

# System test report

## 1. User registration and login

### 1.1 User Registration

- **Method:**
  - a. Open the registration page and fill in a valid email, strong password, and matching confirmation password.
  - b. Click “Send Verification Code” and complete email verification.
  - c. Submit the registration form.
- **Expected Result:**
  - If the input is valid and the verification code is correct, return 200 OK and redirect to the login page with pre-filled email.
  - If the input is invalid or the code is incorrect, show clear error messages near fields or at the top of the form.
- **Result:**
- Passed. Registration flow works correctly. Verification code is throttled as expected, error messages are accurate, and redirection occurs after success

The screenshot shows the registration page of the Virtual Mentor System. The page has a blue header and a white content area. At the top right, there are 'LOGIN' and 'REGISTER' buttons, with 'REGISTER' being underlined. Below these are two input fields: 'Email \*' containing '123@gmail.com' and 'Password \*' containing a masked password. A 'Password Strength' bar is shown as 'Weak'. Underneath the password field is a 'Password Requirements' section with several items, one of which is checked: 'At least one number (0-9)'. Below the requirements is a 'Confirm Password \*' field, which is currently empty. A red error message 'Passwords do not match' is displayed below the confirm password field. At the bottom, there is a 'Verification Code \*' input field, a 'SEND CODE' button, and a large blue 'REGISTER' button.

## 1.2 User Login

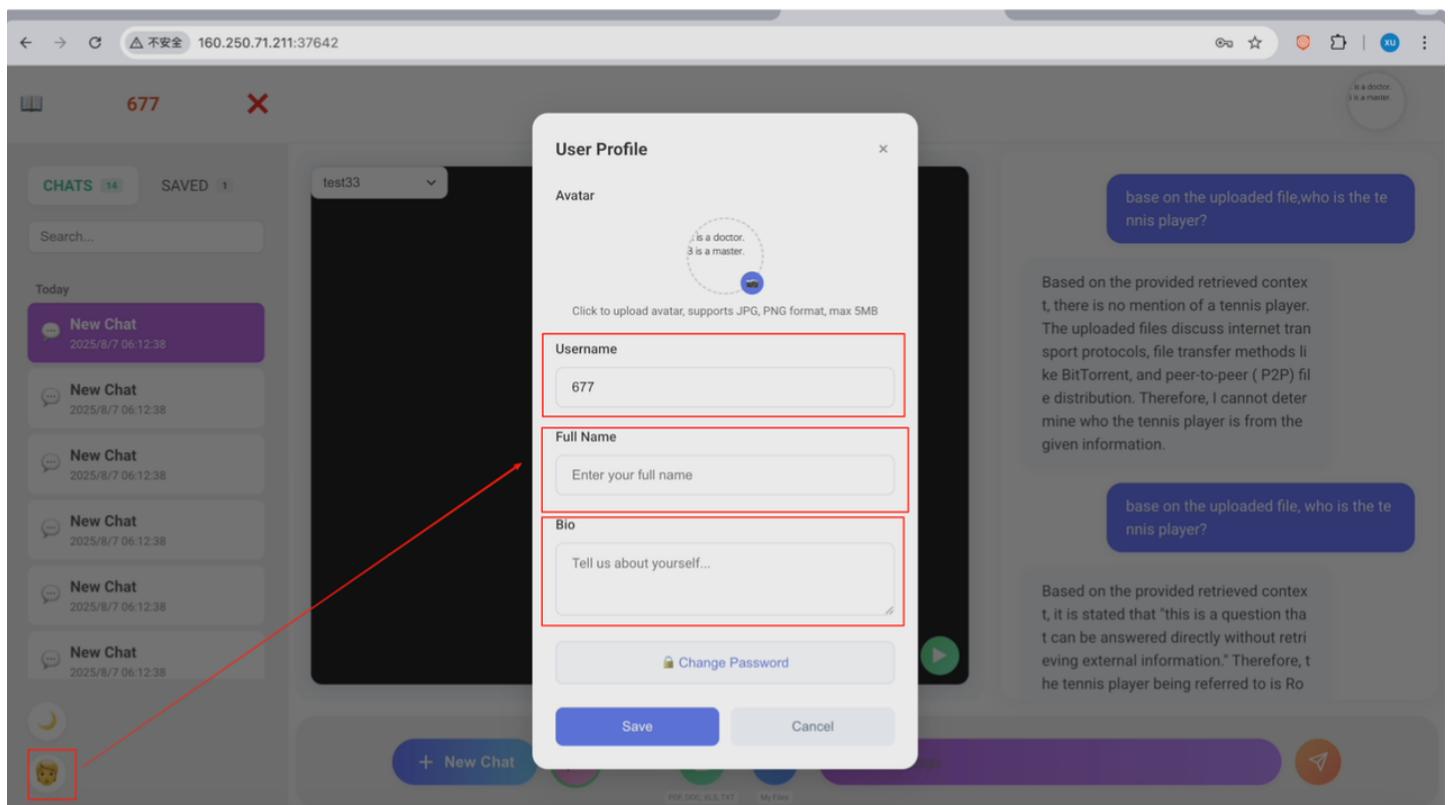
- **Method:**
  - a. Visit the login page and enter email and password.
  - b. Click the “Login” button or press Enter to submit.
- **Expected Result:**
  - With correct credentials, return 200 OK with token and user info; redirect based on user role.
  - With incorrect credentials, return 401 Unauthorized and show “invalid email or password” message.
- **Result:**
- Passed. Redirection works based on role (student → chat page, mentor → admin page). Invalid input shows correct error messages, and session handling is consistent

