

Introduction to Software Engineering

Software Design

Design Document for the assigned course project, following the attached template.



Software Engineering Department
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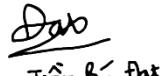
Software Design

Objectives

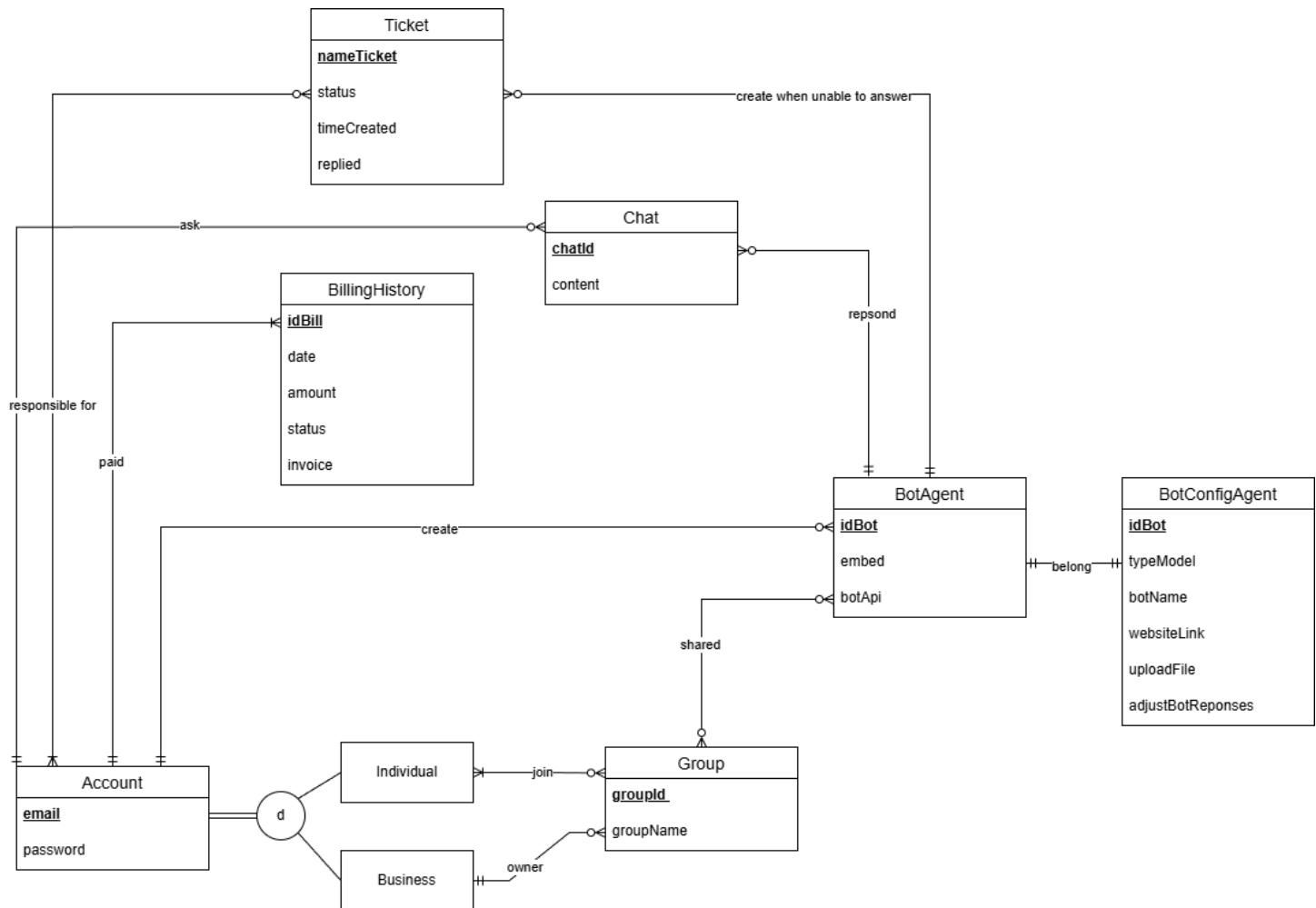
This document focus on the following topics:

- ✓ Complete the Software Design Document with the following contents:
 - Conceptual Model
 - Architectural Design
 - Data Design
 - User Interface Design
- ✓ Understanding the Software Design Document.

1**Member Contribution Assessment**

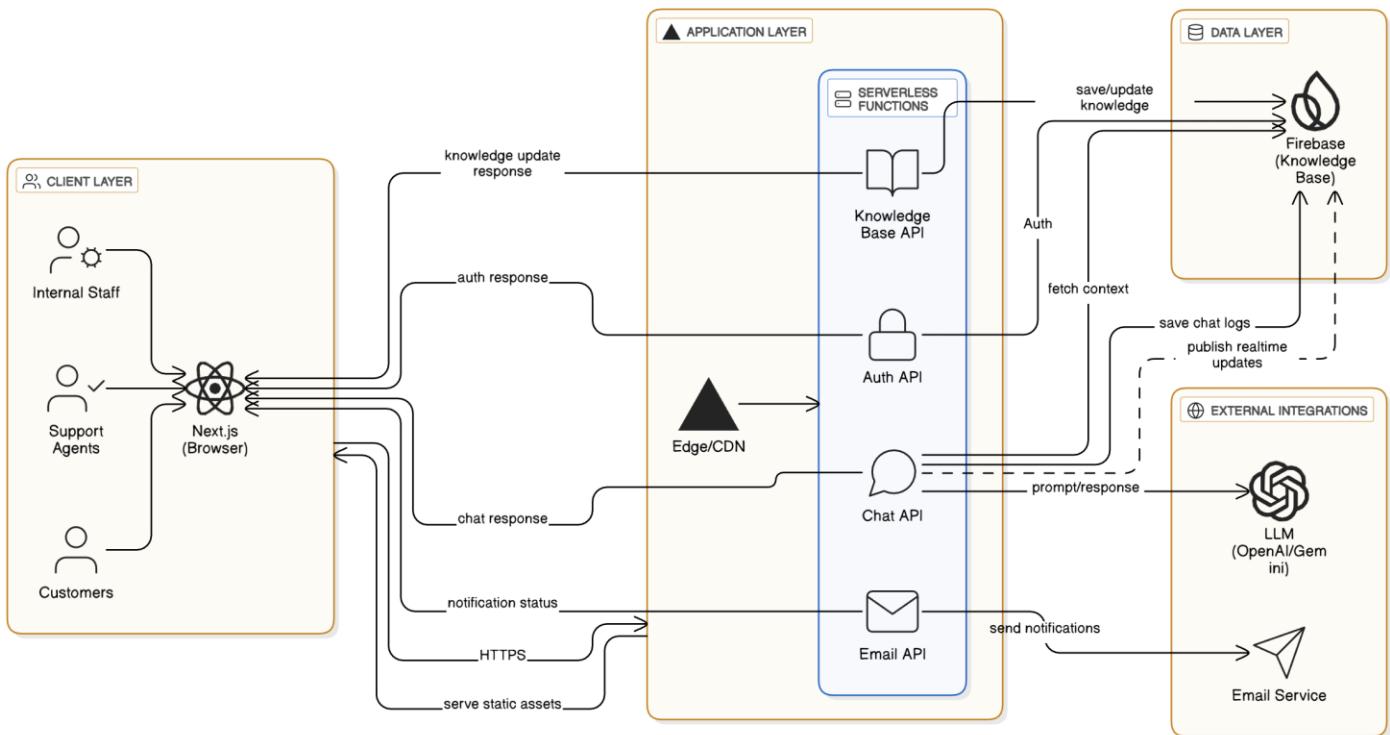
ID	Name	Contribution (%)	Signature
23127097	Trần Trí Nhân	100%	
23127168	Cao Trần Bá Đạt	100%	 Cao Trần Bá Đạt
23127193	Bùi Quang Hùng	100%	 Bùi Quang Hùng
23127234	Nguyễn An Nghiệp	100%	 Nguyễn An Nghiệp
23127238	Trần Hoài Thiện Nhân	100%	 Trần Hoài Thiện Nhân

