

Database Management Systems

Project phase 1

Messaging Application
ER Specification

Authored by: Martin Ting

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Summary

This summarizes a theoretical ER diagram for the design of a database for a messaging application.

Team & Roles

- Martin Ting - 860997603
 - ER design and documentation
- Kevin Suh - 860992968
 - ER design

Entities and Relationships

Entities:

- User(phoneNum, login, pass, status)
- Chat(_type_)
- Message(MID, text, date-time, expires, sender-id, status)
- Media(id, type, URL)

Relationships:

- | | |
|----------------------------|--------------------------------|
| • [User <> User]: contacts | • [User <> Chat]: chat-list |
| • [User <> User]: blocked | • [User <> Message]: notifies |
| • [User <> Chat]: owns | • [Chat <> Message]: msg-list |
| • [User <> Chat]: receive | • [Message <> Media]: attached |

Assumptions

User:

Whenever users register, an empty contact list is associated and 0 chats.

Users can receive messages from anyone in the system but people on his blocked list.

Users are notified with unread messages.

Chat:

Created when a user sends a message to a user or user group for the first time.

User can have a chat list when initialized but it does not necessarily mean the user has chats. The chat list can be empty.

The first user to send is the moderator for that chat.

Private chats can be turned into group chats just by adding more recipients. (Note: All users will be able to read past private messages.)

Messages:

Read only to everyone but the sender.

Status changes from delivered to read when read by receiver.

System will delete a message when expiration date has past.

Messages may only attach at most one media file.

ER Diagram

