HCI - Midterm Design Activity

Neha Kantheti
CS22B1081

E-meeting Software

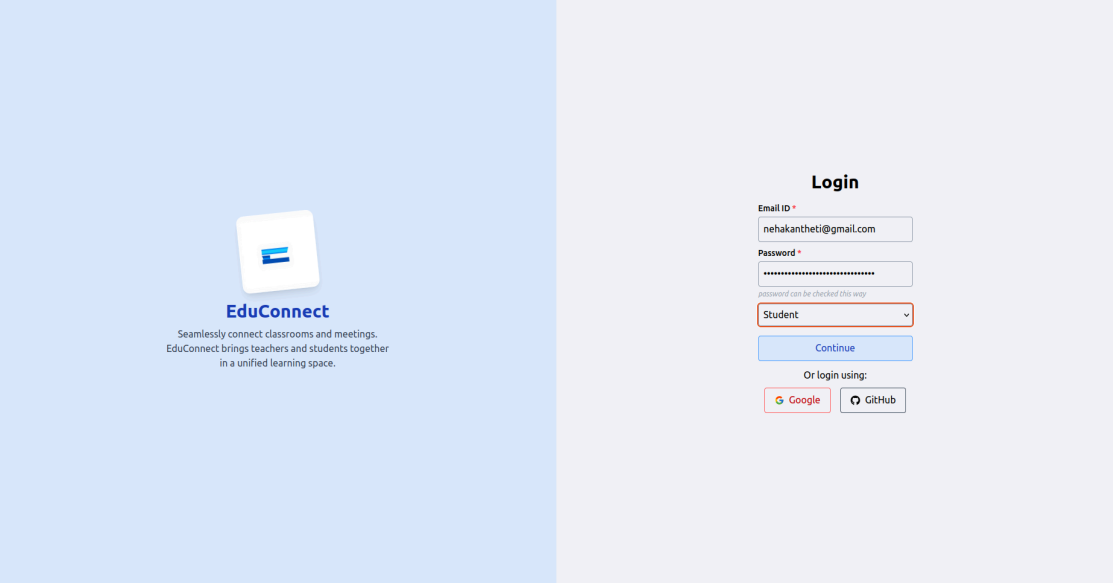
April 06th 2025

Detailed Application Domain

E meeting software like Gmeet with specific focus on features that suit the educational environment to conduct classes, workshops etc.

Set up is like a mix of Google Classroom and Google Meet, where upon logging in, the user has a list of classes available to join a meeting. A class always has the same meeting ID to join. UI is like Google Classroom after logging in, with Skeuomorphic icons to join a meet for a student. If the user is a teacher, then there is an option to create or join the meet. Flow of the application follows general flow without disturbing the **Mental Model** of users built over time.

Login Page :



The **main page** of EduConnect is designed using a **minimalistic design approach**, ensuring the interface is clean, clutter-free, and easy to navigate.

The **color palette**—a blend of soft blues, greys, and whites—was carefully selected to create a calm, focused environment that doesn't strain or hurt the **user's visual experience**.
High-contrast elements (like buttons) are used sparingly to draw attention to primary actions without overwhelming the interface.

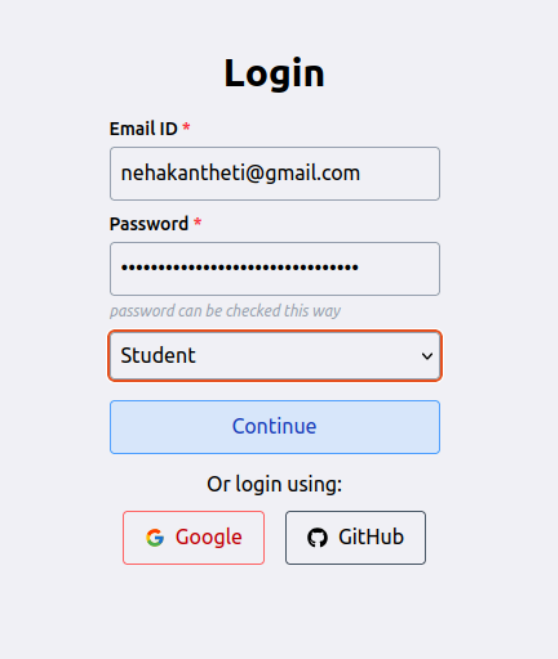
Principles covered :

Minimalist Design : Simple layout, no visual noise with more white space.

