**Project Proposal Form**

Please refer to the **Project Handbook Section 4** when completing this form. Note that your proposal should be your own original work and you must cite sources in line with university guidance on **referencing and plagiarism**[[1]](#footnote-1).

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| **Degree Title:**  Choose an item. | **Student’s Name:** |
| **Supervisor’s Name:** |
| **Project Title/Area:**  EduAbility: Developing a website to Promote Accessible and Inclusive Assistive Technologies for Education |

# Section 1: Project Overview

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| **1.1 Problem definition - use one sentence to summarise the problem:**  Educators lack an accessible, centralized tool to evaluate and select assistive technologies for supporting students with disabilities effectively.  **1.2 Project description - briefly explain your project:**  EduAbility is a web-based platform designed to help educators and administrators evaluate, compare, and select assistive technologies tailored to students with disabilities. There will also be an evaluation framework section that users can select and sort the provided assistive technologies according to attributes such as accessibility, usability, and educational effectiveness in the context of the website. The goal of this project is to help the educators in making the technology-enhanced decisions based on the data on importance of the information, content and media accessibility for more effective learning process.  **1.3 Background - please provide brief background information, e.g., client, problem domain, and make reference to the literature (minimum 4-5 sources):**  The area of assistive technology in education has expanded greatly, affecting a wide cognized tool such as screen readers, speech-to-text software, and alternative input devices that enhanced learning for disabled students (Ghalia et al., 2023). Still, countless educators face challenges when deciding on which technologies are more appropriate because there is very little guidance out there in an easily searchable format (Abdullahi, 2022). Previous work confirm that structured assessment tools should be applied to assess the accessibility, usability, and educational effectiveness of resources (Duran, 2022 pp. 49-74). To meet these objectives, this project has limited the sources gaps exploited in decision-making processes by developing a web-based tool for inclusive decision-making processes in education.  Recent research underscores the transformative potential of assistive technology in education, particularly with emerging advancements in AI-driven and immersive solutions. The COVID-19 pandemic emphasized the necessity of assistive tools in remote learning, where features such as closed captioning, screen readers and speech recognition helped maintain inclusivity, especially for students with disabilities (Chopra et al., 2024 pp. 255-275)​. Additionally, Siddiqi (2024 pp.8-24) noted that inclusive technology frameworks now emphasize universal design principles, which enable students with and without disabilities to use the same tools, fostering a more integrated learning environment. A recent 2024 report from UNESCO highlights how accessible digital devices, such as tablets and VR headsets, support personalized learning experiences and social inclusion by allowing diverse modes of interaction that adapt to individual needs (Antoninis, 2023)​.  Furthermore, adaptive technologies, like virtual reality, are being utilized to improve engagement and social skills in students with cognitive and developmental disabilities. For instance, VR allows immersive experiences that aid students in understanding complex environments, fostering both learning and social skills development (Kholbutaevich & Anarbaevich 20)​. This aligns with calls for comprehensive frameworks that not only provide access but also improve literacy, numeracy, and independence among students with disabilities​  **1.4 Research Questions**   1. How can an online evaluation tool improve the selection process for assistive technologies in education? 2. What criteria are most effective for evaluating assistive technologies in terms of accessibility, usability, and educational outcomes? 3. How can web-based tools be designed to be accessible, ensuring usability for all, including those with disabilities? 4. **What role do AI-driven recommendations play in enhancing the accuracy and relevance of assistive technology selections for diverse educational needs?** 5. **How can data collected through user interactions on the platform be used to continually improve the evaluation framework and adapt to emerging educational technologies?**   **1.5 Aims and objectives – what are the aims and objectives of your project? should be specific and measurable:**  **Aim:** To develop an accessible website that enables the systematic evaluation and recommendation of assistive technologies in education.  **Objectives:**   * Identify key evaluation criteria and develop a scoring framework for assistive technologies. * Build and design a user-friendly website that integrates the evaluation framework. * Allow users to filter, compare, and select technologies based on specific needs and criteria. * Ensure the website is accessible, following best practices for inclusivity and usability. |

# Section 2: Artefact

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| **2.1 What is the artefact that you intend to produce?**  The primary artifact is a web-based platform that allows users to evaluate and compare assistive technologies based on set criteria. The website will feature a database of assistive technologies, an interactive evaluation tool, and a comparison dashboard.  **2.2 How is your artefact actionable (i.e., routes to implementation and exploitation in the technology domain)?**  The website is going to provide an opportunity to enter the criteria according to the needs of educators and administrators, and the program will generate the most suitable assistive technologies matching the entered criteria as well as provide comparisons. With the continuous evaluation and easy comparison of the various technologies, it makes it easy for learning institutions to make informed, inclusive technology decisions through the direct implementation of the platform. |