The screenshot shows a web browser window with the URL `160.250.71.211:37642/login`. The page title is "Virtual Mentor System". There are two tabs: "LOGIN" (which is active) and "REGISTER". A green success message bar at the top says "Login successful". Below it is an "Email \*" field containing `ff2000720xyt@126.com`. Below that is a "Password \*" field with a lock icon and masked text. At the bottom is a large blue "LOGIN" button.

## 2. User side

### 2.1 User Profile Editing

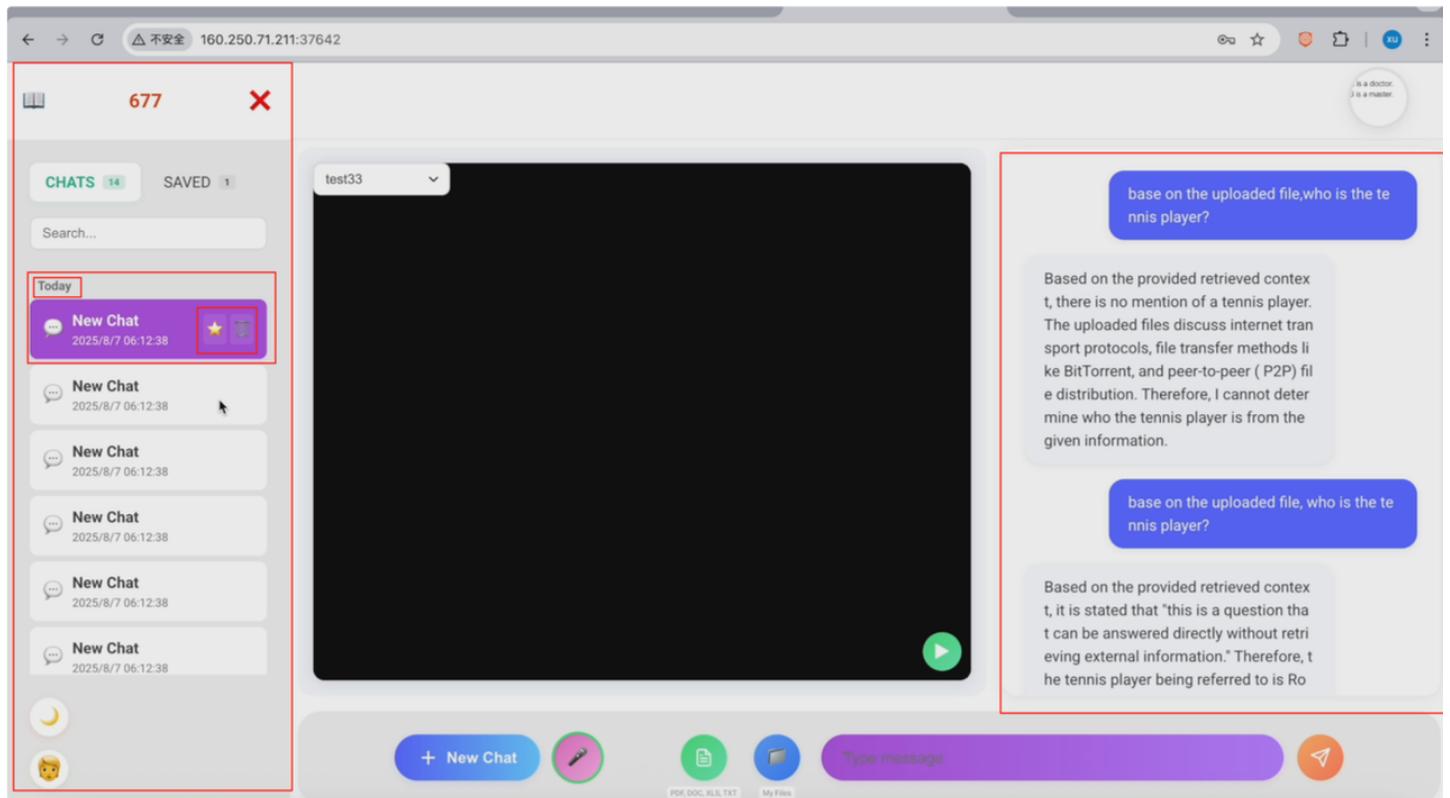
- **Method:**
  - Click the profile icon in the sidebar to open the user settings modal.
  - Edit username, full\_name, or bio, then click “Save” .
- **Expected Result:**
  - On success, update user data locally and display success message.
  - On failure, show error message and rollback to previous values.
- **Result:**
  - Passed. Frontend validation and backend syncing work correctly. Errors are handled gracefully



