This project aims to build a social network with JSP and MySQL.

1.1 Main Features

- *Compulsory*:
  - Support signing up & in
  - Search for contacts & Post status and reply
  - 30 secs refreshment
- *Optional*:
  - Email address regex check
  - Ajax for asynchronous communication
  - Add Google's reCaptcha[1] validation

1.2 Components

- Apache, Tomcat, Apache-Tomcat-Connector
- MySQL, MySQL Connector/J (JDBC)

Visit our project site at Database Course Project.

2 Environment

This project is hosted on Amazon Linux AMI server provided by AWS. To build the environment for running our website, we took steps as below.

1. install OpenJDK-1.8.0
2. install and configure Apache (httpd) & Tomcat
3. link Apache and Tomcat with Apache Tomcat Connector [2]

[1] Completely Automated Public Turing test to tell Computers and Humans Apart

[2] This makes it possible to run static web pages on Apache and dynamic ones on Tomcat.

4. install MySQL[3] and prepare MySQL connector/J in WEB-INF/lib

Note: we've taken GitHub for convenient teamwork. Our project is being maintained at https://github.com/PKU-2017-Database/Social-Network.

3 Data Structure

3.1 Entity-Relationship Diagram

We refer to the ER Diagram provided by TA. Here is an English version of that ER Diagram redrawn by LaTeX.

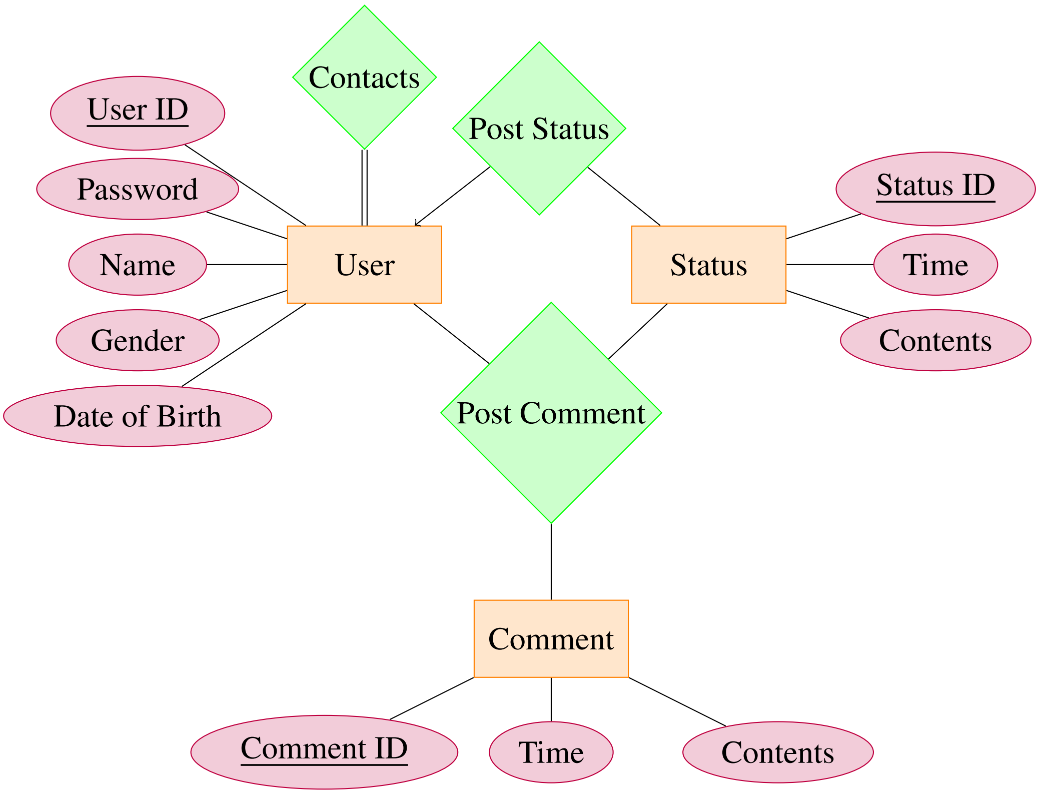

Figure 1: Entity-Relationship Diagram

3.2 MySQL Table

According to the above ER Diagram, we've designed MySQL tables as below.