# Section 3: Evaluation

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| **3.1 How are you going to evaluate your project artefact?**  The evaluation of the EduAbility website will focus on three key dimensions: usability, functionality and Accessibility regulation compliance. The aim is to assess the possibility of the platform to meet educators and administrator’s needs to support the decision-making process for assistive technologies. More specifically, this evaluation will entail preliminary and follow up structured user testing sessions with both the educators and the accessibility experts to ensure an exhaustiveness of the data collected. 1. ****Usability Testing**** **Goal**: To assess how easily and intuitively users can navigate and use the website to evaluate and compare assistive technologies.  **Process**:   * **Participant Selection**: Recruit a diverse group of users, including educators with varying levels of technical expertise and experience with assistive technologies. * **Task-Based Testing**: Offer the users concrete uses of the website, for example, use the search function to look for a certain technology according to the type of disability it targets, compare two technologies, or sort by the usability rating. Notice how well they perform each of the tasks that have been assigned to them. * **Metrics Collected**:   + **Time on Task**: Measure how long it takes users to complete specific tasks, helping to identify any areas that might need simplification.   + **Error Rate**: Track the number of errors or mistakes users make during the navigation on the site which can indicate usability issues.   + **Satisfaction Rating**: Use post-task surveys or rating scales to gauge user satisfaction with the navigation, ease of use, and overall experience. * **Outcome**: Identify any design changes should be made to design or the navigation to make the website easier to use for every user without distinction of their level of computer literacy.  2. ****Functionality Testing**** **Goal**: To verify that the interactive features and core functionalities of the website operate smoothly and provide accurate, relevant results.  **Process**:   * **Testing Scenarios**: Create scenarios to test each core function, such as adding a new technology, adjusting evaluation criteria, viewing comparisons, and accessing recommendations. * **Automated and Manual Testing**: Use the automation tools to test the backend functionality (e.g., database, response time); and use the manual testing to test the front-end functionality. * **Metrics Collected**:   + **Accuracy of Results**: Assess the accuracy of recommendations and rankings provided by the platform based on the evaluation criteria input by users.   + **Load and Response Time**: Measure how quickly pages and results load particularly under different levels of user traffic, ensuring a seamless experience.   + **Reliability of Features**: Track the consistency of the platform’s functions over repeated trials to ensure stability. * **Outcome**: Ensure that the platform’s features work reliably and consistently delivering accurate and timely recommendations.  3. ****Accessibility Compliance (WCAG Standards)**** **Goal**: To verify that the website adheres to the Web Content Accessibility Guidelines (WCAG), making it accessible to all users, including those with disabilities.  **Process**:   * **Accessibility Testing Tools**: Utilize automated tools Axe DevTools or WAVE to review often-sighted troubles like colours contrast, images alt text, and unpleasant keyboard interface. * **Screen Reader Compatibility**: Conduct testing with screen readers (e.g., JAWS, NVDA) to ensure all interactive elements, headings, and content are accessible to visually impaired users. * **User Testing with Accessibility Experts**: Engage with accessibility specialists and users with disabilities to also perform first- and second-generation manual checks to validate usage, confirming real-world usability. * **Metrics Collected**:   + **Compliance Rate**: Quantify usage of WCAG 2.1 directives while concentrating on the parameters including operability, understandability, and robustness.   + **User Feedback on Accessibility**: Collect feedback from accessibility experts and users with disabilities on the effectiveness and ease of use of the platform’s features. * **Outcome**: Achieve a high level of accessibility compliance, ensuring that the platform serves all users effectively and aligns with inclusive design principles.  4. ****Feedback Collection and Iteration**** **Process**:   * **Feedback Analysis**: Regularly analyze user feedback collected from surveys, testing sessions, and direct observation to identify patterns and recurring issues. * **Iterative Refinement**: Make incremental improvements based on user feedback, refining the platform to enhance usability, functionality, and accessibility over time.   **Outcome**: Through iterative updates the platform becomes increasingly aligned with user needs by providing a seamless, accessible and effective tool for evaluating and selecting assistive technologies.  **3.2 How does this project relate to your MSc Programme and your degree title outcomes?**  This project aligns with the MSc in Digital Health and Artificial Intelligence by applying digital health principles to improve accessibility and inclusivity for students with disabilities in educational environments. By developing a web-based platform, the project demonstrates the application of digital health technologies to empower educators in making informed, data-driven decisions about assistive technologies. It also integrates AI concepts, using structured evaluation frameworks and algorithms to provide tailored recommendations based on user-defined criteria. This project emphasizes essential skills in digital health innovation, user-cantered design, and the ethical considerations of accessibility, which are core competencies of the MSc program.  **3.3 What are the risks in this project and how are you going to manage them?