



The INCAI Project

INCAI Wireframes

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Merseyside Expanding Horizons





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Contributing Partners



**Merseyside
Expanding Horizons**

MERSEYSIDE EXPANDING HORIZONS from Liverpool, UK.



AIJU ASOCIACION DE INVESTIGACION DE LA INDUSTRIA DEL JUGUETE CONEXAS Y AFINES from Ebi, Spain



SYNERGASIA ENEGON POLITON from Athens, Greece



I AND F EDUCATION AND DEVELOPMENT LIMITED from Dublin, Ireland.



KAUNO TECHNOLOGIJOS UNIVERSITETAS from Kaunas, Lithuania.



CENTRO INTERNAZIONALE PER LA PROMOZIONE DELL'EDUCAZIONE E LO SVILUPPO ASSOCIAZIONE from Palermo, Italy



ORANGE HILL Sp. z o.o. from Kraków, Poland.





Introduction

As part of the INCAI project, we considered using AI to make learning more inclusive. We identified eight areas for support that would benefit learners and developed a basic wireframe for each. The eight areas are:

- o **Personalised Learning:** AI can tailor educational content and activities to meet student's needs and learning styles. AI algorithms can adapt and provide personalised recommendations, resources, and feedback by analysing student performance, preferences, and progress data. This approach helps students with different learning abilities and backgrounds to receive targeted support and engage in meaningful learning experiences.
- o **Language Support:** Language barriers can significantly hinder inclusive education. AI-powered translation and natural language processing technologies can assist students who are non-native speakers or have language-related challenges. These tools can translate educational materials, provide real-time language support, and facilitate communication between students and teachers of different languages.
- o **Accessibility Tools:** AI can improve accessibility for students with disabilities. For instance, AI-based image and speech recognition technologies can convert text into speech or provide visual descriptions, making educational materials more accessible to visually impaired students. AI-powered captioning and transcription tools can assist students with hearing impairments. Additionally, AI can integrate adaptive technologies and assistive devices to provide personalised support and accommodations to students with diverse needs.
- o **Early Intervention and Special Education:** AI can aid in identifying students' learning difficulties or developmental delays early. By analysing patterns and behaviours in students' performance data, AI algorithms can provide timely interventions and suggest appropriate interventions or support resources. In special education, AI can assist teachers in designing personalised education plans, offering targeted interventions, and tracking progress for students with disabilities.
- o **Removing Bias and Equity Issues:** AI algorithms must be designed and trained carefully to avoid bias and discrimination. Efforts should be made to ensure that AI



systems are fair, transparent, and accountable. By addressing bias and equity issues in AI algorithms and data, educational institutions can create a more inclusive learning environment that provides equal opportunities for all students.

- o **Access to Quality Education:** AI can extend educational opportunities to underrepresented, marginalised or disadvantaged communities and communities with limited access to quality education. Online platforms and AI-enabled educational resources can reach remote areas, provide education in areas with teacher shortages, and offer courses or materials in different languages or cultural contexts, promoting inclusivity and diversity.
- o **Social and Emotional Support:** AI-based chatbots and virtual assistants can offer social and emotional support to students. These tools can provide a safe and non-judgmental space for students to express their feelings, seek guidance, and access mental health resources. AI can help identify students needing additional support and connect them with appropriate resources or interventions.
- o **Basics of AI:** we also discovered during our consultation that there is still a lack of knowledge and understanding of what AI is, what it can and can't do etc. There still exists an element of fear and scepticism due to this lack of knowledge. Therefore, we thought that an AI tool to teach the basics of AI would help to make AI more accessible and inclusive in education.

It's important to note that while AI can contribute to inclusivity in education, it should always be seen as a tool that complements human teachers and administrators.

Collaboration between AI systems and educators is essential to ensure that the technology is used effectively, ethically, and in alignment with the diverse needs of students.





INClusive Artificial Intelligence

Wireframe for an AI tool designed to teach the basics of AI.

This wireframe's main sections include the header, lesson content and explanations, interactive examples, and hands-on activities.

