### 5.5 Forum Feature

**Feature Goal**: Create a community space for philosophical discussion, question-asking, and knowledge sharing among users.

#### System Architecture

**Frontend Components**:

* ForumScreen.tsx: Main forum view
* ThreadList.tsx: List of discussion threads
* ThreadDetail.tsx: Individual thread view
* CommentEditor.tsx: Create/edit comments

**Backend Components**:

* forum\_service.py: Thread and comment management
* moderation\_service.py: Content moderation

**Database Models**:

* forum\_threads: Discussion threads

CREATE TABLE forum\_threads (

id UUID PRIMARY KEY DEFAULT uuid\_generate\_v4(),

user\_id UUID NOT NULL REFERENCES users(id),

title VARCHAR(255) NOT NULL,

content TEXT NOT NULL,

view\_count INTEGER DEFAULT 0,

is\_pinned BOOLEAN DEFAULT FALSE,

is\_locked BOOLEAN DEFAULT FALSE,

created\_at TIMESTAMP WITH TIME ZONE DEFAULT NOW(),

updated\_at TIMESTAMP WITH TIME ZONE DEFAULT NOW()

);

* forum\_thread\_tags: Tags for threads

CREATE TABLE forum\_thread\_tags (

id UUID PRIMARY KEY DEFAULT uuid\_generate\_v4(),

thread\_id UUID NOT NULL REFERENCES forum\_threads(id),

concept\_id UUID NOT NULL REFERENCES concepts(id),

created\_at TIMESTAMP WITH TIME ZONE DEFAULT NOW(),

UNIQUE(thread\_id, concept\_id)

);

* forum\_comments: User comments

CREATE TABLE forum\_comments (

id UUID PRIMARY KEY DEFAULT uuid\_generate\_v4(),

thread\_id UUID NOT NULL REFERENCES forum\_threads(id),

user\_id UUID NOT NULL REFERENCES users(id),

parent\_id UUID REFERENCES forum\_comments(id),

content TEXT NOT NULL,

is\_solution BOOLEAN DEFAULT FALSE,

created\_at TIMESTAMP WITH TIME ZONE DEFAULT NOW(),

updated\_at TIMESTAMP WITH TIME ZONE DEFAULT NOW()

);

* forum\_votes: Upvotes/downvotes

CREATE TABLE forum\_votes (

id UUID PRIMARY KEY DEFAULT uuid\_generate\_v4(),

user\_id UUID NOT NULL REFERENCES users(id),

target\_type VARCHAR(20) NOT NULL,

target\_id UUID NOT NULL,

vote\_type INTEGER NOT NULL,

created\_at TIMESTAMP WITH TIME ZONE DEFAULT NOW(),

UNIQUE(user\_id, target\_type, target\_id)

);

* forum\_reports: Content reports

CREATE TABLE forum\_reports (

id UUID PRIMARY KEY DEFAULT uuid\_generate\_v4(),

user\_id UUID NOT NULL REFERENCES users(id),

target\_type VARCHAR(20) NOT NULL,

target\_id UUID NOT NULL,

reason VARCHAR(50) NOT NULL,

description TEXT,

status VARCHAR(20) DEFAULT 'pending',

created\_at TIMESTAMP WITH TIME ZONE DEFAULT NOW(),

resolved\_at TIMESTAMP WITH TIME ZONE

);

#### API Endpoints

* GET /api/v1/forum/threads: Get forum threads
  + Query Parameters:
    - limit: Number of threads to return (default: 20)
    - offset: Pagination offset (default: 0)
    - concept\_id: Filter by concept tag
    - sort: Sort order (newest, popular, activity)
  + Response:

{

"threads": [

{

"id": "550e8400-e29b-41d4-a716-446655440000",

"title": "The Problem of Evil in Modern Context",

"content\_preview": "...",

"user": {

"id": "350e8400-e29b-41d4-a716-446655440000",

"username": "philosophyFan",

"level": 12

},

"comment\_count": 15,

"view\_count": 42,

"vote\_score": 8,

"created\_at": "2025-05-28T15:30:00Z",

"tags": [

{

"id": "123",

"name": "ethics"

},

...