Visual Comfort (Color Psychology): Blue representing trust. Not too bright color palette - reduces cognitive and visual fatigue.

Enough Space to promote Brand : Highlighting the brand , reinforcing familiarity without overwhelming the user.

Error Prevention : Asterisk marks on the input fields reinforces that these are necessary to fill.



Password Masking: Not the usual way where the user has to click the eye icon to check the password. Users can always see it below the password field in a smaller and lesser highlighted font. Provides continuous feedback of password. Users can easily correct if typing goes wrong somewhere.

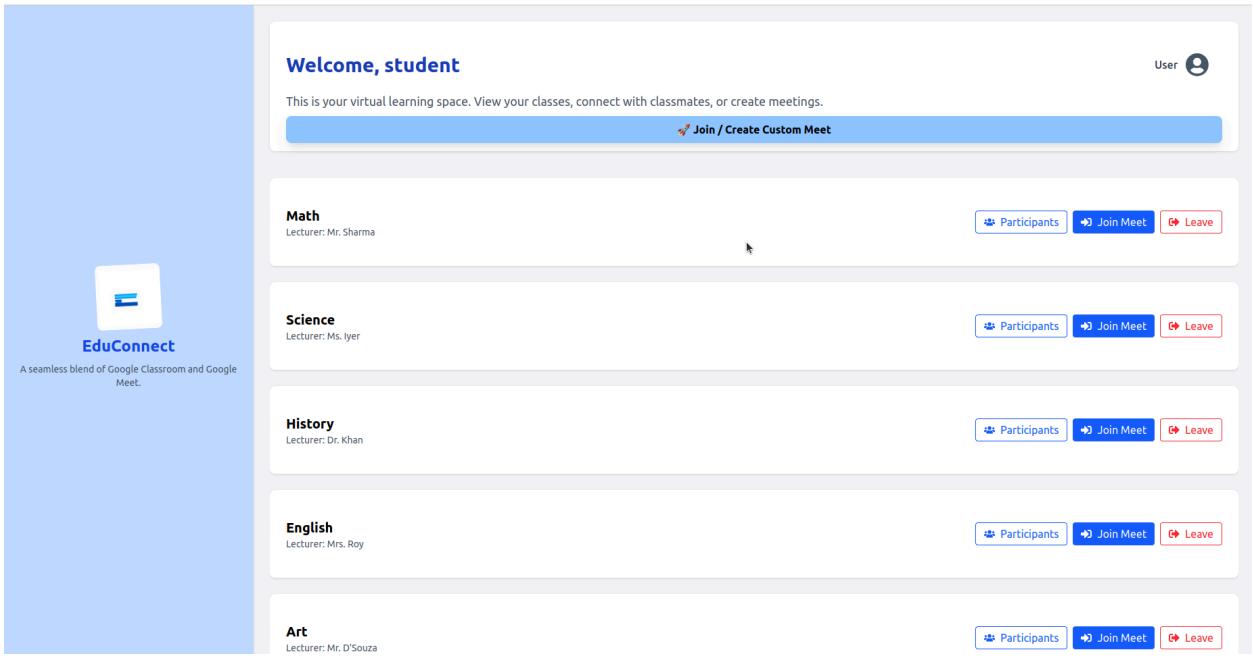
Flexibility: The login interface supports multiple authentication methods, including traditional email/password and third-party sign-in options such as Google and GitHub. This design choice reflects the HCI principle of **Flexibility**, accommodating users' varying preferences and improving accessibility by offering alternative pathways to access the system.

EduConnect Logo : The logo is designed to subtly convey both the letters "**E**" and "**C**" within a single form, applying the **Gestalt principles of perception**—particularly figure-ground and closure. When viewed **holistically**, the visual cues prompt the viewer to recognize both characters simultaneously, effectively reinforcing the identity of **EduConnect** in a minimal and intuitive manner.

Jakob's Law: The layout of buttons across the application adheres to widely accepted UI conventions, such as placing action buttons consistently and intuitively below the input form. This follows **Jakob's Law**, which states that *users spend most of their time on other sites*, so interfaces should align with familiar patterns to reduce the learning curve.