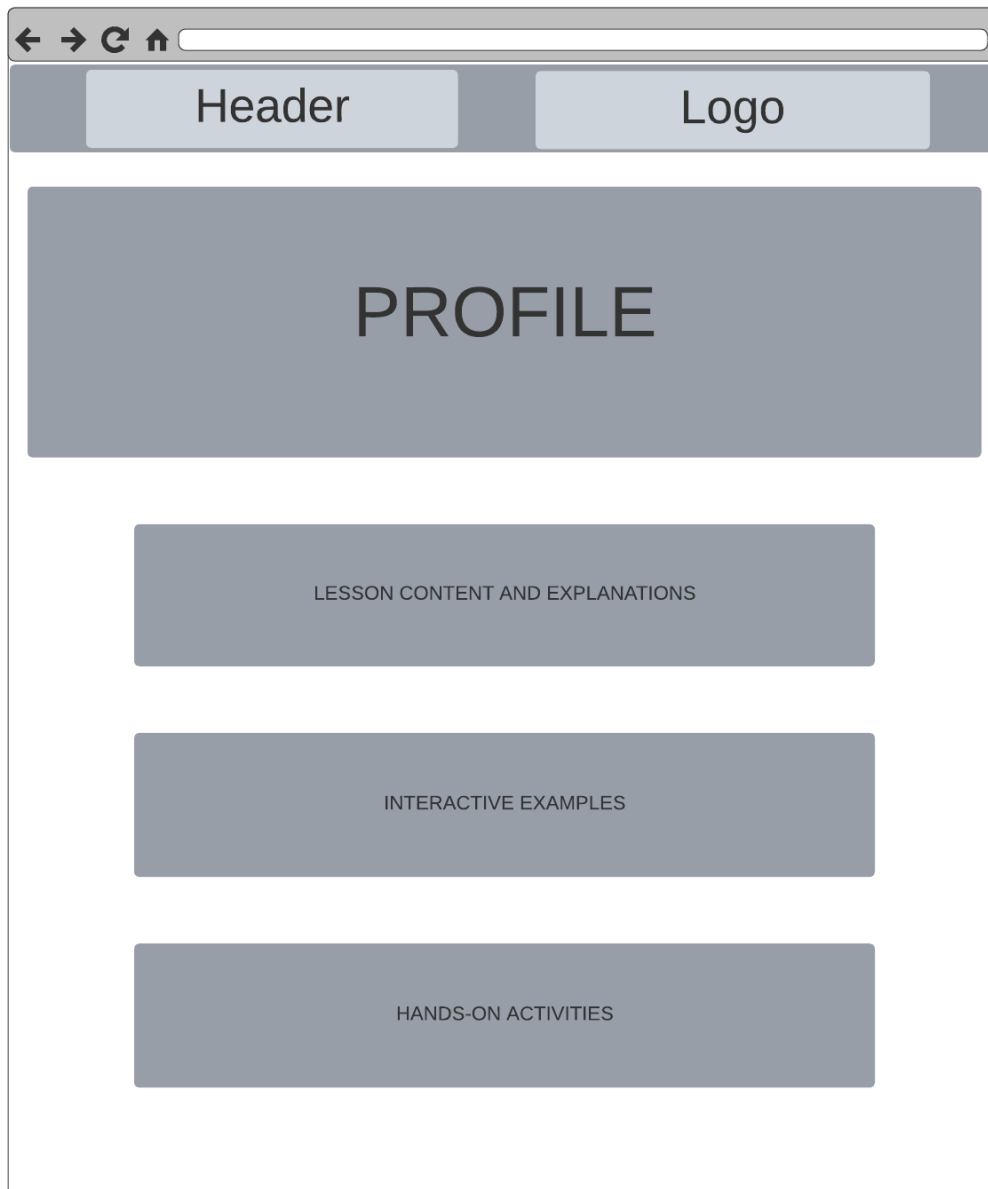
- o **The header section** typically contains the platform's logo on the left and a user profile icon or name on the right. It provides a visual identity and allows users to access their profile or account settings.
- o **The lesson content and explanations section** teaches AI's fundamental concepts and principles. It can include written explanations, diagrams, and visual aids to help learners understand key topics such as machine learning, neural networks, algorithms, and data processing.
- o **The interactive examples section** provides practical demonstrations and interactive simulations to illustrate how AI works. It can include interactive models, visualisations, or coding environments that allow learners to experiment with AI concepts and observe their effects in real-time.
- o **The hands-on activities section** offers practical exercises and projects that engage learners in applying their knowledge of AI. It can include coding challenges, problem-solving scenarios, or mini-projects encouraging learners to implement AI algorithms, analyse data, and observe the outcomes.

It is important to remember that these wireframes provide basic structures. You can further expand and customise them based on your specific requirements per wireframe. Consider adding features like quizzes or assessments to test learners' understanding, a progress tracking system to monitor their advancement or a resources section with additional reading materials or external references.

Feel free to adapt and enhance the wireframes to suit your AI teaching tool's specific goals and design preferences.



Wireframe for an AI tool designed to teach the basics of AI.





INClusive Artificial Intelligence

Wireframe for an AI Language support Tool for learners.

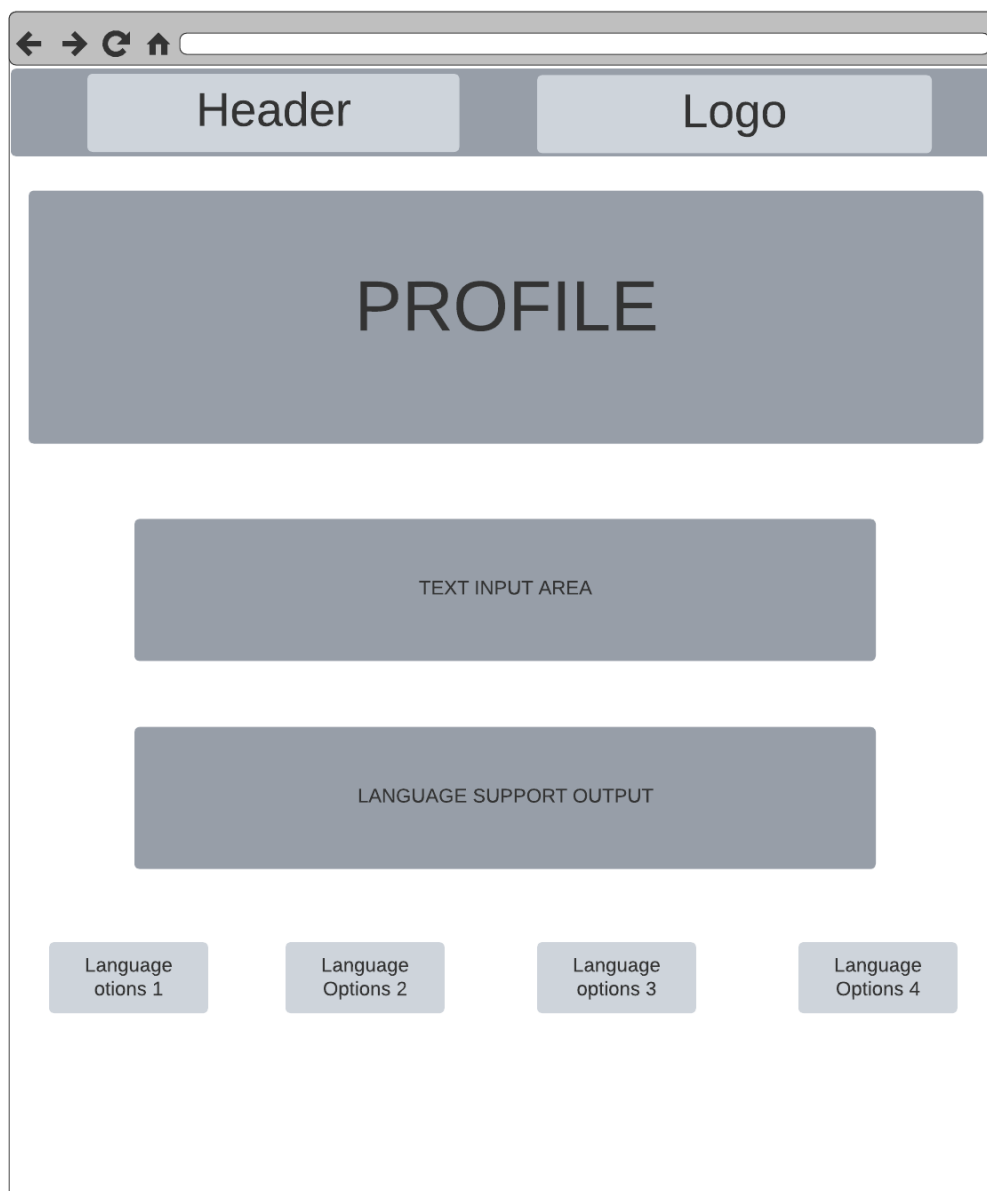
This wireframe's main sections include the header, text input area, language support output, and language options.