**  **Risk 1: Ensuring Accessibility Compliance for All Users**  Since the project’s core objective is to promote inclusive and accessible technologies, the platform itself must meet stringent accessibility standards. If the platform doesn’t achieve a high level of accessibility, it risks alienating the very users it aims to support, such as educators and administrators working with students with disabilities.   * **Potential Issues**: Non-compliance with accessibility standards could result in inaccessible navigation, unreadable text for screen readers, or poor color contrast, which would hinder usability for users with disabilities. * **Mitigation Strategies**:   + **Early Adherence to WCAG Guidelines**: Begin with the development of the standards with reference to the Web Content Accessibility Guidelines (WCAG) 2.1 AA where issues such as Color contrast, text and image conversion as well as Keyboard navigability of the site is addressed internationally.   + **User Testing with Assistive Technologies**: Carry out the test for accessibility of the functionality with tools such as JAWS and NVDA screen readers, with Keyboard only navigation, Voice Control of functions enlisted in the various levels to verify that all interactive elements are accessible to visually and physically impaired users.   + **Feedback from Users with Disabilities**: Involve target accessibility specialists and potential users with various forms of disability in usability testing sessions. The feedback they will provide will point out any practical concerns that commonly are not detected by automated testing tools and then a corrective action can be taken.   + **Ongoing Accessibility Audits**: It is recommended that a frequently check the platform for compliance using axe DevTools and other checks. This will help to detect any new accessibility problems as new features, which may obscure the user, or as existing features are changed.   **Risk 2: Limited Time for Full-Feature Development**  Due to the nature of the master’s work, it would be difficult to create a fully functional website with all the features outlined within this proposal within this time span. Attempting to include all advanced features might lead to rushed or incomplete functionality.  **Potential Issues**: Attempting to implement too many features could compromise quality, leading to bugs, poor user experience, or missed deadlines.   * **Mitigation Strategies**:   + **Focus on a Minimum Viable Product (MVP)**: Prioritize core functionalities for the MVP, such as the database of assistive technologies, basic filtering and comparison features, and compliance with accessibility standards. Secondary or advanced features like data visualization or user accounts, can be added in future iterations.   + **Incremental Development Approach**: Follow the agile approach of work by involving the project into sprints where every sprint mostly consists of one or more feature sets. Such a strategy makes sense because a simultaneous approach will guarantee that some critical attributes get developed and retested fast while the other ones can proceed as an incremental process.   + **Feature Prioritization**: Define a feature roadmap that identifies “must-have” versus “nice-to-have” features. Hence, to make core elements a priority, the project can schedule the time and resources necessary for ensuring that the website would remain at least useful even if the advanced developments cannot be made on time.   **Risk 3: Potential Data Privacy Concerns with User-Generated Data**  With a web-based platform that collects user inputs, even minimal data collection introduces privacy considerations, particularly around GDPR compliance and user consent.   * **Potential Issues**: Collecting user data (such as preferences or evaluation scores) without proper safeguards could lead to unauthorized access, misuse or compliance issues with data protection laws. * **Mitigation Strategies**:   + **Minimize Data Collection**: Design the website to require minimal personal data, collecting only what is strictly necessary to provide value to users (e.g., anonymized scores or evaluation preferences). Where possible, avoid storing personally identifiable information (PII).   + **Adherence to Data Protection Standards**: Implement GDPR-compliant privacy practices including transparent data usage explanations, consent forms where applicable and an option for users to request data deletion.   + **Data Security Measures**: Protect any collected data by making its copy encrypted and secure access protocols to protect against unauthorized access. Security check and updates will guarantee that data protection measures are standard.   + **User Awareness**: Clearly communicate privacy policies regarding the users’ information in a special Privacy Policy page on the site. Users trust organizations and businesses that clarify how the data being shared is used.   **Additional Risk 4: User Adoption and Engagement Challenges**  The website’s success depends the notion that educators and administrators must take an active part in the platform’s functioning. Lack of understandability or perceived added value might not work for the platform and therefore achieve low usage.   * **Potential Issues**: A lack of user engagement could reduce the platform's impact, making it harder to collect meaningful user feedback and limiting its effectiveness in educational settings. * **Mitigation Strategies**:   + **User-Centered Design**: Engage educators and stakeholders early in the design process to understand their needs ensuring that the website’s layout, features and language are aligned with their preferences and skill levels.   + **Comprehensive Onboarding**: Provide an onboarding guide or tutorial within the platform to help new users understand its functionality. This could include step-by-step instructions on how to use the evaluation framework, filter technologies, and interpret results.   + **Regular Feedback Loops**: Encourage users to provide feedback on the website’s usability and features, enabling ongoing refinement based on actual user needs and improving overall satisfaction. |

