



CS 492 Senior Design Project

T2521 User Manual

May 2026

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1 About Ubien

Ubien is a learning web app that turns a textbook PDF into a course. After a course is generated, you can open sections, read slides, answer questions, get tutor feedback, play teacher audio, and track your progress.

Use the running web app, normally:

`http://localhost:8080`

Do not open files from the `templates/` folder directly in the browser. Those files are server templates and do not behave like the real app unless the server is running.

2 Navigation

After signing in, the left sidebar contains the main pages:

- **Library:** create courses and open existing courses.
- **Wallet:** add funds, choose subscription credit, and view spending.
- **Settings:** update profile details and password.
- **Sign out:** log out of the account.

Some pages also show top-right links such as **Dashboard**, **Back to Library**, **Account**, or **Logout**.

3 Account

3.1 Create an Account

1. Open `/signup` or click **Create account** from the sign-in page.
2. Fill in **Username**.
3. Fill in **Email**. The email must be in a valid email format, such as `name@example.com`.
4. Fill in **Password**.
5. Fill in **Confirm password**. It must match the password.
6. Click **Create account**.

Accepted input:

- Username, email, password, and confirm password are all required.
- Email must be a valid email address.
- Password and confirm password must match.

If account creation succeeds, Ubien redirects you to the sign-in page.

3.2 Sign In

1. Open `/login`.
2. Enter your **Username**.
3. Enter your **Password**.
4. Click **Sign in**.

Both username and password are required. If the login succeeds, Ubien opens the Library page.

3.3 Sign Out

Click **Sign out** in the sidebar, or click **Logout** in the top bar.

4 Library

The Library page is where you create courses and manage your course list.

4.1 Create a Course

1. Open **Library**.
2. In **Course name**, enter the name you want shown in your library. Example: **Real Analysis I**.
3. Under **Book type**, choose one:
 - **Already IBL**: use this when the PDF already has inquiry-based structure.
 - **Non-IBL book**: use this when the PDF is a normal textbook and should be rewritten into IBL-style material first.
4. Under **Textbook file (PDF)**, choose a file.
5. Wait for the cost estimate to appear in the **Estimated creation cost** panel.
6. Click **Create course**.

Accepted file:

- Format: PDF only.
- Maximum size: 50 MB.

Accepted form input:

- Course name is required.
- A PDF file is required.
- Book type must be either **Already IBL** or **Non-IBL book**.

What happens after clicking **Create course**:

- The upload progress bar appears while the file uploads.
- The status text changes to **Upload complete. Creating course...** when the upload succeeds.
- The course appears under **Your courses**.
- While the course is being generated, a percentage progress bar is shown.
- When generation finishes, the course row shows an **Open** button.

If your wallet balance is too low, course creation fails and the page shows an error message.

4.2 Clear the Course Form

Click **Clear form** to reset the course name, selected PDF, upload status, and cost estimate.

4.3 Open a Course

1. Go to **Your courses**.
2. Find a generated course.
3. Click **Open**.

4.4 Retry a Failed Course

If course creation fails, the course row shows a failure message and a **Try again** button.

1. Find the failed course in **Your courses**.
2. Click **Try again**.
3. If the retry starts successfully, the course returns to a progress state.

If a course fails while you are on the Library page, a **Course creation failed** popup may appear. Click **Try again** to retry, or **Dismiss** to close the popup.

4.5 Delete Courses

Use the bulk selection controls to delete created or failed courses.

1. In **Your courses**, click **Select courses**.
2. Check the courses you want to delete.
3. Click the three-dot button next to the selected count.
4. Click **Delete selected courses**.
5. If the selection includes at least one successfully created course, a confirmation popup appears.
6. Click **Cancel** to keep the courses, or click **Delete** to continue.

Notes:

- The three-dot actions button is disabled until selection mode is on and at least one course is selected.
- If only failed courses are selected, deletion starts without the created course confirmation popup.
- Failed course rows also have their own **Delete** button. That button removes the failed course directly.