- o The header section typically contains the platform's logo on the left and a user profile icon or name on the right. It provides a visual identity and allows users to access their profile or account settings.
- o In the text input area, learners can type or paste the text they want to receive language support. Learners can enter their text in this area and receive assistance and suggestions.
- o The language support output section displays the AI-powered language support output based on the learner's input. This section can include grammar suggestions, vocabulary explanations, spelling corrections, sentence structure improvements, or contextual recommendations. The AI analyses the learner's text and provides feedback or suggestions to improve their language skills.
- o The language options section allows learners to select their desired language or language pair for the language support tool. It can enable learners to choose the source and target languages they want to work with.





Wireframe for an AI Language support Tool for learners.





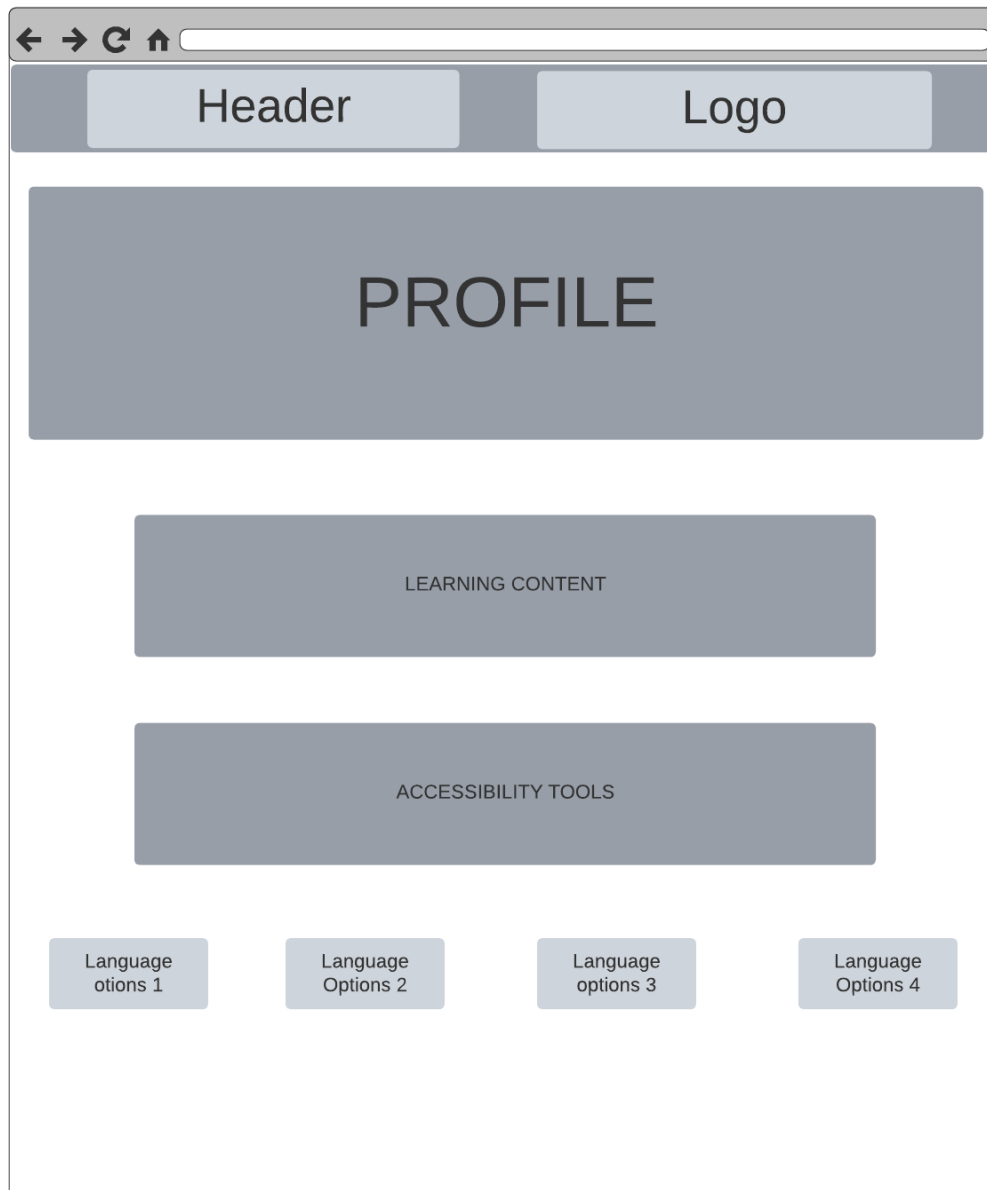
INClusive Artificial Intelligence

Wireframe for an AI Accessibility Tool for learners.