## 2.2 Load Chat Session List

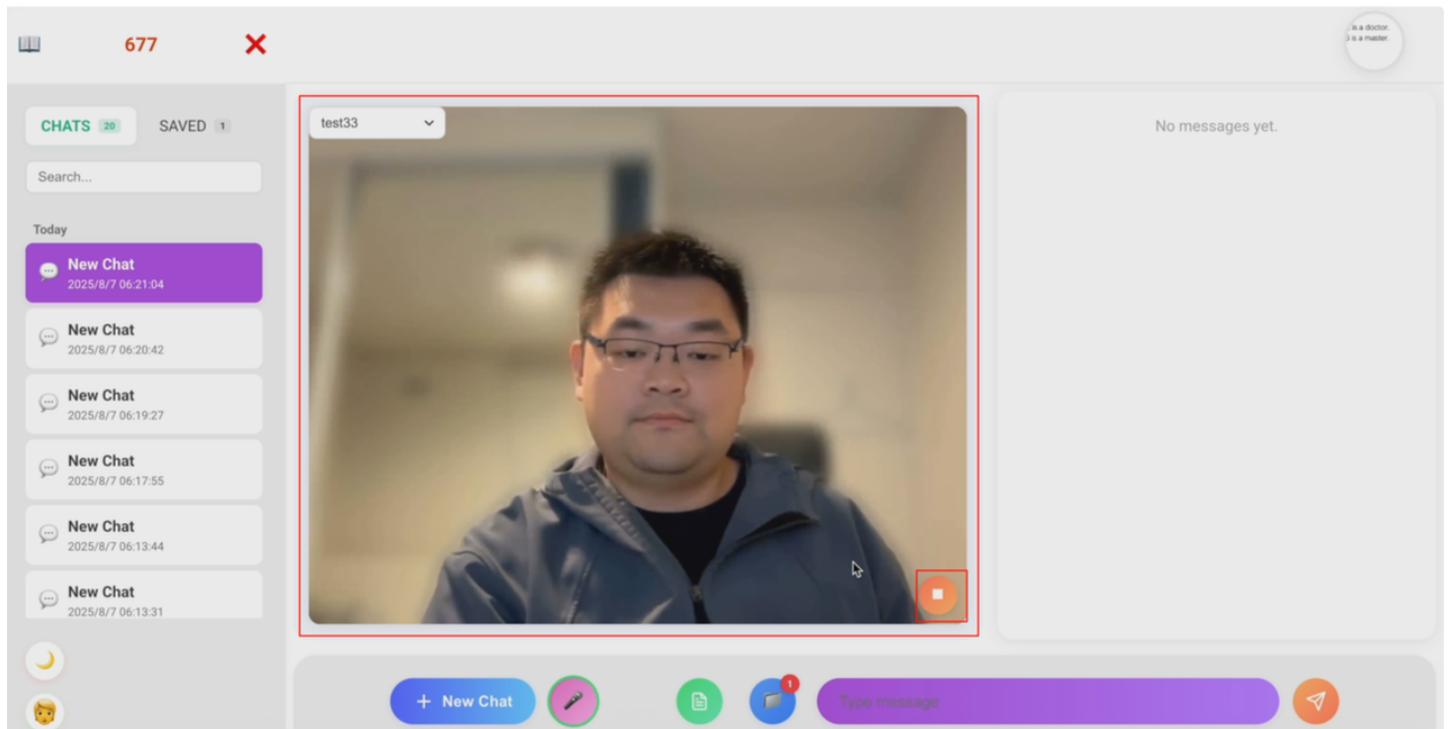
- **Method:**
  - After login as a student, enter the chat page.
  - The frontend sends a GET /api/chat request with authorization.
- **Expected Result:**
  - Return 200 OK with a list of previous conversations.
  - Each item should include a timestamp.
- **Result:**

- Passed. Chat list loads correctly; list scrolls and updates dynamically. Authorization handled via token in headers



