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AI-generated content may be incorrect.Department of Computer Science and Engineering

CSE 302: Object Oriented Programming II Lab: Visual and Web  
  
Design Project Documentation

Hush Hub

Submitted to  
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Submitted By

Group Name: Hush\_Hub  
Group Number: 3

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# Introduction:

Hush Hub is a mental health care web application built with Django, HTML, and CSS. The platform allows users to share their thoughts anonymously, seek help from therapists, track their wellness activities, and engage in positive self-improvement routines. Its primary goal is to create a safe digital environment for emotional expression, mental support, and behavioral tracking. The application connects patients and therapists securely, integrating features such as anonymous posts, private messaging, session booking, mood tracking, journaling, meditation guidance, and gamified rewards. Through this platform, mental health care becomes more accessible, interactive, and stigma-free.

# Class Diagram:

A diagram of a computer program

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1. User (Custom Model)  
• Attributes: username, email, user\_type (patient/therapist), bio, phone, profile\_picture  
• Methods: get\_anonymous\_id() – returns hashed anonymous identity for safe posting.

2. EmergencyContact  
• Attributes: user (FK), name, phone\_number, relationship  
• Methods: \_\_str\_\_() returns contact name and user.

3. Post  
• Attributes: user (FK), content, is\_anonymous, created\_at  
• Methods: \_\_str\_\_() returns author or Anonymous.

4. Comment  
• Attributes: post (FK), user (FK), content, created\_at  
• Represents user interactions under a post.

5. Message  
• Attributes: sender (FK), receiver (FK), content, created\_at, is\_read  
• Enables private communication between users and therapists.

6. Appointment  
• Attributes: therapist (FK), patient (FK), reason, start\_time, end\_time, status  
• Represents scheduled therapy sessions.

7. SessionNote  
• Attributes: appointment (OneToOne), therapist (FK), notes, treatment\_plan, timestamps  
• Records therapist observations and progress.

8. MoodEntry  
• Attributes: user (FK), mood, note, created\_at  
• Tracks emotional states over time.

9. JournalEntry  
• Attributes: user (FK), title, content, created\_at  
• Serves as a personal journal for self-reflection.

10. Badge / UserProgress / UserBadge  
• Implements the reward system. Tracks XP and awards achievement badges.

# Project Structure:

➢ accounts app  
Handles registration, login, logout, profile management, and emergency contacts.

➢ community app  
Enables anonymous posting, commenting, and messaging among users and therapists.

➢ therapist app  
Manages therapist-patient relationships, appointment scheduling, and therapy notes.

➢ wellness app  
Tracks moods, self-care tasks, meditation, affirmations, routines, and personal wellness analytics.

➢ rewards app  
Implements gamification: users earn XP and badges based on engagement and consistency.

# Installation and Setup for Hush Hub:

1. Install Python and Git  
Ensure Python 3.x and Git are installed.  
  
2. Clone the Repository:  
 git clone https://github.com/Ragib-Hasin-Muktadir/Hush\_Hub.git  
 cd Hush\_Hub  
  
3. Install Dependencies:  
 pip install -r requirements.txt  
  
4. Apply Migrations:  
 python manage.py makemigrations  
 python manage.py migrate  
  
5. Create Superuser:  
 python manage.py createsuperuser  
  
6. Run Server:  
 python manage.py runserver  
  
7. Open http://127.0.0.1:8000 to explore the app locally.

## Contribution:

* GitHub link : <https://github.com/Ragib-Hasin-Muktadir/Hush_Hub>

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Table 1: Contribution of each member

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **SL** | **Full Name** | **Reg ID** | **Github username** | **Number of Commits** | **No of Lines**  **added** | **No of Lines**  **deleted** |
| **1.** | **Ragib Hasin Muktadir** | **23101131** | **Ragib-Hasin-Muktadir** | **12** | **1176** | **240** |
| 2. | Swagoto Utsab Singha Roy | 23101124 | Spirekharn | 3 | 1113 | 97 |
| 3 | Fatema Rahman | 23101111 | Fatema4567pranti | 9 | 828 | 212 |
| 4 | Lamiya Zaman | 23101132 | lamiya-zaman | 6 | 692 | 273 |
| 5 | Jannatul Ferdoushi Islam | 23101119 | nuzaiba119 | 4 | 496 | 17 |

# Project Summary Table

|  |  |  |  |
| --- | --- | --- | --- |
| **Components** | **Required** | **This Project** | **Summary** |
| **Number of Apps** | 3 | 5 | The apps are: **User**, **Therapist**, **Dashboard**, **SelfCare**, and **Achievement & Design**. Each handles a distinct part of the HushHub ecosystem. |
| **Number of Classes** | 7 | 15 | Major classes include User, EmergencyContact, Post, comment, message, Badge, UserBadge, UserProgress, Appointment, SessionNote, MoodEntry, JournalEntrry, SelfCare, DailyRoutine, ProgressReport, Meditation, MeditationSession, DailyAffirmation, WellnessTip, UserAffirmation, MoodEntry, JournalEntry, SelfCareTask, |
| **Number of Foreign Keys** | 2 | 12 | Foreign keys are used to connect models such as **User → Therapist**, **Appointment → Therapist & User**, **SessionNote → Appointment**, **Badge → User**, and others for relational integrity. |
| **Use of Media** | 2 | 3 | Media is used in classes like **User (profile picture)**, **Therapist (profile image/documents)**, and **Resource (uploaded content)** for file and image management. |

# Screenshots (Features):

Screenshots: dashboard

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registration

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# Complex Engineering Problem (CEP) Mapping

Hush Hub addresses the challenges of mental health accessibility, emotional safety, and data security by integrating multiple interconnected modules like therapy management, wellness tracking, and community support. It represents a real-world engineering problem requiring multi-domain knowledge—psychology, computer science, and secure communication systems.

# Knowledge Attribute Mapping (K1–K8):

|  |  |  |
| --- | --- | --- |
| Attribute | Description | Implementation in Hush Hub |
| K1 | Understanding human & emotional systems | MoodEntry and JournalEntry models handle emotional data patterns. |
| K2 | Math/Computing | Relational integrity between users, posts, and appointments; XP calculations in rewards. |
| K3 | Engineering theory | Django ORM, ER modeling, normalization principles. |
| K4 | Specialist knowledge | Therapist-patient confidentiality, psychological workflow design. |
| K5 | Practical design | End-to-end flow: user → post → connect → therapy → wellness tracking → rewards. |
| K6 | Technology application | Python Django, SQLite/MySQL, GitHub for version control. |
| K7 | Ethics & responsibility | Secure authentication and anonymous user protection. |
| K8 | Research-based knowledge | Inspired by real mental health care systems and digital therapy practices. |

# Problem Solving (P1–P7) Mapping:

The project involves multiple interacting components that simulate real-world mental health care workflows.

# Activities Mapping (A1–A5):

A1: Range of Resources – Combines psychology, user interaction, and data engineering.  
A2: Level of Interaction – Therapist-patient, system-user, and anonymous communities.  
A3: Innovation – Integrates wellness tracking with gamification.  
A4: Societal Impact – Promotes mental health awareness and accessibility.  
A5: Familiarity – Builds new understanding through applied software engineering.