This wireframe's main sections include the header, learning content, accessibility tools, and language options.

- o **The header section** typically contains the platform's logo on the left and a user profile icon or name on the right. It provides a visual identity and allows users to access their profile or account settings.
- o **The learning content section** is where educational materials and resources are displayed. This section can include various elements such as lessons, courses, reading materials, or interactive modules.
- o **The accessibility tools section** provides features and options to enhance accessibility for learners with different needs. This section can include features such as:
 - o **Text-to-Speech:** A button or option that converts the text content into speech, enabling learners with visual impairments to listen to the educational materials.
 - o **Closed Captioning:** A toggle or option to display closed captions for audio or video content, supporting learners with hearing impairments.
 - o **Text Enlargement:** A button or option to increase the font size of the text content, assisting learners with visual difficulties.
 - o **High Contrast Mode:** A toggle or option to switch to a high contrast colour scheme, aiding learners with visual or colour vision deficiencies.
 - o **Dyslexia-friendly Font:** A toggle or option to change the existing font to a dyslexia-friendly font.
- o **The language options section** allows learners to select their desired language for the learning content and accessibility tools. It can provide options for learners to choose the language in which they want to consume the materials and access the accessibility features.

Wireframe for an AI Accessibility Tool for learners:



INclusive Artificial Intelligence



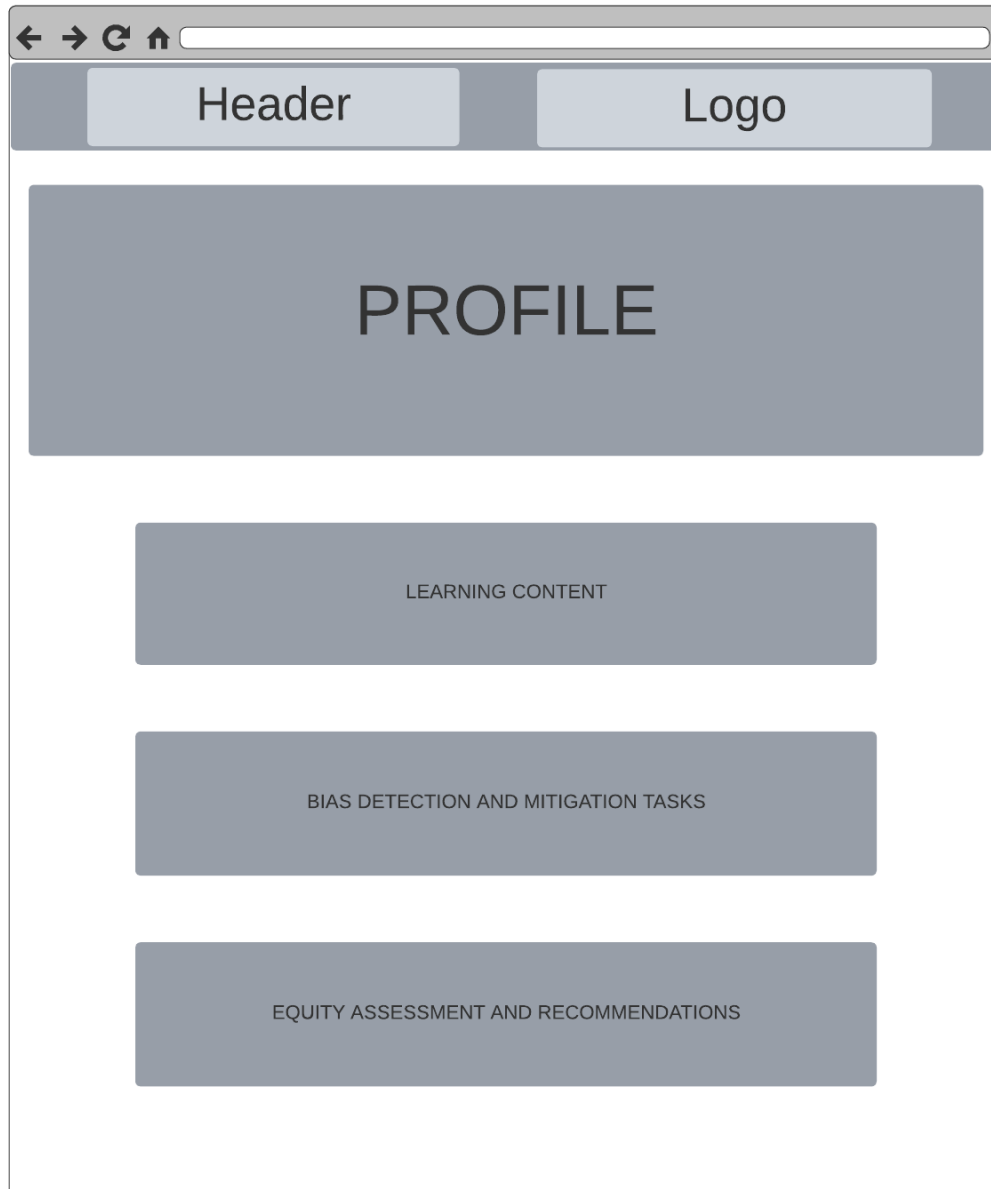
Wireframe for an AI tool focused on removing bias and addressing equality issues in a learning environment.