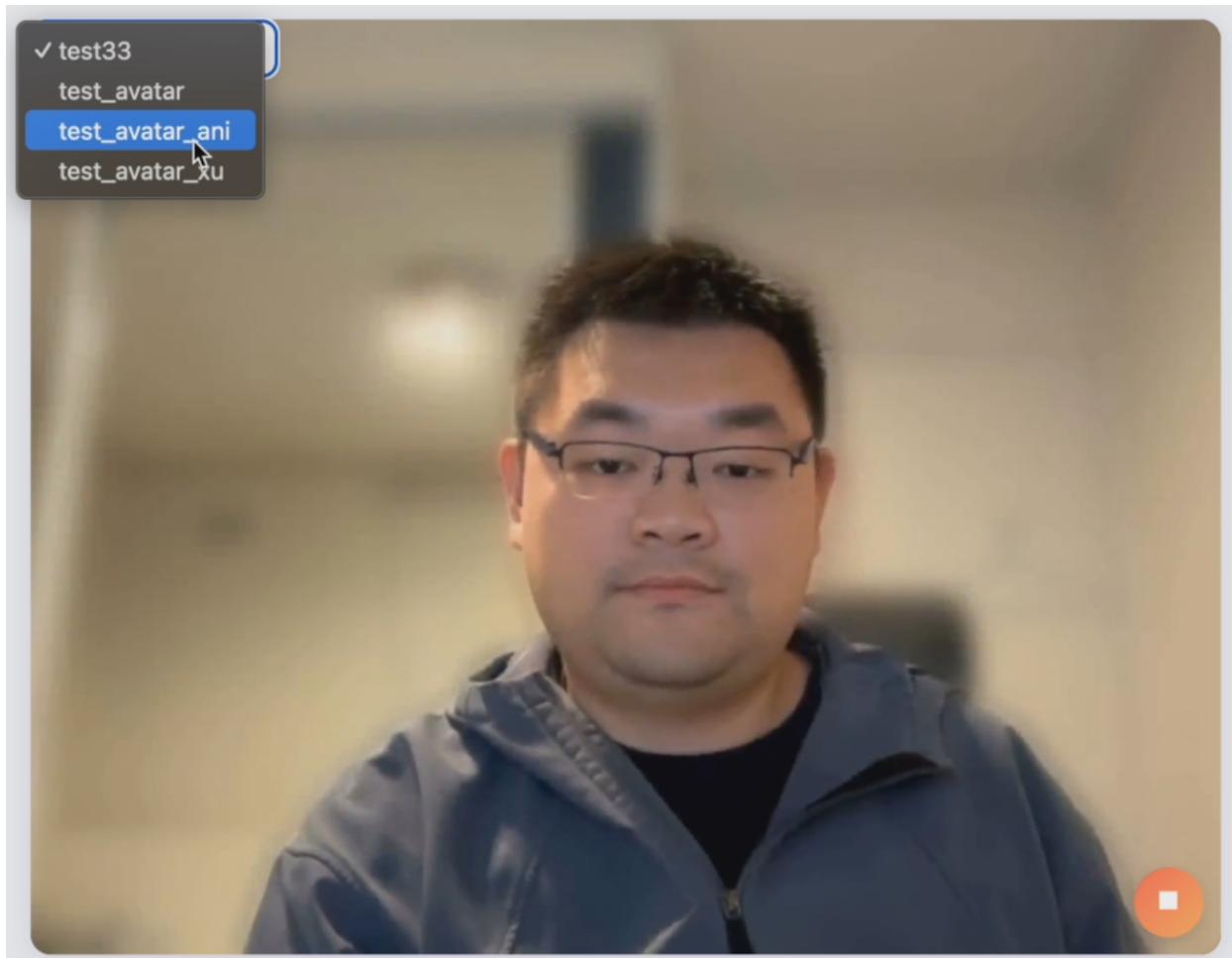
## 2.3 Video Call Setup via WebRTC

- **Method:**
  - a. Click the video icon in the chat window.
  - b. Frontend initiates a WebRTC connection via signaling server (POST /rtc/init).
- **Expected Result:**
  - Both parties should receive peer connection requests.
  - Video stream appears if permission granted.
- **Result:**
- Passed. 1-to-1 video stream establishes within 2s. ICE negotiation is successful under NAT with TURN fallback.