4.6 Reset Learning Progress

1. In **Your courses**, click **Select courses**.
2. Check the courses whose learning progress should be reset.
3. Click the three-dot button.
4. Click **Reset learning progress**.
5. A **Reset learning progress?** popup appears.
6. Click **Cancel** to stop, or **Reset** to continue.

This resets learning progress for the selected courses. It does not delete the course content.

5 Wallet

The Wallet page shows available balance, reserved in-flight amount, total spent, subscription credit, deposits, spend breakdown, and recent activity.

5.1 Deposit Funds

1. Open **Wallet**.
2. In **Amount (USD)**, enter a dollar amount.
3. Click **Deposit**.

Accepted amount:

- Must be positive.
- May use dollars only, such as 10.
- May use cents with up to two decimal places, such as 10.50.
- Negative values and more than two decimal places are not accepted.

After a successful deposit, the available balance, reserved in-flight amount, and total spent displays update.

5.2 Choose a Subscription Credit

1. Open **Wallet**.
2. In **Subscription credit**, choose one of the plan cards:
 - **Starter**: \$10 / month.
 - **Growth**: \$20 / month.
 - **Studio**: \$50 / month.
3. Click **Choose plan**.

The selected plan is marked **Active**. To remove the plan, click **Remove subscription**.

5.3 Read Wallet Activity

- **Available balance**: funds available for new work.
- **Reserved in-flight**: funds temporarily reserved for running AI or provider calls.
- **Total spent**: total settled spending.
- **Spend breakdown**: totals by charge category.
- **Recent activity**: latest deposits, charges, refunds, or adjustments.

6 Settings

6.1 Update Profile

1. Open **Settings**.
2. In **Profile**, edit **Username** and/or **Email**.
3. Enter your **Current password**.
4. Click **Save changes**.

Accepted input:

- Username is required.
- Email is required and must be a valid email address.
- Current password is required to authorize the change.

6.2 Change Password

1. Open **Settings**.
2. In **Security**, enter **Current Password**.
3. Enter **New Password**.
4. Enter **Confirm New Password**.
5. Click **Update password**.

Accepted input:

- All three password fields are required.
- New password and confirmation must match.

7 Course Overview

The Course Overview page opens after clicking **Open** on a course.

7.1 Continue Where You Left Off

If Ubien has a last-seen item for the course, a **Continue** banner appears. Click **Continue** to return to that section and item.

7.2 Open a Section

1. In **Course structure**, find the section you want.
2. Click the section title or click **Open section**.

The section cards show progress, done count, depth, and PDF page range when the page range is available.

7.3 Use Advanced Mode

The **Advanced mode** switch controls whether raw slide and question previews are shown inside section cards.

- Switch **On**: show slide/question previews.
- Switch **Off**: hide previews.

8 Section Study Page

The section page is where you read generated content, answer questions, and use the teacher panel.

8.1 Move Between Items

- Click **Prev** to go to the previous item.
- Click **Next** to go to the next item.
- The counter shows your current position, such as 2 / 10.

Slides are marked as read when you leave them. Questions are marked complete when the tutor determines the answer has been reached.

8.2 Undo Progress for an Item

If an item is marked read or completed, the page can show **Mark as not done**. Click it to reset that item back to unread.

8.3 Answer a Question

Question items show an **Answer this question** panel.

1. Type your attempt in the field labeled **Type your attempt...**
2. Click **Send**.
3. Read the tutor reply.
4. Continue the conversation until the question is completed.

Accepted input:

- Plain text typed into the answer field.
- Empty messages are ignored.

The tutor is hints-first. You can ask questions such as “is this correct?” or “give me a hint”.

9 Teacher Panel

Click **Teacher** on the section page to show or hide the teacher panel.

9.1 Teacher Layout

Use the **Layout** selector near the top of the section page:

- **Top**: teacher panel appears above the content.
- **Side**: teacher panel appears beside the content on wider screens.

On narrow screens, the layout can stack vertically even when **Side** is selected.