This wireframe's main sections include the header, learning content, bias detection and mitigation tools, and equity assessment and recommendations.

- o **The header section** typically contains the platform's logo on the left and a user profile icon or name on the right. It provides a visual identity and allows users to access their profile or account settings.
- o **The learning content section** is where educational materials and resources are displayed. This section can include various elements such as lessons, courses, reading materials, or interactive modules.
- o **The bias detection and mitigation tools section** focuses on identifying and addressing biases within the learning environment. It can include features such as
 - o **Text Analysis:** AI algorithms analyse the learning content for potential language, representation, or examples biases. This section can highlight problematic areas or suggest alternative content to promote inclusivity and avoid stereotypes.
 - o **Feedback Mechanism:** Users can provide feedback on any bias-related issues observed in the learning materials. This feedback allows the system to collect input from the community and continuously improve its bias detection capabilities.
- o **The equality assessment and recommendations section assesses** the equality of the learning environment and provides recommendations for improvement. It can include features such as
 - o **Data Analysis:** The AI analyses user data and performance metrics to identify potential disparities or inequities in learning outcomes. This section can provide insights into areas where equitable access or support may be lacking.
 - o **Recommendations:** Based on the analysis, the system offers recommendations to address equity issues, such as providing additional resources, adjusting teaching approaches, or implementing interventions to support underrepresented groups.



Wireframe for an AI tool focused on removing bias and addressing equality issues in a learning environment.





INClusive Artificial Intelligence

Wireframe for an AI tool focused on providing access to quality education for underrepresented, marginalised, or disadvantaged communities.

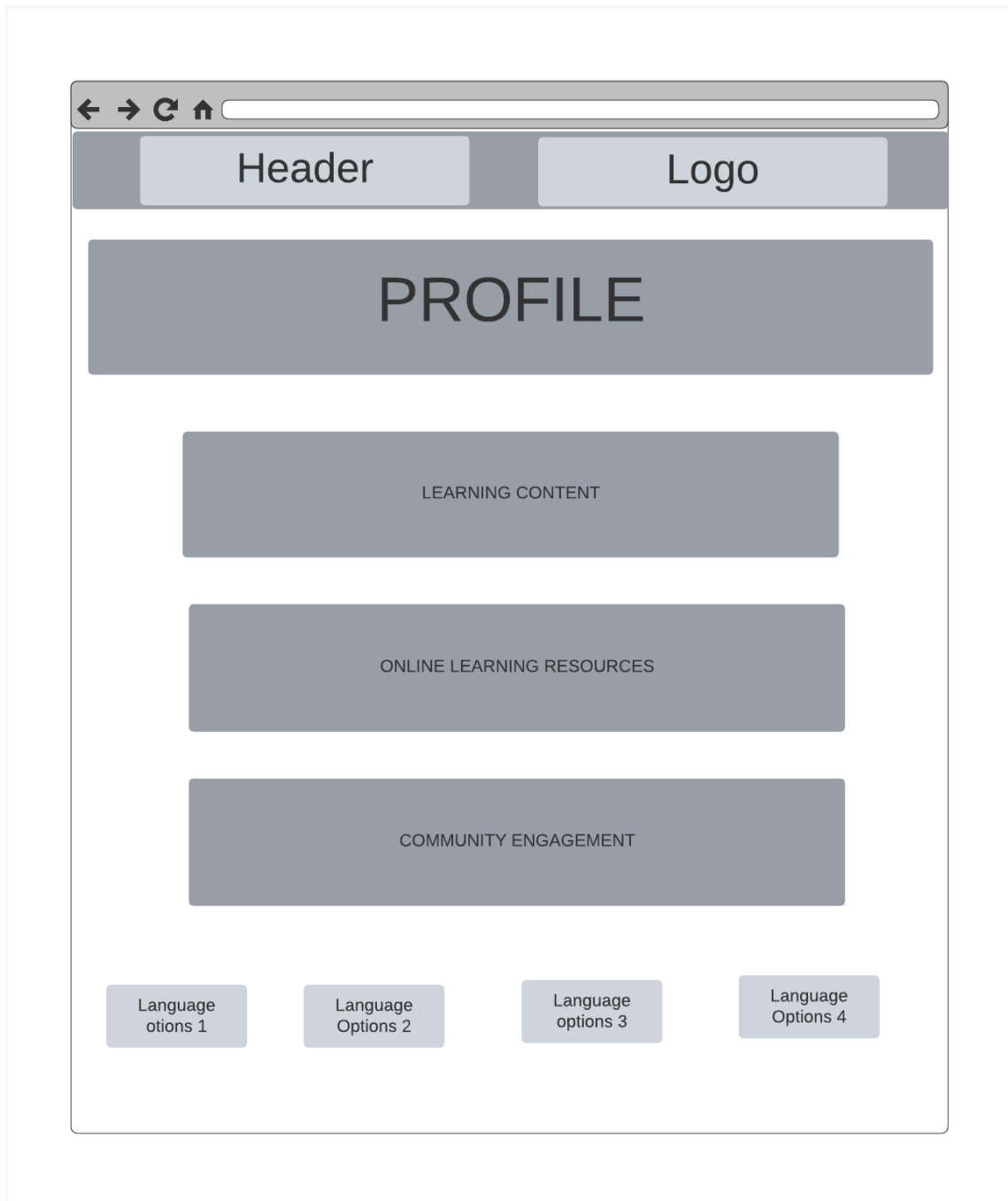
This wireframe's main sections include the header, learning content, online learning resources, multilingual support, and community engagement.