2 Conceptual Model

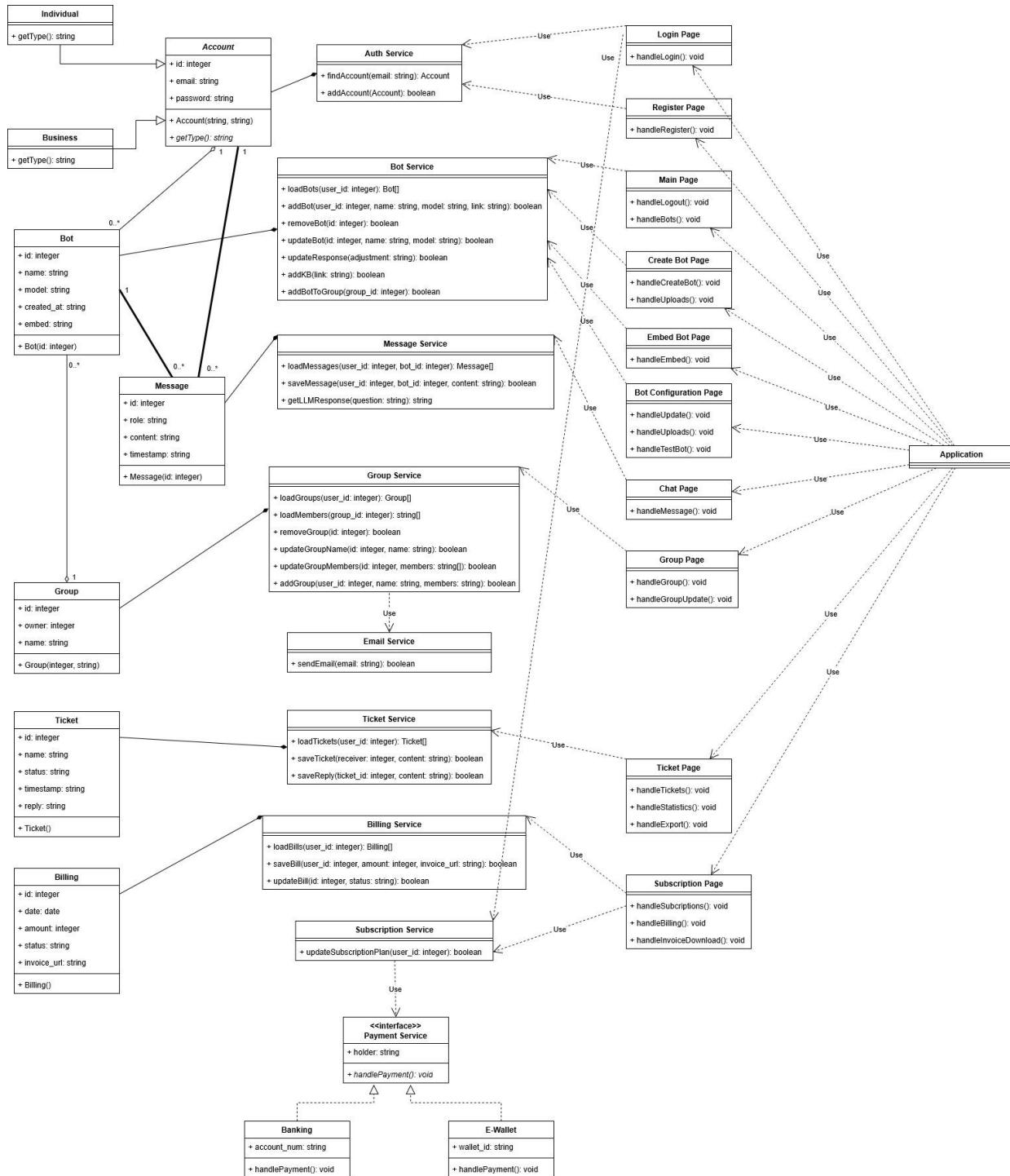


3 Architectural Design

3.1 Architecture Diagram



3.2 Class Diagram



3.3 Class Specifications

3.3.1 Class Bot:

Seq	Property	Modifier	Constraint	Description
1	id	public	integer, positive	ID of a bot
2	name	public	string	Name of a bot
3	model	public	string	LLM model of a bot
4	created_at	public	string, YYYY-MM-DD format	Creation date of a bot
5	embed	public	string, HTML format	Embedded code for a widget of a bot

Seq	Operation	Modifier	Constraint	Description
1	Bot(id: integer)	public		Bot's constructor

3.3.2 Class Message:

Seq	Property	Modifier	Constraint	Description
1	id	public	integer, positive	ID of a message
2	role	public	string, 'user' or 'bot'	Owner of a message
3	content	public	string	The content of a message
4	timestamp	public	string, HH:MM AM/PM format	The time when a message got sent

Seq	Operation	Modifier	Constraint	Description
1	Message(id: integer)	public		Message's constructor

3.3.3 Class Group:

Seq	Property	Modifier	Constraint	Description
1	id	public	integer, positive	ID of a group
2	owner	public	integer, positive	ID of group owner
3	name	public	string	The name of a group

Seq	Operation	Modifier	Constraint	Description
1	Group(owner: integer, name: string)	public		Group's constructor

3.3.4 Class BotService:

Seq	Operation	Modifier	Constraint	Description
1	loadBots(user_id: integer)	public		Get list of bots of a user
2	addBot(user_id:integer, name: string, model: string, link: string)	public		Add new bot
3	removeBot(id: integer)	public		Delete a bot
4	updateBot(id: integer, name: string, model: string)	public		Update name or model of a bot
5	updateResponse(adjustment: string)	public		Adjust response of a bot
6	addKB(link: string)	public		Update knowledge base of a bot
7	addBotToGroup(group_id: integer)	public		Share a bot to a group

3.3.5 Class MessageService:

Seq	Operation	Modifier	Constraint	Description
1	loadMessages(user_id: integer, bot_id: integer)	public		Load the conversation between a user and a bot
2	saveMessage(user_id: integer, bot_id: integer, content: string)	public		Add a message to database
3	getLLMResponse(question: string)	public		Retrieve a response from the AI model used by a bot