## 2.4 Avatar Model Switching

- **Method:**
  - a. In the upper right corner of the chat page, click the avatar selection drop-down box.
  - b. Load all available avatars by sending GET /api/avatar/list.
  - c. Select one avatar, which triggers a POST /api/avatar/start request to activate the associated TTS and lip-sync models.
- **Expected Result:**
  - Avatar list loads successfully, with each item displaying name, image, and language tag.
  - After selecting an avatar, system switches to the corresponding talking head and displays it.
  - Errors in loading or model switching should be handled gracefully.
- **Result:**
  - Passed. Avatar switching is responsive and stable. Video preview updates correctly. Invalid or deleted avatars are filtered out by backend and do not appear in the list

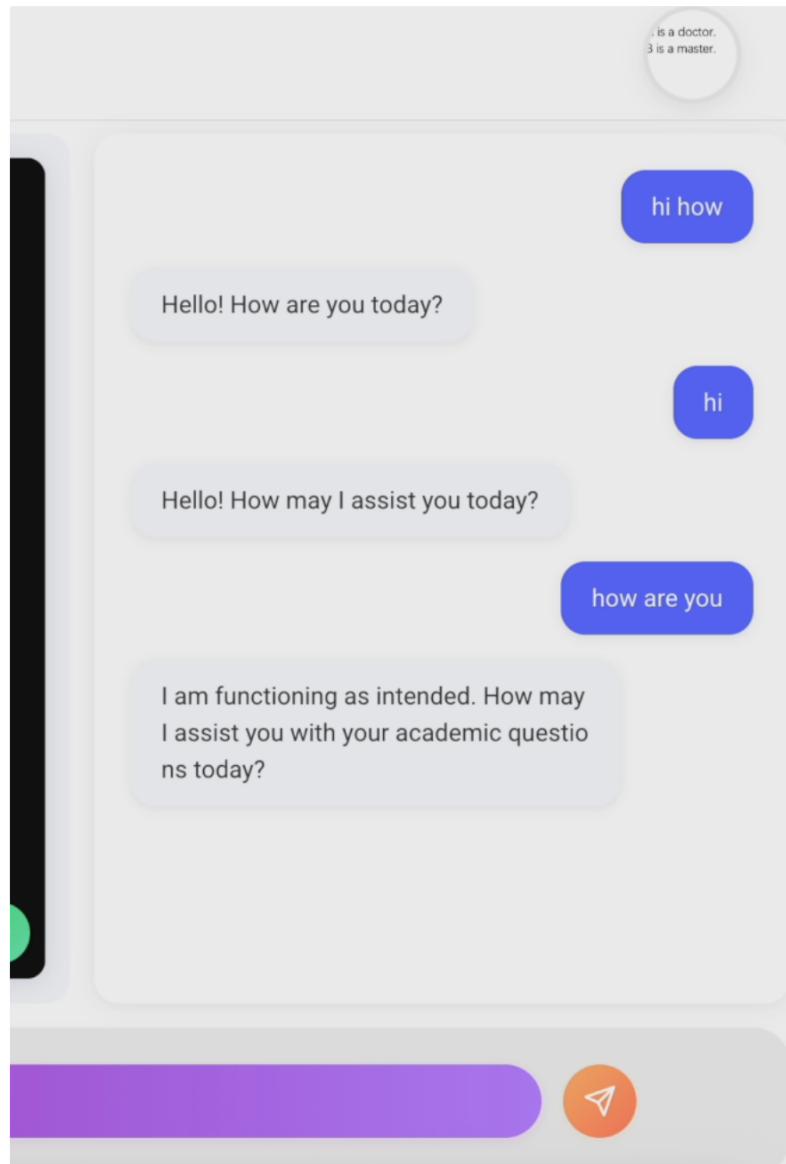


## 2.5 Chat Window Rendering and Interaction

- **Method:**
  - a. Open an existing conversation and scroll through past messages.
  - b. Send a new message; observe the pending bubble appear immediately.
  - c. When the backend responds, verify that the pending message is replaced by the user/tutor message pair.
- **Expected Results:**
  - Message Alignment: Messages are aligned left and right based on the speaker role (user/tutor).
  - Pending Processing: Insert a temporary pending bubble immediately after sending; upon receiving a reply, merge it with the reply into a chronological message pair to maintain visual continuity.
- **Results:**

Passed.

- The pending bubble appears immediately upon sending.
- The merged message pair is rendered in the correct order and alignment after the backend responds.



## 3. Administrator side

### 3.1 Load User List

- **Method:**
  - a. Ensure multiple users exist in the database.
  - b. Send a GET request to /api/admin/users?page=1.
- **Expected Result:**
  - Return 200 OK with paginated user list.
  - Each user entry includes email, username, role, status.