- o **The header section** typically contains the platform's logo on the left and a user profile icon or name on the right. It provides a visual identity and allows users to access their profile or account settings.
- o **The learning content section** is where educational materials and resources are displayed. This section can include various elements such as lessons, courses, reading materials, or interactive modules.
- o **The online learning resources section** focuses on providing additional resources and materials to supplement the learning content. It can include features such as
 - o **Resource Library:** A collection of educational resources such as e-books, videos, articles, or interactive tools that cater to the specific needs and interests of underserved communities.
 - o **Tutorials and Guides:** Step-by-step tutorials or guides assist learners in navigating the online learning environment and making the most of the available resources.
- o **The multilingual support section** aims to overcome language barriers and provide access to education in different languages. It can include features such as
 - o **Translation Tools:** AI-powered translation capabilities enable learners to access educational content in their native language or language of preference.
 - o **Language Learning Support:** Resources or tools that assist learners in acquiring proficiency in the language of instruction, helping them bridge language gaps and participate effectively in the learning process.





Wireframe for an AI tool focused on providing access to quality education for underrepresented, marginalised or disadvantaged communities:





INclusive Artificial Intelligence

Wireframe for an AI tool focused on removing bias and addressing equality issues in a learning environment.

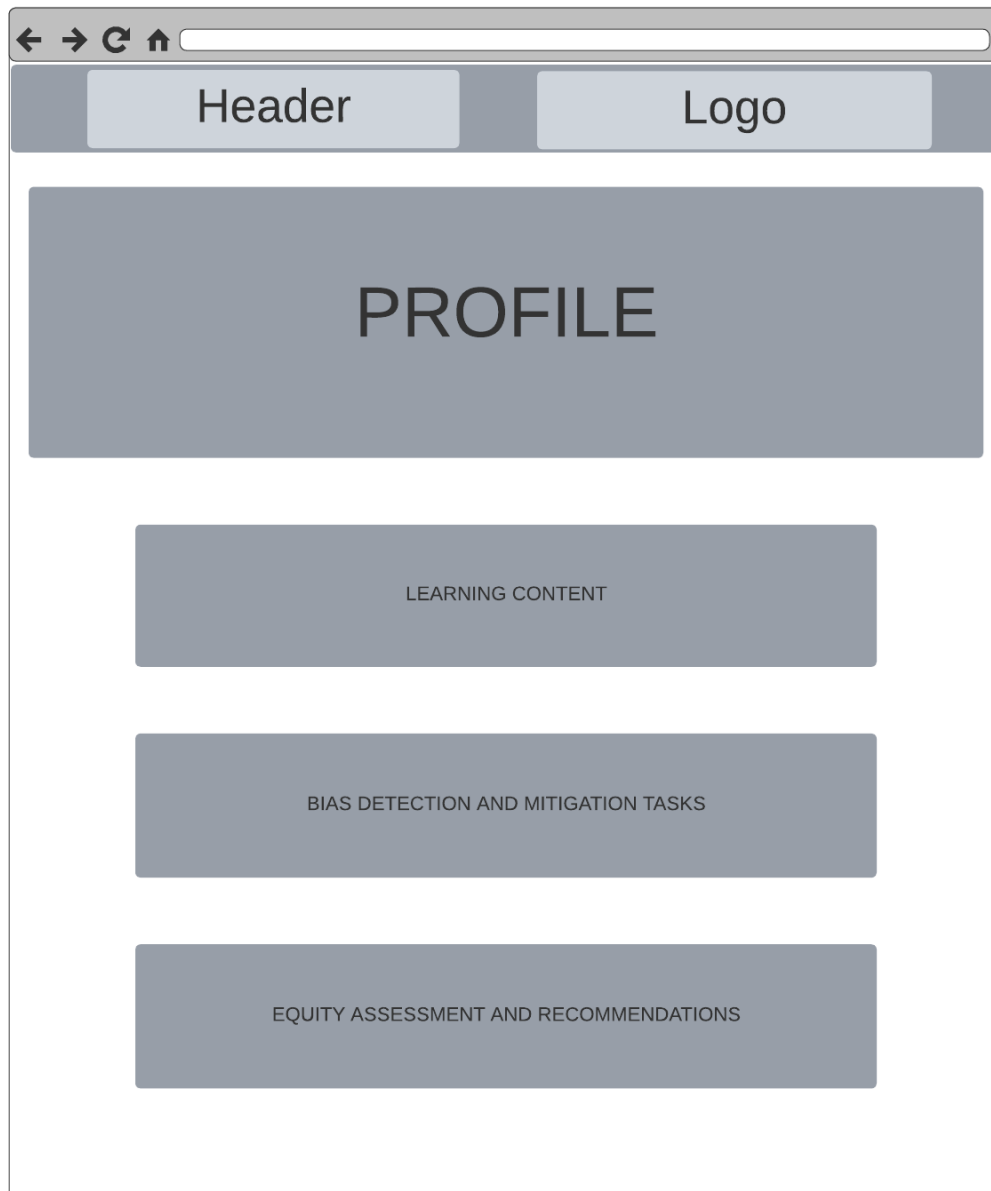
This wireframe's main sections include the header, learning content, bias detection and mitigation tools, and equity assessment and recommendations.