# Section 4: References

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| **4.1 Please provide references if you have used any.**  Abdullahi, A.S. and Abubakar, S., 2022. Challenges in using assistive technologies for information access by the special needs students. *MiddleBelt Journal of Library and Information Science*, *20*.  Antoninis, M., Alcott, B., Al Hadheri, S., April, D., Fouad Barakat, B., Barrios Rivera, M., Baskakova, Y., Barry, M., Bekkouche, Y., Caro Vasquez, D. and D’Addio, A.C., 2023. Global Education Monitoring Report 2023: Technology in education: A tool on whose terms?.  Chopra, A., Patel, H., Rajput, D.S. and Bansal, N., 2024. Empowering Inclusive Education: Leveraging AI-ML and Innovative Tech Stacks to Support Students with Learning Disabilities in Higher Education. In *Applied Assistive Technologies and Informatics for Students with Disabilities* (pp. 255-275). Singapore: Springer Nature Singapore.  Duran, M., 2022. Assistive Technology. In *Learning Technologies: Research, Trends, and Issues in the US Education System* (pp. 49-74). Cham: Springer International Publishing.  Ghalia, N., Ahlam, D. and Isami, E., 2023. Empowering Education for Students with Learning Difficulties and Disabilities: A Faculty and Student Perspective on the Utilization of Assistive Technology at the Academic Arab College of Education in Haifa.  Siddiqi, M.M. 2024, Future of digital education: inclusive, immersive, equitable, *MediaSpace: DME Media Journal of Communication*, vol. 5, no. 1, pp. 8–24, doi: 10.53361/dmejc.v5i01.02.  Kholbutaevich, T.O. and Anarbaevich, A.R., 2024. ELECTRONIC EDUCATION: TASKS, PROSPECTS, AND RESULTS. *Global Book Publishing Services*, pp.1-76. |

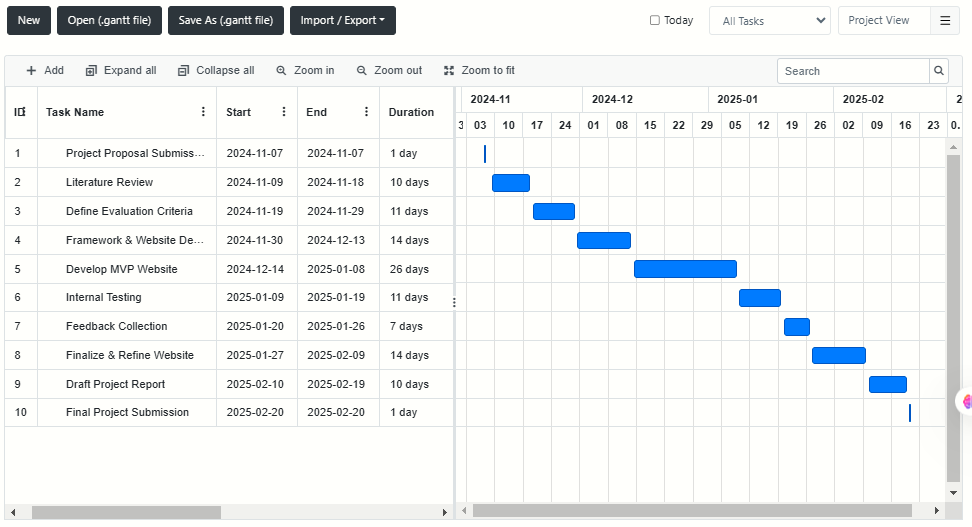
# Section 5: Academic Practice and Ethics

Please delete as appropriate.

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| **5.1 Have you made yourself familiar with, and understand, the University guidance on referencing and plagiarism? yes** | **Yes / No** |
| **5.2 Do you acknowledge that this project proposal is your own work and that it does not contravene any academic offence as specified in the University’s regulations? Yes** | **Yes / No** |

**Note**: Please complete the research ethics checklist once the proposal has been approved by your supervisor.

# Section 6: Proposed Plan (please attach your Gantt chart below)



1. <https://libguides.bournemouth.ac.uk/study-skills-referencing-plagiarism> [↑](#footnote-ref-1)