3.3.6 Class GroupService:

Seq	Operation	Modifier	Constraint	Description
1	loadGroups(user_id: integer)	public		Load list of groups of a user

2	loadMembers(group_id: integer)	public		Load list of members' emails of a group
3	removeGroup(id: integer)	public		Remove a group
4	updateGroupName(id: integer, name: string)	public		Change group name
5	updateGroupMembers(id: integer, members: string[])	public		Change members of a group
6	addGroup(user_id: integer, name: string, members: string)	public		Create a new group

3.3.7 Class CreateBotPage:

Seq	Operation	Modifier	Constraint	Description
1	handleCreateBot()	public		Control bot creation
2	handleUploads()	public		Validate and process files uploaded by a user

3.3.8 Class BotConfigurationPage:

Seq	Operation	Modifier	Constraint	Description
1	handleUpdate()	public		Control configurations of bot's name, bot's model and bot sharing
2	handleUploads()	public		Validate and process files uploaded by a user
3	handleTestBot()	public		Control the bot testing when configuring a bot

3.3.9 Class ChatPage:

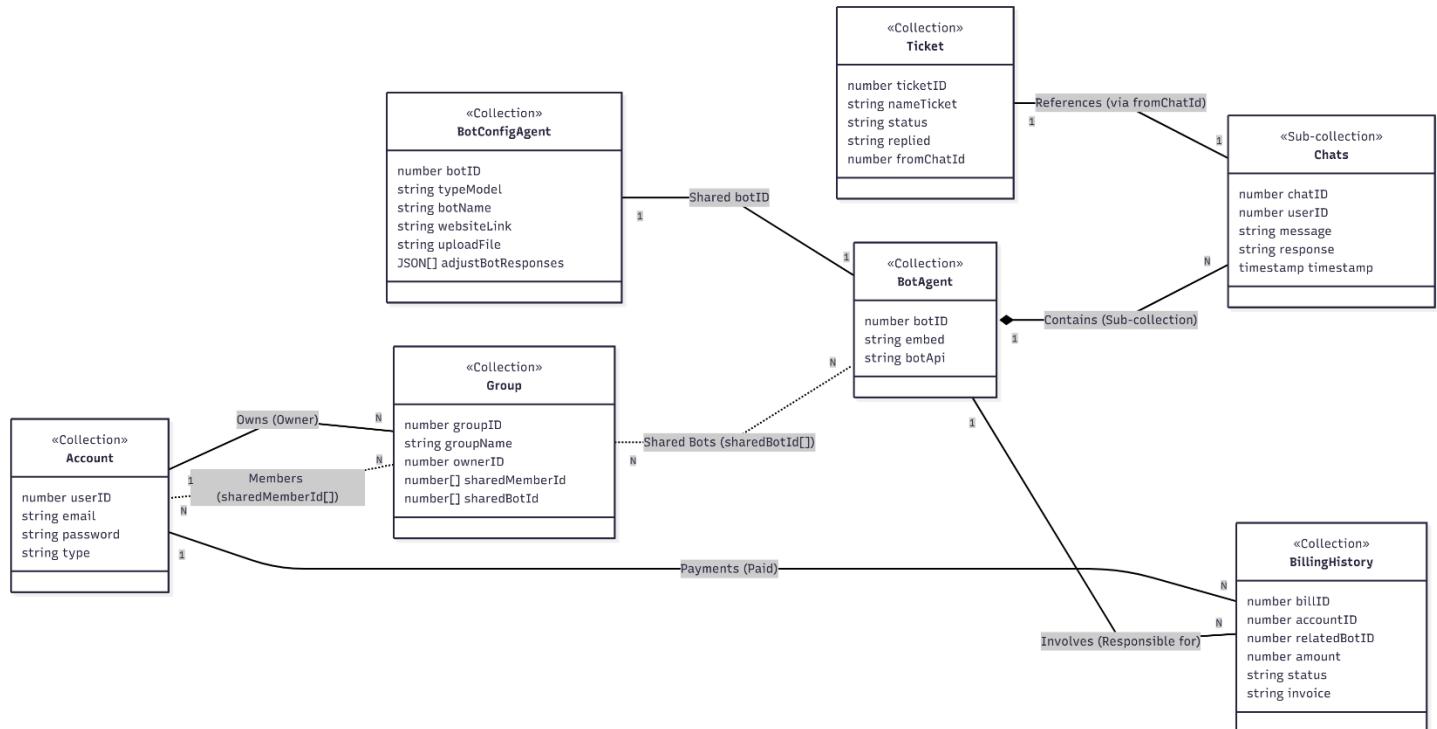
Seq	Operation	Modifier	Constraint	Description
1	handleMessage()	public		Control the messages sent by users and bots

3.3.10 Class GroupPage:

Seq	Operation	Modifier	Constraint	Description
1	handleGroup()	public		Control group listing and creation
2	handleGroupUpdate()	public		Control group editing

4 Data Design

4.1 Data Diagram



4.2 Data Specification

NoSQL Recap: Since the system uses Firebase (NoSQL database), data is organized as Collections and Documents instead of traditional relational tables. Foreign Key constraints are managed through application logic instead of hard constraints in the DB.

1. Collection: Account

- *Description: Stores user and business account information*
- *Sample JSON structure (Format):*

```
{
  "userID": "6",
  "email": "example@email.com",
  "password": "hashed_password_string",
```

- ```

 "type": "business" // or "individual"
}
• Property details:
```

| <b>Attribute name</b> | <b>Data type</b> | <b>Constraints</b>                | <b>Describe</b>               |
|-----------------------|------------------|-----------------------------------|-------------------------------|
| <i>userID</i>         | <i>Integer</i>   | X                                 | <i>Unique user ID</i>         |
| <i>email</i>          | <i>String</i>    | <i>Unique, Not null</i>           | <i>Login email</i>            |
| <i>password</i>       | <i>String</i>    | <i>Hashed</i>                     | <i>Encrypted password</i>     |
| <i>type</i>           | <i>String</i>    | <i>"business" or "individual"</i> | <i>Level of login account</i> |

## 2. Collection: BotConfigAgent

- *Description:* Save configuration for each bot
- *Sample JSON structure (Format):*

```
{
 "botID": "3",
 "typeModel": "gpt",
 "botName": "Customer Support",
 "websiteLink": "https://example.com",
 "uploadFile": "link_to_drive_file",
 "adjustBotResponses": [
 {
 "question": " what is your company name",
 "answer": " the company name is Sun"
 },
 {
 "question": " What is your boss's name?",
 "answer": " My boss's name is Khoa"
 }
]
}
```