Generalizability: Once users recognize that a rounded, colored box with text is interactive, they can apply that knowledge universally across all buttons (e.g., *Join*, *Leave*, *Continue*, *Create Class*), reducing cognitive load and enhancing efficiency. This reflects the **Generalisability** principle in HCI, enabling users to transfer prior knowledge to new contexts within the system.

Dashboard :



Next, the Dashboard of this website is designed with the same color palette and minimalist design as before.

Principles covered :

1. Nielsen's Heuristics:

Consistency and Standards:

All class cards follow the same layout; buttons look and behave consistently.

Aesthetic and Minimalist Design:

Clean layout with soft blue/white palette avoids unnecessary clutter.

Recognition Rather Than Recall:

Use of intuitive icons (👥, ➡️, 🚪) next to buttons for faster understanding.

2. Shneiderman's Eight Golden Rules:

Strive for Consistency:

Uniform button shapes, colors, and font weights across the dashboard.

Offer Informative Feedback:

Buttons like "Join" and "Leave" include confirmation dialogs (ensures safety).

Reduce Short term memory load : Not displaying more than 5-6 options per scroll. Emphasizes 7 +-2 rule of short term memory.

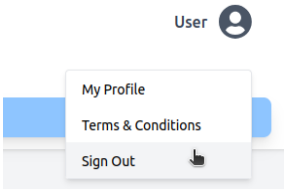
3. Laws of UX / Cognitive Principles:

Fitts's Law:

The large "Join / Create Custom Meet" button is easily targetable and placed prominently.

Jakob's Law:

Users expect button placements and layouts similar to previously existing platforms.



Similar flow and button placement is followed here.

Hick's Law:

Each card only has 3 action choices, reducing cognitive overload.

Gestalt Principles – Similarity & Proximity:

Buttons are grouped and styled similarly to show they are part of the same interaction group.

Generalisability:

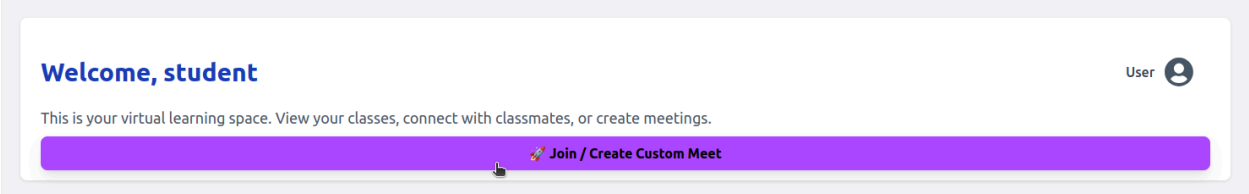
Once users understand how one button works, they can use the rest confidently due to consistent appearance. Clicking on the logo takes user back to the home/ login page.

Predictability : Clicking on the logo takes the user back to the login page. This is an expected behaviour which is followed in every website.

Affordance:

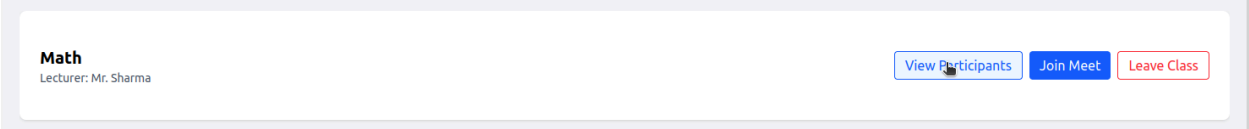
Buttons are clearly clickable due to shape, border, and hover effects.

F-rule of website design :



According to the F - rule of website design, the top part has most of the user's attention, hence a feature to create a custom meet (which here is emphasizing that this is not only for educational use, but also for general purpose meets) is put.