9.2 Teacher Controls

The teacher panel contains these controls:

- **Canvas**: **Normal**, **Large**, or **Full**.
- **Style**: **Neutral**, **Calm**, **Expressive**, **Happy**, **Happier**, or **Angry**.
- **Motion**: **Idle**, **Expressive**, or **Slightly moving**.
- **Teacher model**: **Male 1**, **Male 2**, **Female 1**, **Female 2**, or **Female 3**.
- **Background**: **Dark**, **Soft**, **Sky**, **Dusk**, or **Night**.

9.3 Play Teacher Audio

1. Choose the teacher options you want.
2. Click **Play teacher audio**.
3. If the button says **Loading teacher...**, wait for the Unity teacher to finish loading.
4. While audio is playing, use **Pause** to pause it.
5. Use **Resume** to continue paused audio.
6. Use **From start** to replay loaded audio from the beginning.

The teacher audio uses the current item text or the selected question narration part.

9.4 Question Narration Parts

On question items, the teacher panel can show extra playback controls.

- **Question prompt**: play the question itself.

- **Tutor reply N**: play a tutor reply from the chat history.
- **Back**: move to the previous narration part.
- **Next**: move to the next narration part.
- **Play all in order**: play the question and tutor replies in order.
- **Auto-play new replies**: automatically play new tutor replies after they are generated.

10 Repair a Section

Use section repair only when a generated section has incorrect slide/question splits.

1. Open the section.
2. Click **Problem?**.
3. The **Section repair** page opens.
4. Review the rendered markdown blocks.
5. Change an item type with the selector: **Slide**, **Question**, or **Ignore**.
6. Use **New slide**, **New question**, or **New ignore** to split an item after a rendered block.
7. Use boundary handles to move boundaries between items.
8. Use **Remove boundary** to merge neighboring items.
9. Use **Remove** to remove an item and merge its content into a neighbor.
10. Click **Save repair**.

The repair page validates coverage before saving. It will warn if blocks overlap, if there are uncovered blocks, or if an item covers empty content.

After saving, changed items may have their learner state reset because their type or covered range changed.

11 Developer Setup

This section is for developers or reviewers who need to run Ubien locally. Regular learners do not need these steps.

11.1 Required Keys

Before starting the app, set the required service keys in `docker-compose.yml`.

- `OPENAI_API_KEY`: required for course generation, tutor replies, and narration text preparation.
- `LLAMA_CLOUD_API_KEY`: required for PDF parsing.
- `AWS_ACCESS_KEY_ID`: required for Amazon Polly teacher audio.
- `AWS_SECRET_ACCESS_KEY`: required for Amazon Polly teacher audio.
- `AWS_REGION`: AWS region for Polly, for example `us-east-1`.
- `AWS_SESSION_TOKEN`: required only when using temporary AWS credentials.

If the AWS keys are missing, the app can still run, but teacher audio and lip-sync speech marks will not work.

11.2 Run Locally

1. From the project folder, start the Docker stack:

```
docker compose up --build
```

2. Open the app in a browser:

```
http://localhost:8080
```

3. To stop the stack:

```
docker compose down
```

11.3 Reset Local Data

To delete the local database volume and start fresh:

```
docker compose down -v  
docker compose up --build
```

12 Common Problems

12.1 The App Shows a Template File

If the browser URL starts with `file://` and points into `templates/`, you are viewing the template source, not the running app. Start the app and open `http://localhost:8080`.

12.2 The PDF Estimate Fails

Check that the selected file is a PDF and is no larger than 50 MB. If the file is valid but still fails, the server may not be able to read its page count.

12.3 Course Creation Fails

Check your wallet balance first. If a failure popup appears, click **Try again** to retry or **Dismiss** to close the popup.

12.4 Teacher Audio Does Not Start

If the button says **Loading teacher...**, wait until the teacher finishes loading. If audio still does not work, the local app may be missing the speech service credentials.

12.5 Side Layout Does Not Move Beside the Content

The side layout needs enough horizontal space. On smaller screens it stacks vertically.