- *Property details:*

| <b>Attribute name</b> | <b>Data type</b> | <b>Constraints</b> | <b>Describe</b> |
|-----------------------|------------------|--------------------|-----------------|
|                       |                  |                    |                 |

|                           |                            |                                                          |                                                            |
|---------------------------|----------------------------|----------------------------------------------------------|------------------------------------------------------------|
| <i>botID</i>              | Integer                    | <i>X</i>                                                 | <i>Bot identifier</i>                                      |
| <i>botName</i>            | <i>String</i>              | <i>Not Null</i>                                          | <i>Bot Display Name</i>                                    |
| <i>typeModel</i>          | <i>String</i>              | <i>Valid values: "gpt 5", "gemini 3 pro", "gemini 3"</i> | <i>Type of AI model used</i>                               |
| <i>websiteLink</i>        | <i>String</i>              | <i>URL</i>                                               | <i>Website link of data learning bot (Scraping)</i>        |
| <i>uploadFile</i>         | <i>String</i>              | <i>URL (Storage)</i>                                     | <i>Link to file (PDF/Doc) uploaded to Firebase Storage</i> |
| <i>adjustBotResponses</i> | <i>Array&lt;String&gt;</i> | <i>Question &amp; answer</i>                             | <i>Custom Response Directive (System prompt)</i>           |

### 3. Collection: BotAgent

- *Description: Contains embedded bot information and chat history*
- *Note: Chat is an array so it will be designed as a Sub-collection in Firebase*
- *Sample JSON structure (Format):*

```
{
 "botID": "3",
 "embed": "<iframe>code</iframe>",
 "botApi": "api_key_string"
}
// Sub-collection: Chats
"chats": [
 {
 "chatID": 6_1
 "userID": "user_6",
 }
]
```

```

 "message": "Hello bot",
 "response": "OK"
 "timestamp": 1765021351
}
]
• Property details:
```

| <b>Attribute name</b> | <b>Data type</b> | <b>Constraints</b> | <b>Describe</b>                  |
|-----------------------|------------------|--------------------|----------------------------------|
| <i>botID</i>          | <i>Integer</i>   | X                  | <i>Bot identifier</i>            |
| <i>embed</i>          | <i>String</i>    |                    | <i>Embed bot code on website</i> |
| <i>botApi</i>         | <i>String</i>    | <i>Not Null</i>    | <i>API Key to connect</i>        |

*Sub-collection: chats (Located inside the BotAgent document)*

- *Description: Save chat history between User and Bot*

| <b>Attribute name</b> | <b>Data type</b> | <b>Constraints</b>                       | <b>Describe</b>                                                                     |
|-----------------------|------------------|------------------------------------------|-------------------------------------------------------------------------------------|
| <i>chatID</i>         | <i>String</i>    | X_Y<br>X is for user X<br>Y is for bot X | <i>ID of the chat causing the error - create when unable to answer relationship</i> |
| <i>userID</i>         | <i>Integer</i>   | X                                        | <i>ID of the person chatting with the Bot</i>                                       |
| <i>message</i>        | <i>String</i>    | <i>Not Null</i>                          | <i>Content of the message sent by the user</i>                                      |
| <i>response</i>       | <i>String</i>    |                                          | <i>Bot reply content</i>                                                            |

|             |                       |                     |                     |
|-------------|-----------------------|---------------------|---------------------|
| <i>date</i> | <i>Unix Timestamp</i> | <i>Default: Now</i> | <i>Message time</i> |
|-------------|-----------------------|---------------------|---------------------|

## 4. Collection: Group

- *Description: Manage user groups*
- *Sample JSON structure (Format):*

```
{
 "groupID": "1",
 "groupName": "Marketing Team",
 "ownerID": "6",
 "sharedMemberId": ["2", "3"],
 "sharedBotId" : ["2", "3"]
}
```

- *Property details:*

| <b>Attribute name</b> | <b>Data type</b>            | <b>Constraints</b> | <b>Describe</b>                                    |
|-----------------------|-----------------------------|--------------------|----------------------------------------------------|
| <i>groupID</i>        | <i>Number</i>               | X                  | <i>Group identifier</i>                            |
| <i>groupName</i>      | <i>String</i>               | <i>Not Null</i>    | <i>Group display name</i>                          |
| <i>ownerID</i>        | <i>Integer</i>              | X                  | <i>ID of the group creator (Group Admin)</i>       |
| <i>sharedMemberID</i> | <i>Array&lt;Integer&gt;</i> |                    | <i>List of IDs of members invited to the group</i> |
| <i>sharedBotID</i>    | <i>Array&lt;Integer&gt;</i> |                    | <i>List of Bot IDs shared in the group</i>         |

## 5. Collection: BillingHistory

- *Description: Stores user payment history, invoices and transaction status*
- *Sample JSON structure (Format):*

```
{
 "billID": "4",
 "accountID": "6",
 "date": "1765021351",
 "relatedBotID": "3",
 "amount": 200000,
 "status": "paid",
 "invoice": "https://firebasestorage.googleapis.com/.../invoice.pdf"
}
```

- *Property details:*

| <b>Attribute name</b> | <b>Data type</b>      | <b>Constraints</b>   | <b>Describe</b>                                                                                         |
|-----------------------|-----------------------|----------------------|---------------------------------------------------------------------------------------------------------|
| <i>billID</i>         | <i>Integer</i>        | X                    | <i>Unique invoice identifier</i>                                                                        |
| <i>accountID</i>      | <i>Integer</i>        | X                    | <i>ID of the account making the payment (used to query the user's bill history) - paid relationship</i> |
| <i>relatedBotID</i>   | <i>Integer</i>        | X                    | <i>Paid bots - responsible for relationships</i>                                                        |
| <i>date</i>           | <i>Unix Timestamp</i> | <i>Not Null</i>      | <i>Transaction execution time</i>                                                                       |
| <i>amount</i>         | <i>Integer</i>        | X                    | <i>Payment amount</i>                                                                                   |
| <i>status</i>         | <i>String</i>         | "paid" or "failed"   | <i>Transaction status</i>                                                                               |
| <i>invoice</i>        | <i>String</i>         | <i>URL (Storage)</i> | <i>Link to invoice file (PDF/Image) saved on Storage</i>                                                |

## 6. Collection: Ticket

- *Description: Support tickets when the Bot cannot answer*
- *Sample JSON structure (Format):*

```
{
 "ticketID": "1",
 "nameTicket": "Payment error",
 "question": "Why I can not pay?",
 "status": "resolved",
 "timeCreated": "1765021351",
 "replied": "Refunded",
 "fromChatId": "6_1"
}
```