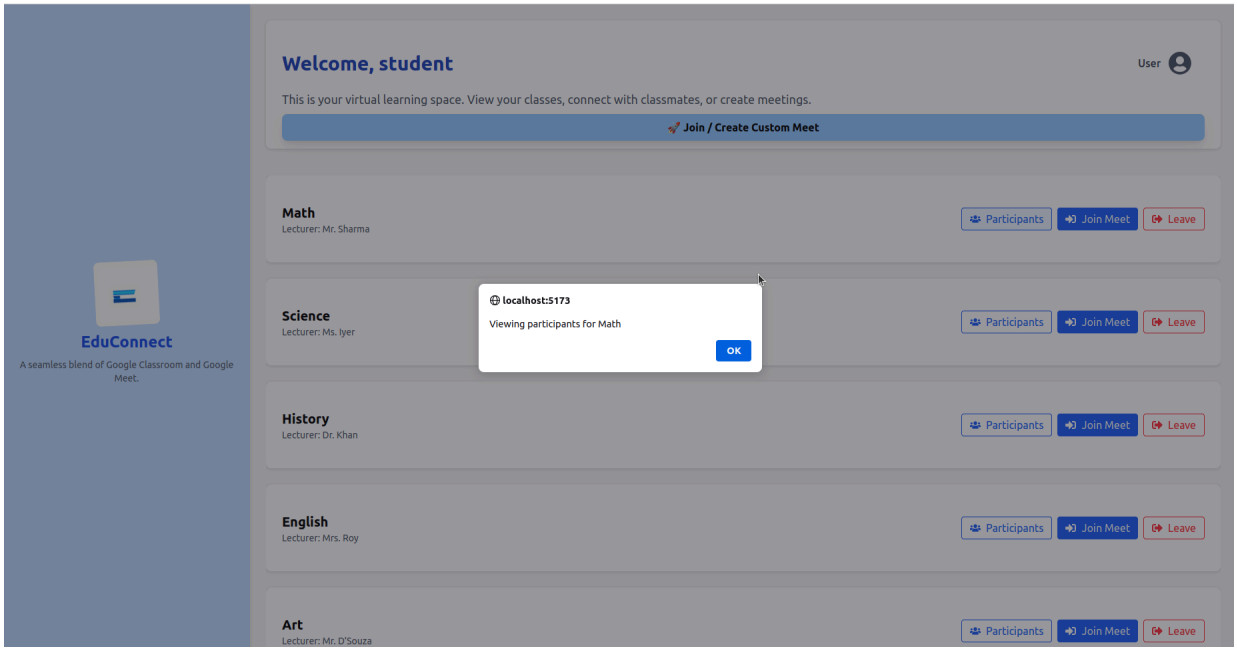
Serial Position Effect :



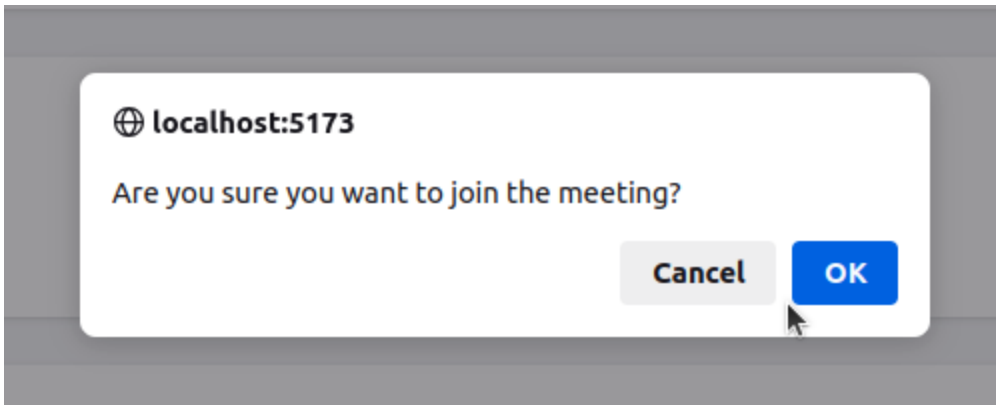
As we know, This effect suggests that **users remember and notice items at the beginning and end of a list** more than those in the middle — known as the **primacy** and **recency** effects.

Informative Feedback of what is happening :

User is provided with a dialog box or pop up informing the current state to the user.



