**GIKONKO TSS CHAT APP**

1. **SYSTEM USERS**

|  |  |
| --- | --- |
| Role | Abilities |
| Director | Post announcements, chat with anyone, create groups |
| Dean of Studies (DoS) | Post announcements, chat with parents and others |
| Master | Post messages/images, chat |
| Patron | Post to parents, chat |
| Parent | View posts, chat with others, chat with selected staff |

1. **MAIN FEATURES**

**Authentication & User Roles**

* Login/Register system
* Role-based access control (RBAC)
* Profile image and info (name, phone, role)

**🔹 Post System**

* Text or image-based posts
* Who can post:
  + Director, DoS, Master, Patron
* Who can view:
  + All parents (depending on post visibility)

**🔹 Chat System**

* One-to-one (private chat)
* Group chat (e.g., group of parents or staff)
* Real-time typing indicators
* Read receipts
* Online/offline status
* Notifications (browser + badge)

**🔹 Group Management**

* Director/DoS can create groups (e.g., P1 Parents)
* Add/remove members from a group
* Group chat works like WhatsApp group

**🔹 Media Support**

* Image upload for posts and chats
* Optional: document upload (.pdf, etc.)

1. **DATABASE STRUCTURE (MySQL)**

Tables:

1.User

id | name | phone | role | profile\_image | password | created\_at

2.posts

id | sender\_id | content | image | created\_at | visible\_to

3.Messages

id | sender\_id | receiver\_id | content | image | read | created\_at

1. Groups

id | group\_name | created\_by | created\_at

5.Group\_member

id | group\_id | user\_id

6.notification

id | user\_id | type | content | is\_read | created\_at

7.group\_message

id | user\_id | type | content | is\_read | created\_at

### 4. FRONTEND (React OR EJS)

* Login/Register forms
* User dashboard (based on role)
* Chat interface
* Message box + typing + emoji picker
* Announcement board with image preview
* Group chat interface
* Notification dropdown

### 5. BACKEND (Node.js + Express)

* Auth routes: login, register, logout
* User routes: get user, update profile
* Chat routes: send/get private message
* Group chat routes: create group, add/remove members, send messages
* Post routes: create post, get posts
* Notification routes

### 6. SOCKET.IO FEATURES

* Real-time messaging (private + group)
* Typing indicator
* Online status update
* Notifications for new messages
* "User is reading..." or "Seen" tag

### 7. FILE UPLOAD (Multer)

Used for:

* Profile pictures
* Post images
* Chat images/documents

### 8. SESSION MANAGEMENT

* Use express-session + connect-mysql
* Manage sessions for login/logout
* Store user ID and role

9. TOOLS & LIBRARIES

|  |  |
| --- | --- |
| Purpose | Tool/Library |
| Backend | Node.js, Express |
| Database | MySQL |
| Real-time communication | Socket.IO |
| File Upload | Multer |
| Password hashing | bcrypt |
| Authentication | express-session |
| Frontend (optional) | EJS or React |
| UI Framework | Tailwind CSS or Bootstrap |
| Image preview | FileReader or custom components |

### 10. OPTIONAL ADDITIONS

* Admin panel (see posts, users, logs)
* Search bar to find users/posts
* Pagination or infinite scroll for chat/posts
* Mobile responsiveness
* Chat archiving

User to test

0728184299

Password: etiene

0788989199

Password: etiene

0788 887 867

Password: etiene

0728182833 patron

Password: etiene