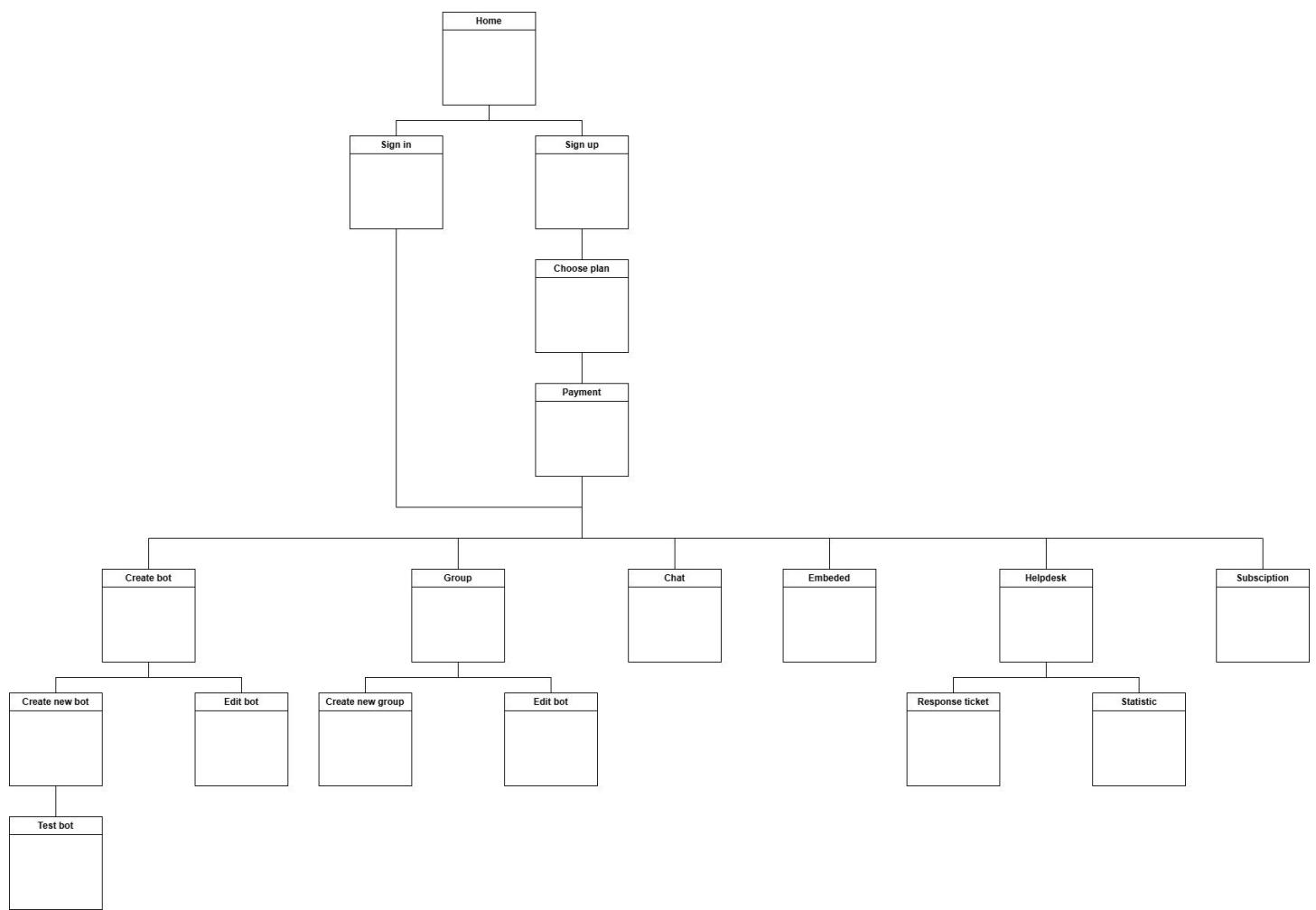
- *Property details:*

| <b>Attribute name</b> | <b>Data type</b>      | <b>Constraints</b>                                | <b>Describe</b>                                                                     |
|-----------------------|-----------------------|---------------------------------------------------|-------------------------------------------------------------------------------------|
| <i>ticketID</i>       | <i>Integer</i>        | <i>X</i>                                          | <i>Unique ticket identifier</i>                                                     |
| <i>nameTicket</i>     | <i>String</i>         | <i>Not Null</i>                                   | <i>Problem Title</i>                                                                |
| <i>question</i>       | <i>String</i>         | <i>Not Null</i>                                   | <i>Overview of the problem</i>                                                      |
| <i>status</i>         | <i>String</i>         | <i>"resolved" or "pending"</i>                    | <i>Processing status</i>                                                            |
| <i>timeCreated</i>    | <i>Unix Timestamp</i> | <i>Default: Now</i>                               | <i>Time to create ticket</i>                                                        |
| <i>replied</i>        | <i>String</i>         |                                                   | <i>Feedback content from admin</i>                                                  |
| <i>chatID</i>         | <i>String</i>         | <i>X_Y<br/>X is for user X<br/>Y is for bot X</i> | <i>ID of the chat causing the error - create when unable to answer relationship</i> |

# 5 User Interface and User Experience Design

## 5.1 Screen Diagram.

- Screen diagram:



- List the screens.

| Seq | Screen | Description |
|-----|--------|-------------|
|-----|--------|-------------|

|    |                  |                                                                           |
|----|------------------|---------------------------------------------------------------------------|
| 1  | Home             | Website home page interface                                               |
| 2  | Sign in          | Interface for users to log in to their accounts                           |
| 3  | Sign up          | Interface for users to register for an account                            |
| 4  | Choose plan      | Select subscription packages after entering your subscription information |
| 5  | Payment          | Enter payment information                                                 |
| 6  | Create bot       | Bot management page                                                       |
| 7  | Create new bot   | The new bot creation page is not in the list                              |
| 8  | Test bot         | Test bot page after creating new bot to edit bot answers                  |
| 9  | Edit bot         | Edit page for created bots                                                |
| 10 | Group            | Group management page                                                     |
| 11 | Create new group | The new group creation page is not yet on the list.                       |
| 12 | Edit group       | Page to edit existing groups                                              |
| 13 | Chat             | Chat page with created bots                                               |
| 14 | Embeded          | Page to embed bot on other website                                        |
| 15 | Helpdesk         | Page for general customer management                                      |
| 16 | Response ticket  | Page answers customers' specific questions                                |
| 17 | Statistic        | Statistics of business indicators                                         |
| 18 | Subscription     | Page to adjust account subscriptions                                      |

## 5.2 Screen Specifications.

### 5.2.1 Create bot.

The screenshot shows the 'Create Bot' section of the Chatbot Helpdesk. On the left sidebar, there are links for 'Create Bot', 'Groups', 'Helpdesk', 'Chat', 'Embed Bot', and 'Subscription'. The main area is titled 'Create Bot' with the subtitle 'Build and manage your AI-powered chatbots'. It displays a grid of six bot cards, each with a small icon, the bot's name, its model, creation date, a 'View' button, and a trash can icon for deletion. All bots listed are currently 'Active'.

| Bot Name             | Model    | Created    | Action               |
|----------------------|----------|------------|----------------------|
| Customer Support Bot | GPT-4    | 2024-01-15 | <a href="#">View</a> |
| Sales Assistant      | Claude 3 | 2024-01-10 | <a href="#">View</a> |
| dat                  | gpt4     | 2025-11-24 | <a href="#">View</a> |
| nhan                 | gpt4     | 2025-11-24 | <a href="#">View</a> |
| dat                  | gpt4     | 2025-11-24 | <a href="#">View</a> |
| dat                  | gpt4     | 2025-11-24 | <a href="#">View</a> |

### a) Page Title and Description.

- Create Bot
- Subtitle: *Build and manage your AI-powered chatbots*

**b) Main Action Button:** Create New Bot (primary call-to-action, located at the top-right of the content area).

### c) Bot List (Bot Cards Grid).

Each chatbot is presented as an individual card containing:

| Element | Description |
|---------|-------------|
|---------|-------------|

|               |                                             |
|---------------|---------------------------------------------|
| Bot icon      | A small robot icon                          |
| Status badge  | Active (green badge)                        |
| Bot name      | e.g., Customer Support Bot, Sales Assistant |
| Model         | e.g., GPT-4, Claude 3, gpt4                 |
| Created date  | e.g., <i>Created 2024-01-15</i>             |
| Edit button   | Pencil icon                                 |
| View button   | “View” button                               |
| Delete button | Trash icon                                  |

Cards are displayed in a 3-column responsive grid.