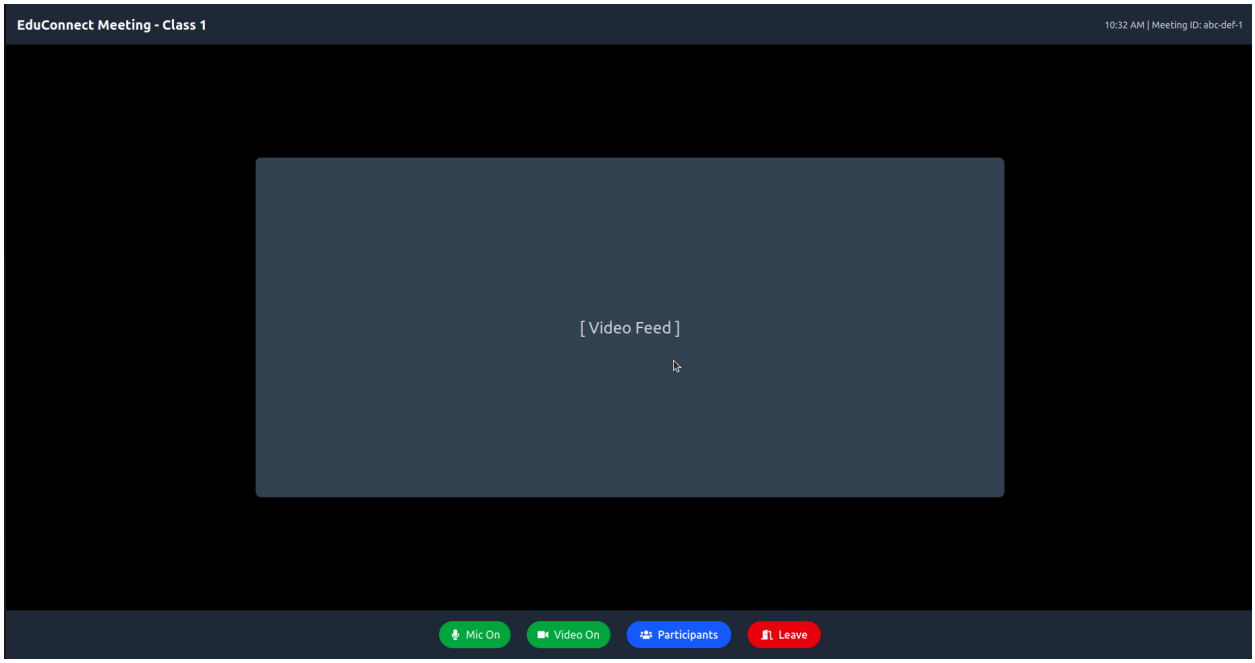
Confirmation from user :



Functions like joining a new meeting and leaving a classroom require additional confirmation from the user.

Meeting Room:

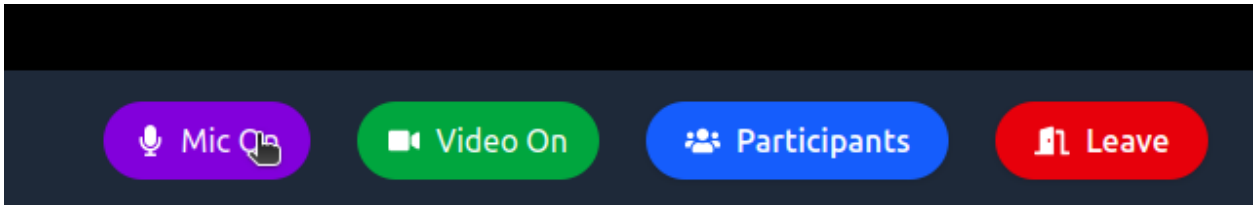
Background and Color palette :



The background is intentionally designed in black to minimize visual distractions and reduce cognitive load, thereby allowing participants' video feeds to remain the primary focal point during interactions.

Also the top right part shows mandatory information that is displayed in meetings - Following existing standards.

Button Design and familiarity with Skeuomorphism:



A text feedback of which state the user is in is displayed along with icons that represent real world examples(Skeuomorphism). Buttons clearly change color; the cursor is changed to a pointer if it is hovering over a button. This is applied all over the website improving its usability.

Shortcuts :

Shortcut features are implemented all over the website.

`m` for turning the mic on and off.

`c` for turning the cam on and off.

`p` to open and close the participants panel.