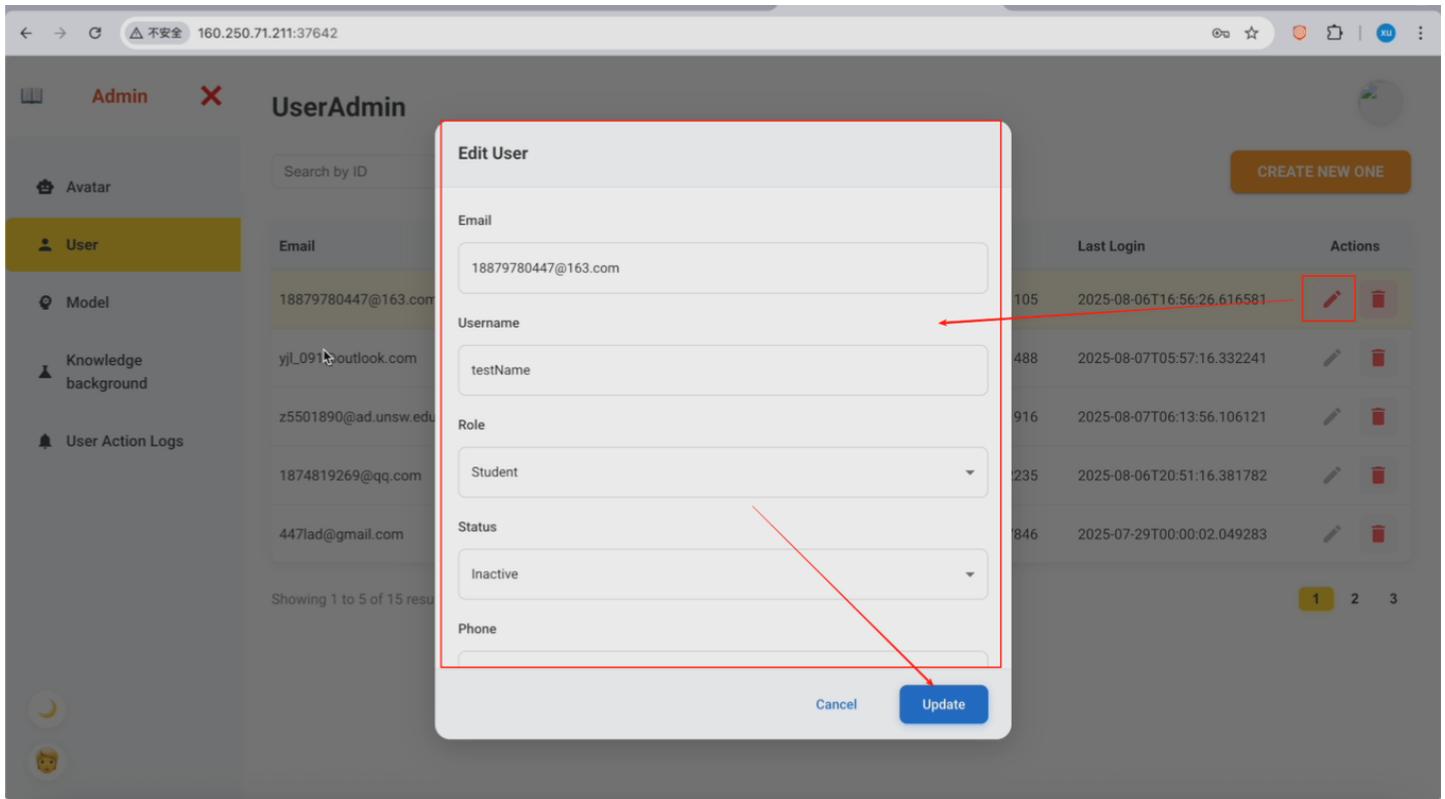
- **Result:** Success, list renders correctly with skeleton screen while loading.

Email	Username	Role	Status	Phone	Created At	Last Login	Actions
18879780447@163.com	testName	student	inactive		2025-08-06T16:47:15.361105	2025-08-06T16:56:26.616581	
yjl_091@outlook.com	yjl_091	student	active		2025-08-06T11:22:42.811488	2025-08-07T05:57:16.332241	
z5501890@ad.unsw.edu.au	z5501890	tutor	active		2025-08-04T10:48:31.721916	2025-08-07T06:13:56.106121	
1874819269@qq.com	1874819269	tutor	inactive		2025-07-30T18:38:34.112235	2025-08-06T20:51:16.381782	
447lad@gmail.com	447lad	student	inactive		2025-07-28T17:31:41.757846	2025-07-29T00:00:02.049283	

Showing 1 to 5 of 15 results 1 2 3

## 3.2 Edit User Info

- **Method:**
  - Click “Edit” on a user row in the table.
  - Modify username or role and click Submit.
- **Expected Result:**
  - Show loading state while submitting.
  - Return 200 OK with updated user info.
  - Display success toast and refresh list.
- **Result:** Updated successfully and reflected immediately.