[3] MySQL is case insensitive for Windows and MacOS, but that's not true for Linux.

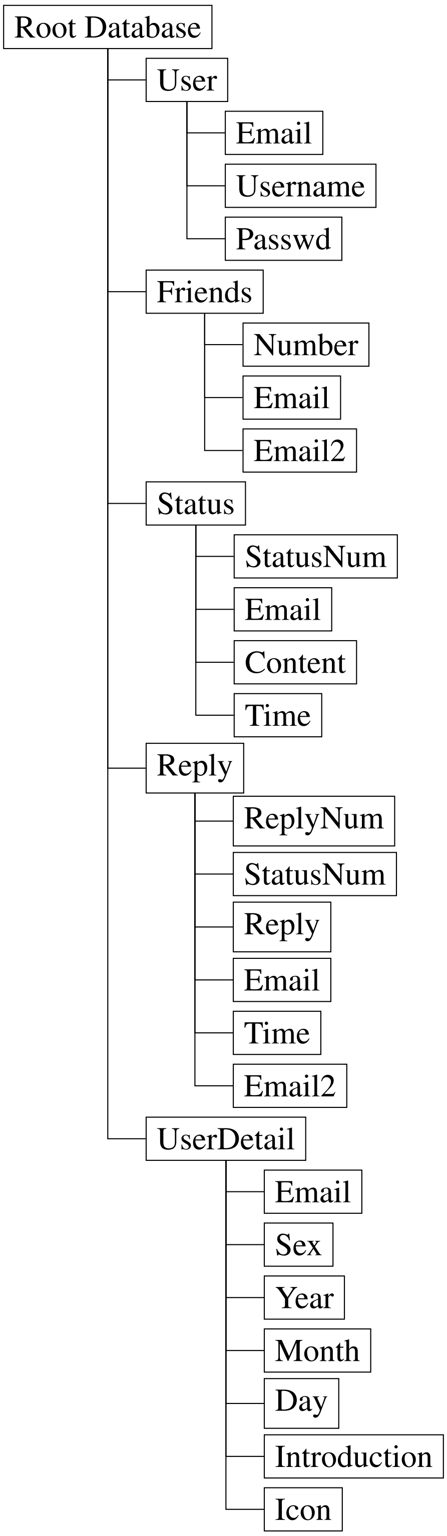

Figure 2: MySQL Table Structure

Details about the attributes:

- User - deal with signing up & in
  - Email: primary key to identify users in registration and log-in
  - Username: nickname, which can be edited after registration
  - Passwd: password to validate a user
- Friends - record friend relationships
  - Number: auto-increment primary key for identification
  - Email: follower's email
  - Email2: followee's email
- Status - store posted statuses
  - StatusNum: auto-increment primary key for identification
  - Email: poster's email
  - Content: posted contents
  - Time: posting time
- Reply - store posted replies to status
  - ReplyNum: auto-increment primary key for identification
  - StatusNum: replied status number
  - Reply: reply contents
  - Email: replier's email
  - Time: replying time
  - Email2: repliee's email
- UserDetail - store user details
  - Email: primary & foreign key pointing to User.Email
  - Sex: user's sex
  - Year: user's year of birth
  - Month: user's month of birth

- Day: user's day of birth
- Introduction: simple introduction to the user
- Icon: user's avatar

4 Division of Labor

Our group members:

Name	Student ID	Mobile	Email
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Table 1: Group Members

Division of labor:

- He Yan: write documentation for project via LaTeX
- Sun Meng: CSS design of website
- Wu Chuchuan: HTML (via JSP or PHP) and database

5 References

- Guidebook, installers and demo provided at `course.pku.edu.cn`
- LaTeX template provided by Overleaf
- mysql-connector-java-5.1.42-bin.jar
- javax.json-api-1.1.jar