],

"is\_pinned": false

},

...

],

"total": 156,

"limit": 20,

"offset": 0

}

* POST /api/v1/forum/threads: Create a thread
  + Request:

{

"title": "The Problem of Evil in Modern Context",

"content": "...",

"tags": ["550e8400-e29b-41d4-a716-446655440000", "550e8400-e29b-41d4-a716-446655440001"]

}

* + Response:

{

"id": "550e8400-e29b-41d4-a716-446655440000",

"title": "The Problem of Evil in Modern Context",

"content": "...",

"user": {

"id": "350e8400-e29b-41d4-a716-446655440000",

"username": "philosophyFan",

"level": 12

},

"created\_at": "2025-05-28T15:30:00Z",

"tags": [

{

"id": "550e8400-e29b-41d4-a716-446655440000",

"name": "ethics"

},

...

],

"xp\_earned": 10

}

* GET /api/v1/forum/threads/{id}: Get thread details
  + Response:

{

"id": "550e8400-e29b-41d4-a716-446655440000",

"title": "The Problem of Evil in Modern Context",

"content": "...",

"user": {

"id": "350e8400-e29b-41d4-a716-446655440000",

"username": "philosophyFan",

"level": 12

},

"comment\_count": 15,

"view\_count": 43,

"vote\_score": 8,

"user\_vote": 1,

"created\_at": "2025-05-28T15:30:00Z",

"updated\_at": "2025-05-28T15:30:00Z",

"tags": [

{

"id": "550e8400-e29b-41d4-a716-446655440000",

"name": "ethics"

},

...

],

"is\_pinned": false,

"is\_locked": false,

"comments": [

{

"id": "650e8400-e29b-41d4-a716-446655440000",

"content": "...",

"user": {

"id": "350e8400-e29b-41d4-a716-446655440001",

"username": "stoicThinker",

"level": 8

},

"vote\_score": 5,

"user\_vote": 0,

"created\_at": "2025-05-28T16:00:00Z",

"is\_solution": false,

"replies": []

},

...

]

}

* POST /api/v1/forum/threads/{id}/comments: Add a comment
  + Request:

{

"content": "...",

"parent\_id": null

}

* + Response:

{

"id": "650e8400-e29b-41d4-a716-446655440001",

"content": "...",

"user": {

"id": "350e8400-e29b-41d4-a716-446655440000",

"username": "philosophyFan",

"level": 12

},

"thread\_id": "550e8400-e29b-41d4-a716-446655440000",

"parent\_id": null,

"created\_at": "2025-05-28T17:00:00Z",

"vote\_score": 0,

"is\_solution": false,

"xp\_earned": 5

}

#### User Experience Flow

1. User browses forum threads in the ThreadList component
2. User creates new thread or comments on existing ones
3. User can upvote/downvote threads and comments
4. User can mark comments as solutions to their questions
5. User can report inappropriate content
6. System awards XP for contributions and engagement

#### XP Integration

* XP awarded for creating threads (+10 XP)
* XP awarded for commenting (+5 XP)
* XP awarded for receiving upvotes (+2 XP per upvote)
* XP awarded for having a comment marked as solution (+15 XP)
* Badges for forum participation (threads created, comments posted, solutions provided)

#### Implementation Considerations

* **Moderation**: Automated content filtering with AI assistance and user reporting system
* **Nested Comments**: Support for threaded discussions with multiple levels
* **Sorting Options**: Various sort methods for threads and comments (newest, popular, controversial)
* **Rich Text Support**: Basic formatting for threads and comments
* **Rate Limiting**: Prevent spam by limiting posting frequency
* **Notification System**: Alert users to replies and thread updates