### 3.3 Load Avatar List

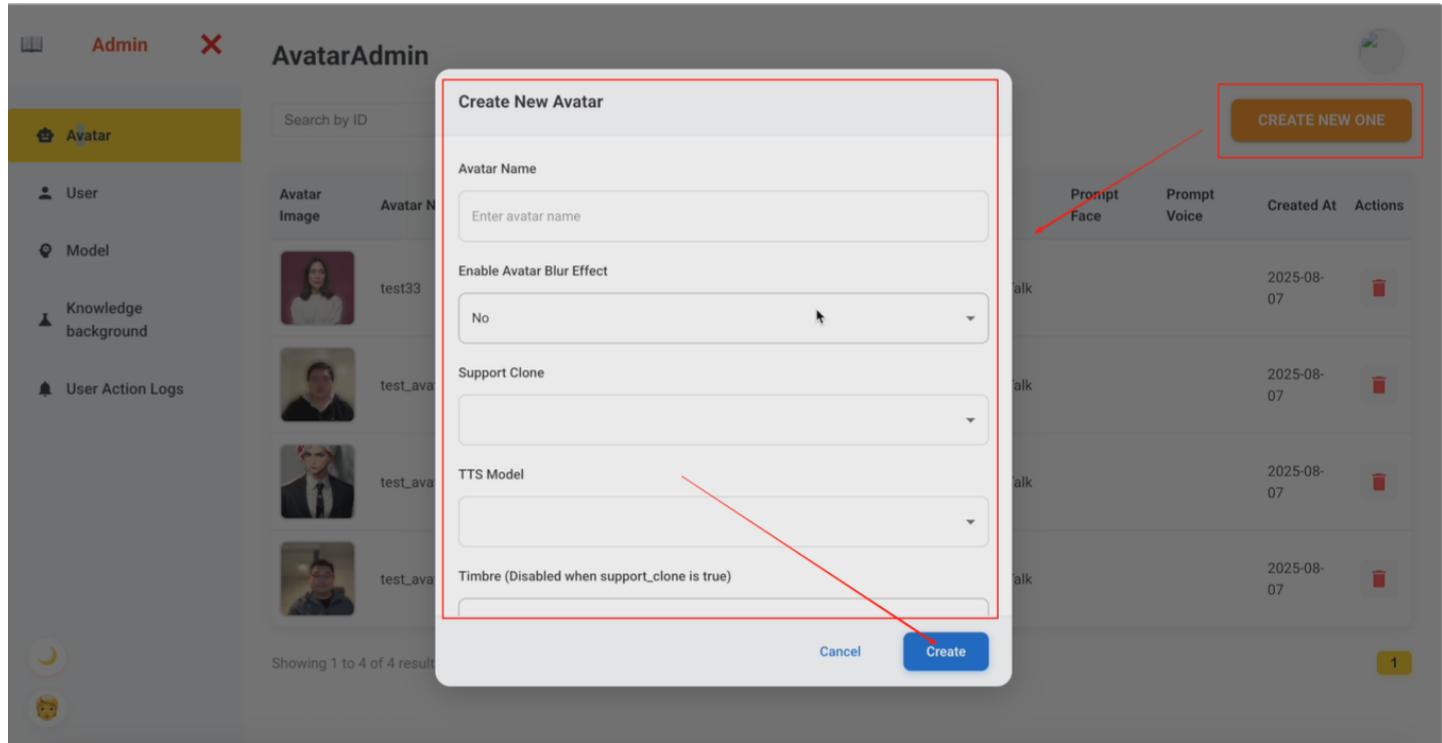
- **Method:**
  - a. Ensure several avatars with thumbnail images exist.
  - b. Visit Avatar management page.
- **Expected Result:**
  - Return 200 OK with avatar metadata.
  - Blob preview of avatar thumbnails displays properly.
- **Result:** Avatar list with thumbnails loads correctly.

The screenshot shows the 'AvatarAdmin' application interface. On the left, there's a sidebar with buttons for 'User', 'Model', 'Knowledge background', and 'User Action Logs'. The 'Avatar' button is highlighted with a yellow background. At the top right, there are buttons for 'CREATE NEW ONE' and a user profile icon. The main area is a table listing four avatars. Each row includes a thumbnail, the name, settings for 'Avatar Blur' and 'Support Clone' (both set to 'No'), the TTS Model ('edgeTTS'), Timbre ('MaleB' or 'Default'), Reference Text, the Avatar Model ('MuseTalk'), and the creation date ('2025-08-07'). Each row also has a delete icon. The bottom of the table shows a message 'Showing 1 to 4 of 4 results' and a small number '1'.