#### d) Event Handling.

| Event                  | System Behavior                                                     |
|------------------------|---------------------------------------------------------------------|
| Click “Create New Bot” | Redirects to “Create new bot” screen.                               |
| Click the View button  | Opens “Edit bot” page for modifying bot name, model, settings, etc. |
| Click the Delete icon  | Delete the bot containing this button                               |
| Hover over buttons     | Visual highlight effect to improve focus and recognition.           |
| Left page buttons      | Move to other pages                                                 |

#### 5.2.2 Group.

The screenshot shows the 'Groups' section of the Chatbot Helpdesk interface. On the left sidebar, 'Groups' is selected. The main area displays two groups: 'Sales Team' (2 members) and 'Support Team' (3 members). Each group card shows member emails, creation date, and edit/delete buttons.

| Element      | Description                                                                                                               |
|--------------|---------------------------------------------------------------------------------------------------------------------------|
| Sales Team   | 2 members<br>sales1@example.com<br>sales2@example.com<br>Created 2024-01-20<br>Edit<br>Delete                             |
| Support Team | 3 members<br>support1@example.com<br>support2@example.com<br>support3@example.com<br>Created 2024-01-15<br>Edit<br>Delete |

### a) Title and Description.

- Groups
- Subtitle: *Manage team groups and share bots with members*

**b) Primary Action Button:** New Group (Top-right corner) - This button allows users to create a new team group.

### c) Group Cards Grid.

Each group is displayed as a card containing:

| Element | Description |
|---------|-------------|
|---------|-------------|

|                    |                                 |
|--------------------|---------------------------------|
| Group icon         | A small group/people icon       |
| Member count badge | e.g., “2 members”, “3 members”  |
| Group name         | e.g., Sales Team, Support Team  |
| Members list       | Email addresses of team members |
| Created date       | e.g., Created 2024-01-20        |
| Edit button        | Pencil icon (“Edit” label)      |
| Delete button      | Trash icon                      |

#### d) Event Handling.

| Event                 | System Behavior                                                                                  |
|-----------------------|--------------------------------------------------------------------------------------------------|
| Click “New Group”     | Opens the “Create new group” screen where the user enters group name, members, permissions, etc. |
| Click the Edit button | Redirects to the “Edit group” screen, allowing modification of member list                       |
| Click the Delete icon | Delete the group containing this button                                                          |
| Hover over buttons    | Highlights the buttons to indicate interactivity.                                                |
| Left page buttons     | Move to other pages                                                                              |

#### 5.2.3 Helpdesk.

The screenshot shows a dashboard for a Chatbot Helpdesk. On the left is a sidebar with icons for Create Bot, Groups, Helpdesk (which is selected), Chat, Embed Bot, and Subscription. The main area has a title "Helpdesk" and two tabs: "Tickets" and "Statistics". Below are three cards: "Open Tickets" (2, !), "Resolved Tickets" (1, ✓), and "Avg Resolution Time" (2.5h, ⏰). To the right is a section titled "All Tickets" with three items: "Bot not responding to greetings" (open, high), "Integration issue with API" (resolved, high), and "Feature request: custom responses" (open, low). A message at the bottom says "Select a ticket to view details and reply".

The Helpdesk dashboard is divided into two tabs:

- Tickets
- Statistics

#### a) Metrics Overview Cards.

Displayed horizontally at the top:

| Metric               | Description                                                  |
|----------------------|--------------------------------------------------------------|
| Open Tickets (2)     | Shows the total number of currently open tickets.            |
| Resolved Tickets (1) | Displays the number of tickets resolved by the support team. |

|                            |                                                                 |
|----------------------------|-----------------------------------------------------------------|
| Avg Resolution Time (2.5h) | Displays the average time required to resolve previous tickets. |
|----------------------------|-----------------------------------------------------------------|

Each card includes a small icon and uses a clean numerical emphasis.

### b) Ticket List Panel (Left Section).

A list titled All Tickets, showing individual ticket summaries.

Each ticket item includes:

| Element                                     | Example from UI                |
|---------------------------------------------|--------------------------------|
| Title                                       | Bot not responding to greeting |
| Status badge                                | open / resolved                |
| Priority badge                              | high / low                     |
| Additional spacing and background highlight | indicates click ability        |

Badges use color-coded labels:

- open → yellow
- resolved → green
- high → red
- low → blue

This enhances scannability of ticket state and urgency.

### c) Ticket Detail Panel (Right Section)

When a ticket is selected, this panel will display its details:

- Full description
- Conversation history
- Reply box
- Status update actions (resolve / reopen)

### d) Event Handling.

| Event                       | System Behavior                                                     |
|-----------------------------|---------------------------------------------------------------------|
| Click "Tickets" tab         | Displays the ticket management dashboard (current view)             |
| Click "Statistics" tab      | Go to the "Statistics" page                                         |
| Select a ticket in the list | Loads ticket details into the right panel for viewing and replying. |

|                    |                                          |
|--------------------|------------------------------------------|
| Hover over buttons | Button highlights to show interactivity. |
| Left page buttons  | Move to other pages                      |

### 5.2.4 Chat.

The screenshot shows a user interface for a chatbot management system. The top header reads "Chatbot Helpdesk". On the right, there are user details: "dat@gmail.com" and "Business Plan" with a refresh icon. The left sidebar contains navigation links: "Create Bot", "Groups", "Helpdesk", "Chat" (which is highlighted in blue), "Embed Bot", and "Subscription". The main content area is divided into sections. One section, "Bots", lists two active bots: "Customer Support Bot" and "Sales Assistant", both marked as "online". Another section, "Customer Support Bot", shows a welcome message "Hi! How can I help you today?" from 10:30 AM. At the bottom, there's a message input field with the placeholder "Type your message..." and a blue send button.

#### a) Bot List Panel (Left Side).

Displayed under the header Bots, this panel contains:

- A list of bots available for conversation

- Each bot row includes:
  - Bot name (e.g., *Customer Support Bot, Sales Assistant*)
  - Status indicator: green dot with label online
  - Highlighted selection state (blue outline) when active
- “+ New Chat” button located at the bottom, allowing users to start a new conversation session with the selected bot.

### b) Chat Window Panel (Right Side).

The chat panel displays:

#### Chat Header

- Bot name: *Customer Support Bot*
- Subtitle: *Chat with your bot*

#### Message Area

- Conversation messages displayed chronologically

Messages are contained within rounded chat bubbles (light gray for bot messages).

#### Message Input Bar

Located at the bottom of the chat window:

- Text input field labeled “**Type your message...**”
- Send button (paper-plane icon)

This allows users to input messages and send them to the bot.