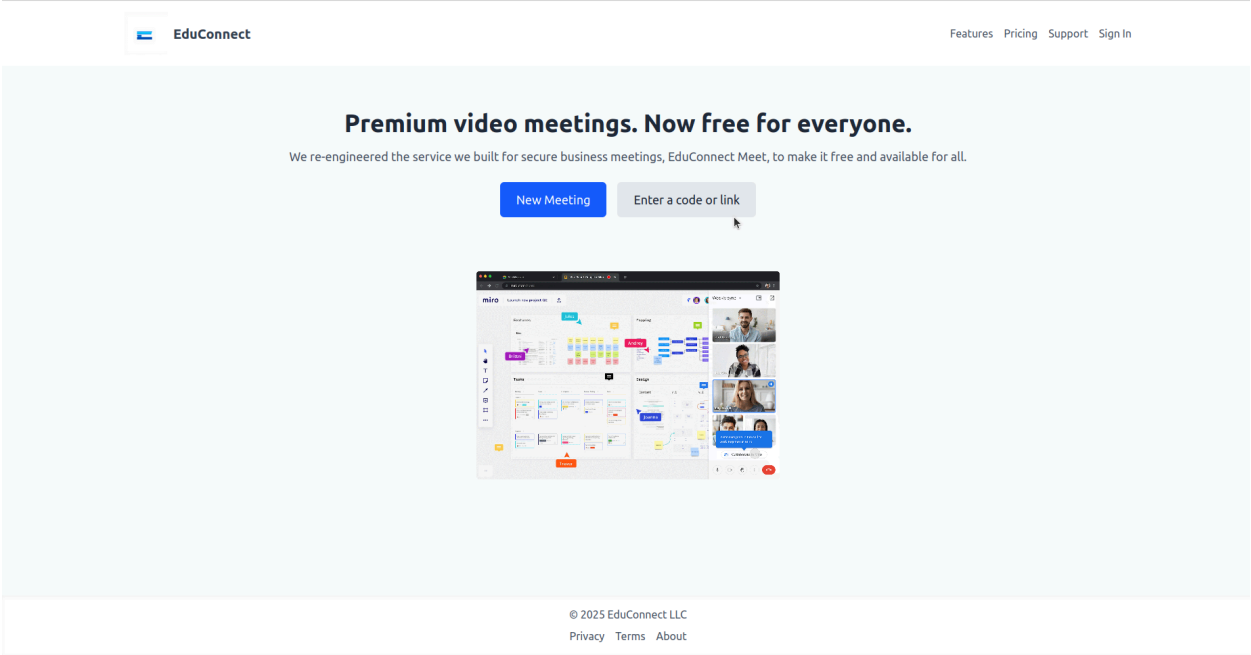
Famous shortcuts that are built over time as the Mental Model are also implemented:

Ctrl + Z for undo, **Ctrl + Y** for redo - for form inputs.

Tab and **Shift + tab** for form input and button selections.

Confirmation to leave : Again, the user is supposed to confirm before leaving the meeting. **Confirmation prompts** are implemented as a safeguard to ensure users are making deliberate choices. Actions like *leaving a class* or *joining a meeting* may have implications such as missing content, disrupting the session, or triggering notifications.

Landing page for Custom Meeting:



Follows existing designs: Without disrupting the user's mental model, the user is expected to follow the same meeting ID format to join an existing meet. Aesthetic & Minimalist Design

Inverted Pyramid Structure : The **Inverted Pyramid Structure** in web page design is a content strategy borrowed from journalism, where the **most important information appears at the top**, followed by supporting details, and then the least critical information like Copyright information

Fitt's Law : Clear button - input difference revealed alongside following Distance - size metric of Fitts Law.

Recognition over Recall : Screenshot shows interface instead of explaining it.

Jacob's Law: Familiar layout and design choices like Google/Zoom.

Consistency & Standards (Nielsen) : Buttons, branding, and links follow web UI standards.

Visual Hierarchy : Bold headline, lighter subtext, colored CTA buttons — guides attention top to bottom.

Learning Curve : With all the familiar designs used in the software, the learning curve is going to be steeper, denoting the user learns and gets familiar with the website quickly.

Power Law of Practice and Zipf's law : User's work gets done with minimal number of clicks and is easy to get used to.

Tesler's Law : Some level of difficulty / options cannot be reduced from the website even after following law of vital few; Information like Meeting ID, and Login Info is mandatorily required for an e-meeting software. This complexity cannot be removed.