Avatar Image	Avatar Name	Avatar Blur	Support Clone	TTS Model	Timbre	Reference Text	Avatar Model	Prompt Face	Prompt Voice	Created At	Actions
	test33	No	No	edgeTTS	MaleB		MuseTalk			2025-08-07	
	test_avatar	No	No	edgeTTS	Default	This is a test Avatar	MuseTalk			2025-08-07	
	test_avatar_ani	No	No	edgeTTS	Default	Avatar Ani	MuseTalk			2025-08-07	
	test_avatar_xu	No	Yes	cosyvoice		Avatar Xu	MuseTalk			2025-08-07	

### 3.4 Create New Avatar

- **Method:**
  - a. Click “Create Avatar” .
  - b. Fill in metadata and upload audio/model files.
- **Expected Result:**
  - Verify the file type.
  - Display the animation of the talking head being created.
  - Return 200 on success.
- **Result:** Files validated and uploaded; new avatar appears in list.



### 3.5 Load Public Knowledge Base Files List

- **Method:**
  - a. Ensure public knowledge base files exist on the backend.
  - b. Open the Knowledge Base tab.
- **Expected Result:**
  - Return 200 OK with file metadata.
  - Displays all uploaded knowledge base files.
- **Result:** Files listed with colored tags and metadata.

The screenshot shows a web-based application titled "KnowledgeAdmin". On the left, there is a sidebar with icons for "Avatar", "User", "Model", "Knowledge background" (which is highlighted with a yellow box and has a red arrow pointing to it), and "User Action Logs". Below the sidebar are two small circular icons. The main area contains a search bar with "Search by ID" and "Filter by Info" fields, and a green "Select File" button. A table lists five PDF files: "Week1\_Introduction to Computer Networks.pdf", "Week7\_Network Layer(Data Plane).pdf", "Week1\_Introduction.pdf" (which is highlighted with a yellow background), "Week9\_Wireless Networks.pdf", and "Week5\_Transport Layer (Continued).pdf". Each file entry includes a "File Type" column (PDF) and an "Actions" column with a trash can icon. At the bottom, it says "Showing 1 to 5 of 12 results" and has page navigation buttons (1, 2, 3).

File Name	File Type	Actions
Week1_Introduction to Computer Networks.pdf	PDF	trash
Week7_Network Layer(Data Plane).pdf	PDF	trash
Week1_Introduction.pdf	PDF	trash
Week9_Wireless Networks.pdf	PDF	trash
Week5_Transport Layer (Continued).pdf	PDF	trash

### 3.6 Upload New File

- **Method:**
  - a. Click “Select File” , upload a valid document.
  - b. Submit the upload.
- **Expected Result:**
  - Validate file type and size.
  - Return 200 Created.
  - Newly uploaded file appears at top of list.
- **Result:**  Upload validated, file added to top of list.

Admin KnowledgeAdmin

Avatar User Model Knowledge background User Action Logs

个人收藏 下载 最近使用 应用程序 文稿 screenshot 桌面 共享 iCloud 位置 MacBook... Macintosh... OneDrive 标签 黄色

今天 Course Outline & Logistics.pdf (1.8 MB) PDF 文档 今天 下午 12:56 COMP9900Final.pptx (10.6 MB) Office...L 演示文稿 今天 下午 2:38 document\_to\_upload.pdf (10 KB) PDF 文档 今天 下午 3:19

昨天 新录音 28.m4a (32 KB) Apple...EG-4 音频 昨天 下午 3:37 ani.mp4 (1.9 MB) MPEG-4 影片 昨天 下午 4:40

过去 7 天 API 需求文档.md.docx (229 KB) Office 字处理文稿 2025 年 7 月 31 日 下午 3:59 API 需求文档.md (1).docx (232 KB) Office 字处理文稿 2025 年 7 月 31 日 下午 3:59 API 需求文档.md (2).docx (232 KB) Office 字处理文稿 2025 年 7 月 31 日 下午 4:00 Week 1 视频播放技术调研.pdf (878 KB) PDF 文档 2025 年 8 月 2 日 下午 5:57 create\_avatar.py (8 KB) Python 脚本 2025 年 8 月 2 日 下午 7:20 output\_25fps.mp4 (1.3 MB) MPEG-4 影片 2025 年 8 月 2 日 下午 7:31

Select File Actions 取消 打开 1 2 3

The screenshot shows a user interface for managing files and documents. On the left, there's a sidebar with navigation links like Avatar, User, Model, Knowledge background (which is highlighted in yellow), and User Action Logs. Below the sidebar is a search bar and a 'Select File' button. The main area displays a list of files categorized by date (Today, Yesterday, Past 7 Days). Each file entry includes its name, size, type, and last modified date. The 'Actions' column contains icons for each file, likely for deletion or other operations. A red arrow points from the 'Select File' button towards the file list.