### c) Event Handling.

| Event                            | System Behavior                                                                                        |
|----------------------------------|--------------------------------------------------------------------------------------------------------|
| Select a bot from the bot list   | Loads the bot's conversation history into the chat window and highlights the selected bot.             |
| Click “New Chat”                 | Initiates a new conversation session with the currently selected bot; clears the chat window.          |
| User types a message             | Input is captured in the message textbox.                                                              |
| Click Send button or press Enter | Sends the message to the bot, appends it to the chat window, and triggers a response from the backend. |
| Bot sends a response             | The message appears as a bot bubble with timestamp.                                                    |

|                     |                                  |
|---------------------|----------------------------------|
| Scroll in chat area | Allows reviewing older messages. |
| Left page buttons   | Move to other pages              |

### 5.2.5 Embedded.

The screenshot shows the 'Chatbot Helpdesk' application interface. On the left, there's a sidebar with navigation links: 'Create Bot', 'Groups', 'Helpdesk', 'Chat', 'Embed Bot' (which is highlighted in blue), and 'Subscription'. The main content area is titled 'Embed Bot' and contains the sub-section 'Select Bot'. It shows two bot cards: 'Customer Support Bot' (Active, selected) and 'Sales Assistant' (Active). To the right of the bot selection is a 'Copy Code' button. Below the bot selection is a 'Installation Instructions' box containing three steps:

1. Copy the embed code above
2. Paste it into your website's HTML, usually before the closing tag
3. The bot widget will automatically appear on your website

#### 1. Select Bot Panel (Left Side).

A list of bots that can be embedded into external websites. Each bot is displayed as a selectable card containing:

| Element             | Description                                        |
|---------------------|----------------------------------------------------|
| Bot name            | e.g., <i>Customer Support Bot, Sales Assistant</i> |
| Status badge        | Active (indicates bot availability)                |
| Selection indicator | Radio/checkbox UI for selecting the bot to embed   |

The selected bot card is highlighted with a blue border and filled selection indicator.

#### b) Embed Code Panel (Right Side).

This section displays:

- A black code box representing the embed script (HTML/JS snippet)
- A Copy Code button with copy icon

Pressing the button copies the script to the user's clipboard.

#### c) Installation Instructions Section (Bottom Panel).

A highlighted instructional box provides step-by-step installation steps:

1. Copy the embed code above
2. Paste it into your website's HTML, usually before the closing </body> tag
3. The bot widget will automatically appear on your website

This aims to ensure non-technical users can integrate the bot with minimal difficulty.

#### d) Event Handling.

| Event              | System Behavior                                                                                        |
|--------------------|--------------------------------------------------------------------------------------------------------|
| Select a bot card  | Highlights the chosen bot and updates the embed code field to reflect that bot's unique widget script. |
| Click "Copy Code"  | Copies the embed script to the clipboard; may trigger a confirmation toast such as "Code copied!".     |
| Hover over buttons | Applies a soft shadow or outline to indicate clickability.                                             |
| Left page buttons  | Move to other pages                                                                                    |

#### 5.2.6 Subscription.

**Chatbot Helpdesk**

dat@gmail.com [\[→\]](#)

## Subscription

Manage your plan and billing

### Current Plan

Business - 500,000 VND/Month + 100 VND/Token  
Next billing date: March 22, 2024 [Cancel Subscription](#)

### Available Plans

#### Individual

Perfect for personal projects

**200,000** VND/month

- ✓ Unlimited bots
- ✓ 1 AI model connection
- ✓ Basic analytics
- ✗ Team collaboration
- ✗ Priority support

[Upgrade to Individual](#)

#### Business

For growing businesses and teams

**500,000** VND/month + 100 VND/  
token

- ✓ Unlimited bots
- ✓ All AI models
- ✓ Team collaboration
- ✓ Advanced analytics
- ✓ Priority support

[Current Plan](#)

### Billing History

| Date         | Amount      | Status | Invoice                  |
|--------------|-------------|--------|--------------------------|
| Feb 22, 2024 | 500,000 VND | Paid   | <a href="#">Download</a> |
| Jan 22, 2024 | 500,000 VND | Paid   | <a href="#">Download</a> |

### a) Current Plan Panel.

A highlighted box shows the user's active subscription:

- Plan name: *Business – 500,000 VND/Month + 100 VND/Token*

- Next billing date: *March 22, 2024*
- Cancel Subscription link (top-right corner)

This panel provides a summary of the user's current plan and billing cycle.

### b) Available Plans Section.

This section displays subscription tiers the user can choose from:

#### - Individual Plan Card:

- Price: 200,000 VND/month
- Description: *Perfect for personal projects*
- Features:
- Upgrade to Individual button

#### - Business Plan Card (Selected):

Visually highlighted with a blue border.

- Price: 500,000 VND/month + 100 VND/token
- Description: *For growing businesses and teams*
- Features:
- Button displays Current Plan (disabled)

This layout allows quick comparison between subscription tiers.

### c) Billing History Section.

- A table listing previous invoices.
- This provides financial transparency and easy access to past invoices.

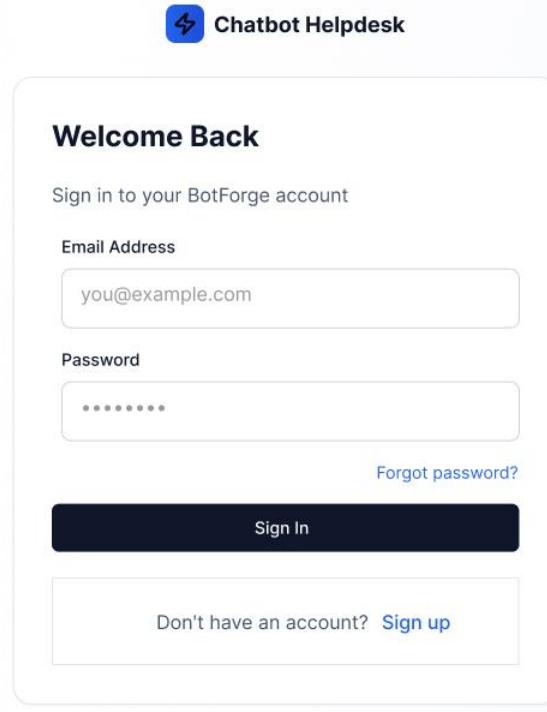
### d) Event Handling.

| Event                               | System Behavior                                                                   |
|-------------------------------------|-----------------------------------------------------------------------------------|
| Click "Cancel Subscription"         | Cancel current subscription                                                       |
| Click "Upgrade to Individual"       | Switches the user's active plan to Individual; updates billing and plan features. |
| Click "Current Plan"                | No action (button disabled).                                                      |
| Click "Download" in Billing History | Downloads the corresponding invoice PDF file.                                     |
| Hover over buttons                  | Applies a soft shadow or outline to indicate clickability.                        |
| Left page buttons                   | Move to other pages                                                               |

## 5.2.7 Home.

The screenshot shows the homepage of the Chatbot Helpdesk AI-Powered Bot Platform. At the top, there's a navigation bar with a logo, 'Chatbot Helpdesk', 'Sign In', and 'Get Started' buttons. Below the header is a large title 'Create Intelligent Chatbots in Minutes' with a subtitle: 'Empower your business with AI-driven conversational bots. No coding required. Connect any AI model. Manage everything from one powerful dashboard.' There are four main features highlighted in boxes: 'Multi-AI Integration' (with a speech bubble icon), 'Knowledge Base' (with a brain icon), 'Full Control' (with a gear icon), and 'Easy Embed' (with a lightning bolt icon). Below these features is a blue banner with statistics: '10K+' Bots Created, '500K+' Conversations Daily, and '99.9%' Uptime SLA. At the bottom, a dark call-to-action box contains the text 'Ready to Transform Your Customer Support?' followed by a 'Start Your Free Trial Today' button.