- o **The header section** typically contains the platform's logo on the left and a user profile icon or name on the right. It provides a visual identity and allows users to access their profile or account settings.
- o **The learning content section** is where educational materials and resources are displayed. This section can include various elements such as lessons, courses, reading materials, or interactive modules.
- o **The bias detection and mitigation tools section** focuses on identifying and addressing biases within the learning environment. It can include features such as
 - o **Text Analysis:** AI algorithms analyse the learning content for potential language, representation, or examples biases. This section can highlight problematic areas or suggest alternative content to promote inclusivity and avoid stereotypes.
 - o **Feedback Mechanism:** Users can provide feedback on any bias-related issues observed in the learning materials. This feedback allows the system to collect input from the community and continuously improve its bias detection capabilities.
- o **The equality assessment and recommendations section assesses** the equality of the learning environment and provides recommendations for improvement. It can include features such as
 - o **Data Analysis:** The AI analyses user data and performance metrics to identify potential disparities or inequities in learning outcomes. This section can provide insights into areas where equitable access or support may be lacking.
 - o **Recommendations:** Based on the analysis, the system offers recommendations to address equity issues, such as providing additional resources, adjusting teaching approaches, or implementing interventions to support underrepresented groups.





Wireframe for an AI tool focused on removing bias and addressing equality issues in a learning environment.





INclusive Artificial Intelligence

Wireframe for an AI Early Intervention and Special Education tool:

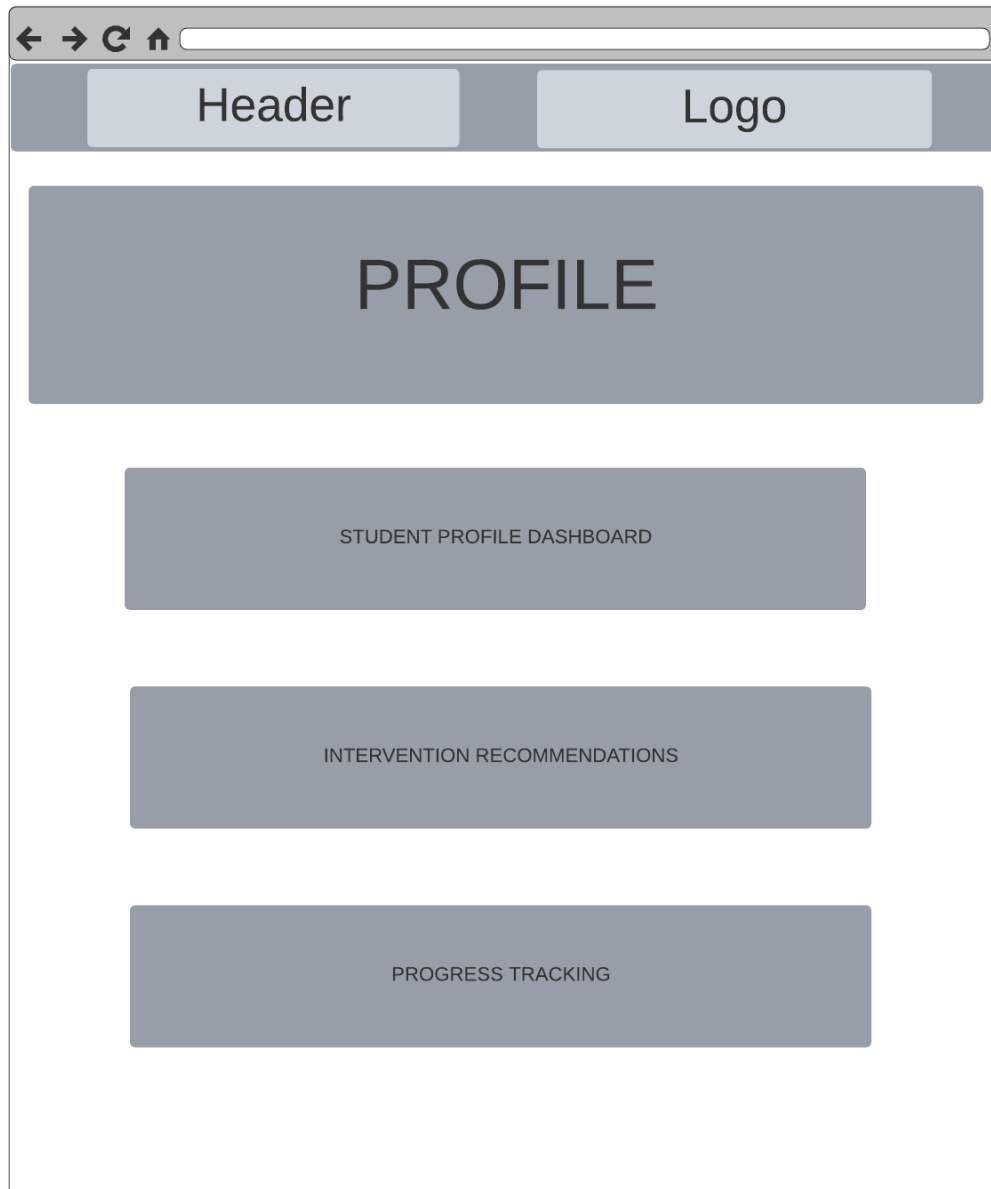
This wireframe's main sections include the header, student profile dashboard, intervention recommendations, and progress tracking.

- o **The header section** typically contains the platform's logo on the left and a user profile icon or name on the right. It provides a visual identity and allows users to access their profile or account settings.
- o **The student profile dashboard section** displays a comprehensive overview of the student's profile and relevant information. This section can include details such as the student's name, photo, grade level, special needs or learning difficulties, and any individualised education plans (IEPs) or intervention goals. It is a central hub for managing and tracking student progress.
- o **The intervention recommendations section** provides personalised recommendations for interventions or support strategies for the student. This section can suggest specific interventions, resources, or teaching techniques based on the AI's analysis of the student's performance data, individualised needs, and specific goals. It can assist teachers or educators in designing appropriate interventions and strategies for the student's development.
- o **The progress tracking** section allows educators or parents to monitor and track the student's progress over time. It can include visual representations, charts, or graphs that illustrate the student's achievements, areas of improvement, and milestones. This section helps assess the effectiveness of interventions and make data-driven decisions for ongoing support and intervention adjustments.