### 5.2.8 Sign in.



By signing in, you agree to our [Terms of Service](#)

### 5.2.9 Sign up.

 Chatbot Helpdesk

## Create Account

Get started with Chatbot Helpdesk

Email Address

Password

**Continue**

Already have an account? [Sign in](#)

By signing up, you agree to our [Terms of Service](#)

### 5.2.10 Choose plan.

 Chatbot Helpdesk

### Choose Your Plan

Select the plan that fits your needs

#### Individual

Perfect for personal projects and small tasks

- ✓ Unlimited bots
- ✓ 1 AI model connection
- ✓ Basic analytics

**200,000**VND/month

#### Business

Popular

Ideal for growing businesses and teams

- ✓ Unlimited bots
- ✓ All AI models
- ✓ Team collaboration
- ✓ Advanced analytics
- ✓ Priority support

**500,000**VND/month

+ 100 VND per token

By signing up, you agree to our [Terms of Service](#)

### 5.2.11 Payment.

 Chatbot Helpdesk

## Payment Method

Choose your payment method for your subscription

### Bank Account

Transfer directly from your bank account

### E-Wallet

Pay using popular e-wallet services  
(GCash, PayMaya, etc.)

#### Bank/E-Wallet Details

Enter account number or e-wallet ID

#### Account Holder Name

Your full name

#### Verification Code

4-digit code

**Create Account & Subscribe**

Back

By signing up, you agree to our Terms of Service

### 5.2.12 Create new bot.

Chatbot Helpdesk

dat@gmail.com Business Plan

Create Bot

Groups

Helpdesk

Chat

Embed Bot

Subscription

## Create New Bot

Configure your AI-powered chatbot

### AI Model

- GPT-4  
Most advanced
- Claude 3  
Balanced & fast
- Gemini  
Cost effective

### Share with Groups

Select Groups (1)

Sales Team

### Bot Configuration

Bot Name \*

e.g., Customer Support Bot

#### Add Website Link

Train bot with website content

#### Upload File

PDF, TXT, or DOCX files

Create Bot

### 5.2.13 Test bot.

The screenshot shows the 'Test Bot' page of the Chatbot Helpdesk application. The left sidebar contains links for 'Create Bot', 'Groups', 'Helpdesk', 'Chat', 'Embed Bot', and 'Subscription'. The main area is titled 'Test Bot' with the subtitle 'Chat with your bot to test responses'. It displays a message box with 'No messages yet' and 'Start chatting with your bot below'. Below this is a text input field labeled 'Test your bot...' with a blue send button. To the right is a 'Bot Info' panel showing details: NAME: dat, MODEL: Gpt4, STATUS: Active, and SHARED GROUPS: 1 group(s). At the bottom are 'Finish & Save Bot' and 'Back' buttons. A separate section titled 'Adjust Bot Response' with a note to fine-tune response patterns is also visible.

#### 5.2.14 Edit bot.

The screenshot shows the 'Bot Details & Testing' page of the Chatbot Helpdesk. On the left sidebar, there are several options: Create Bot, Groups, Helpdesk, Chat, Embed Bot, and Subscription. The main area is titled 'Bot Details & Testing' with the subtitle 'Edit and test your chatbot configuration'. It contains three main sections: 'Bot Configuration', 'Knowledge Base', and 'Test Chat'. In 'Bot Configuration', there is a 'Bot Name \*' field with 'Bot name' typed in, an 'AI Model' section with 'GPT-4' selected (described as 'Most advanced'), and a 'Claude 3' and 'Gemini' option. A 'Save Changes' button is present. In 'Knowledge Base', there are two sections: 'Website Link' (with a note to 'Train bot with website content') and 'Upload File' (with a note for 'PDF, TXT, or DOCX files'). In 'Test Chat', it says 'No messages yet' and 'Start testing below'. There is a 'Test message...' input field and a blue send button. At the bottom, there is an 'Adjust Bot Response' section with a note to 'Customize responses to fine-tune how your bot answers user messages.'

### 5.2.15 Create new group.

Chatbot Helpdesk

dat@gmail.com Business Plan [→]

Create Bot

**Groups**

Manage team groups and share bots with members

Create New Group

Group Name \*

e.g., Sales Team

Member Emails (comma separated) \*

Enter valid email addresses separated by commas

Create Group Cancel

Sales Team

2 members

MEMBERS

sales1@example.com  
sales2@example.com

Created 2024-01-20

Edit Delete

Support Team

3 members

MEMBERS

support1@example.com  
support2@example.com  
support3@example.com

Created 2024-01-15

Edit Delete

### 5.2.16 Edit group.

Chatbot Helpdesk

dat@gmail.com Business Plan

## Groups

Manage team groups and share bots with members

### Edit Group

Group Name \*

e.g., Sales Team

Member Emails (comma separated) \*

sales1@example.com, sales2@example.com

Enter valid email addresses separated by commas

Update Group Cancel

**Sales Team**

2 member s

MEMBERS

sales1@example.com  
sales2@example.com

Created 2024-01-20

**Support Team**

3 member s

MEMBERS

support1@example.com  
support2@example.com  
support3@example.com

Created 2024-01-15

### 5.2.17 Response tickets.

The screenshot shows a software interface for a Chatbot Helpdesk. At the top left is a sidebar with navigation links: Create Bot, Groups, Helpdesk (which is selected), Chat, Embed Bot, and Subscription. At the top right are user details (dat@gmail.com) and a Business Plan link. The main area has a title "Helpdesk" and two tabs: Tickets and Statistics. Below are three summary boxes: Open Tickets (2, with an exclamation icon), Resolved Tickets (1, with a checkmark icon), and Avg Resolution Time (2.5h, with a clock icon). On the left, a "All Tickets" section lists three items: "Bot not responding to greetings" (status: open, priority: high), "Integration issue with API" (status: resolved, priority: high), and "Feature request: custom responses" (status: open, priority: low). On the right, a detailed view of the first ticket is shown, titled "Bot not responding to greetings". It includes status (Open), priority (High), and creation date (Created 2024-01-22). A note states: "The bot fails to respond when users greet it with common phrases." Below are sections for "Replies" (No replies yet) and a "Reply to this ticket" input field with a "Reply" button.

### 5.2.18 Statistics.

Chatbot Helpdesk

dat@gmail.com Business Plan ↗

Create Bot

Groups

Helpdesk

Chat

Embed Bot

Subscription

## Helpdesk

Tickets Statistics

Daily Resolutions

Export Statistics

Ticket Trends