Wireframe for an AI Early Intervention and Special Education tool:





INClusive Artificial Intelligence

Wireframe for an AI-based Personalised Learning Platform.

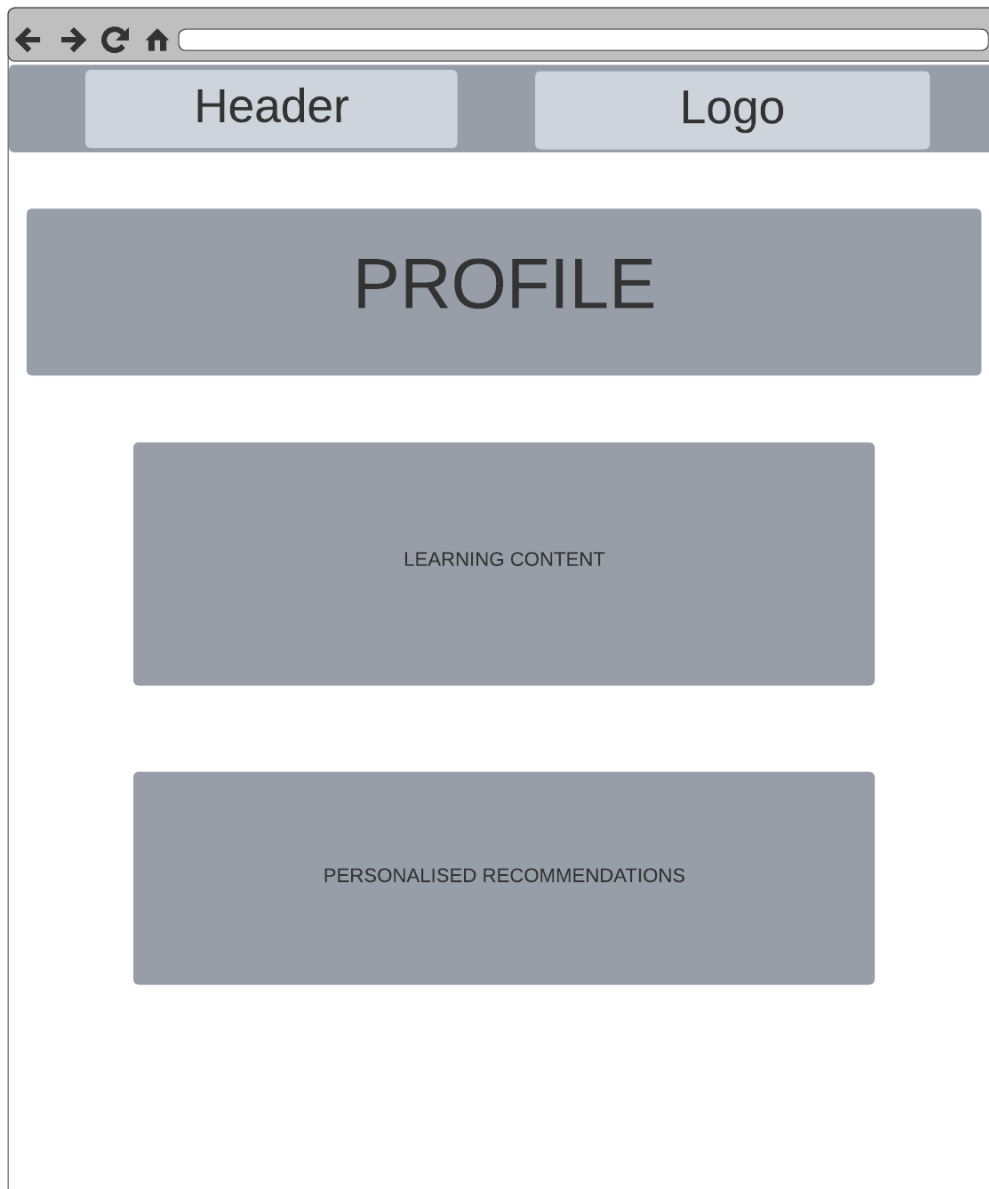
This wireframe's main sections are the header, learning content, and personalised recommendations.

- o **The header section** typically contains the platform's logo on the left and a user profile icon or name on the right. It provides a visual identity and allows users to access their profile or account settings.
- o **The learning content section** displays personalised educational materials and resources. This section can include various elements such as lessons, courses, quizzes, interactive modules, or reading materials. The content is dynamically generated based on user profiles, learning histories, preferences, and AI algorithms that analyse their data.
- o **The personalised recommendations section** suggests relevant learning resources or activities tailored to users' needs and learning progress. These recommendations are based on the AI's analysis of the user's performance data, interests, learning style, and possibly other factors. The recommendations can include new courses, related topics, supplementary materials, or suggested activities to enhance the user's learning experience.





Wireframe for an AI-based Personalised Learning Platform:





INclusive **Artificial Intelligence**

Basic Wireframe for a Social and Emotional Support AI Chatbot for learners.

In this wireframe, the main section is dedicated to the chat interface, where the conversation between the user and the chatbot takes place. The chatbot's responses will be displayed in this area.

Below the chat section is an input field where users can type their messages or questions to interact with the chatbot. The user can enter their input in the provided field and press Enter or click the send button to submit their message.

This chatbot interface is a basic wireframe; you can add more features and design elements based on your specific requirements. For instance, you could include additional buttons or options for the user to select particular topics or emotions to discuss, incorporate emojis or visual elements to enhance the user experience or add a sidebar to display additional information or resources.

This wireframe can be customised and expanded upon based on your desired functionality and design preferences.





Basic Wireframe for a Social and Emotional Support AI Chatbot for learners:

