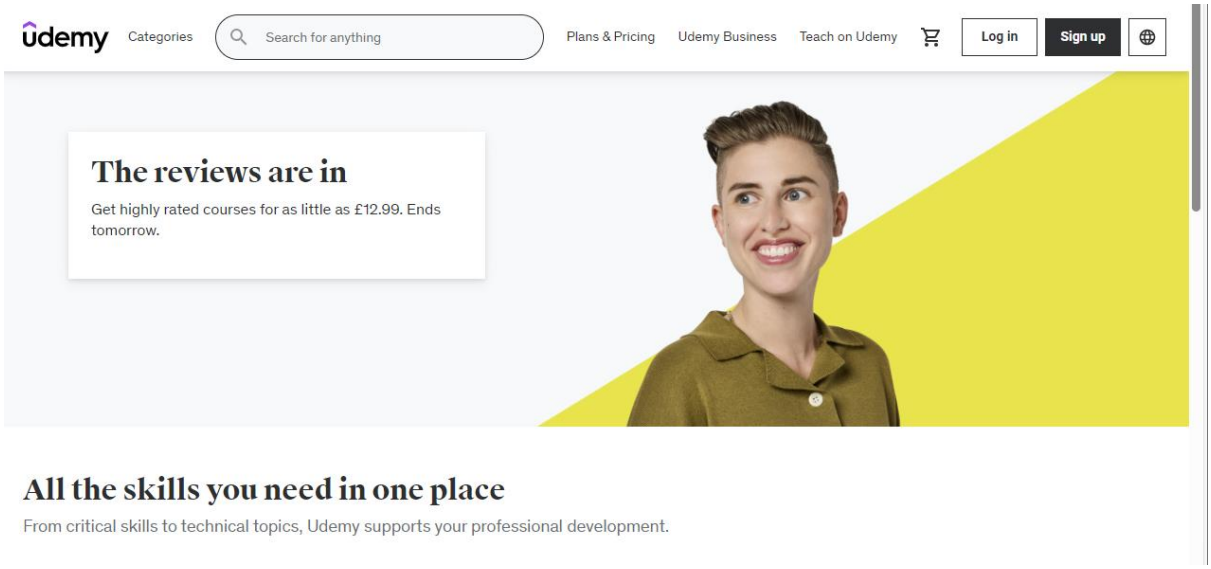
Activity A(i)

Research

There are many pre-existing websites and apps that are to teach and guide individuals, impacting each and every one of them with knowledge and offering help with difficult tasks, helping get through almost any problem with suitable solutions. Some of these wonderful websites/applications are Udemy, edX, FutureLearn, Codeacademy and Duolingo with many more.

Udemy



Udemy is an online platform primarily aimed at professional adults and students who want to learn new skills. It is an excellent resource for anyone who wants to certain new skills regardless of background or career goals.

This website allows for users to sign up for free with a wide range of free courses, as well as having a bunch of other courses which vary in prices with some as little as £5 and others costing several hundreds of pounds. That said, Udemy has regular sales where you can pick up the more expensive courses with as low as £10. These courses are available for a lifetime once purchased and can be accessed at any time of the day which is a good availability concept.

This platform also has a review and rating systems/functionality for each every for users to give their opinions about whatever courses they take part in allowing Udemy to also receive feedback and improve themselves.

Udemy Review Quick Facts	
Instructor Rating	4/5
Course Selection Rating	4.5/5
Learning Experience Rating	5/5
Overall Rating	**4.5/5**

Udemy also has a platform for instructors, where people with an expertise or passiion for a field can become an instructor to share knowledge and earn income.

How digital solutions are used to meets the needs of different users with the education sector

When schools closed due to the corona virus pandemics, teachers needed a way to continue teaching students at home. The solution was to provide digital education platforms. This is seen as a set of tools and technologies that together enable students to learn online in virtual classrooms.

These digital education platforms are purpose—built and are so much more than a school website.

Fundings are available to help schools get set up on a platform to resume teaching. Some organisations were tasked with rolling out these platforms to different many schools. To respond to this challenge, there have a big company partnership like Google, Microsoft and several IT suppliers.

There are benefits of digital education platform.

Using these platforms, teachers can:

- teach classes as well as smaller groups of pupils
- communicate with their pupils
- set tasks for individuals as well as for larger groups
- let pupils work together
- give feedback
- share useful links to digital learning resources
- collaborate with their colleagues on lesson planning and related administrative tasks

Use of Hardware and Software in Education

Hardware:

- **Devices:** Laptops, tablets, and interactive whiteboards are common tools that facilitate learning. These devices make it easier for students to access educational content and for teachers to present information.
- **Smartphones:** Though often seen as distractions, smartphones can be powerful educational tools with the right apps and guidelines. They help students stay connected and provide access to online resources.
- **Learning Management Systems (LMS):** Platforms like Moodle, Canvas and Google classroom allow educators to create, manage and disseminate digital content and track student progress.

Software:

- **Educational Software:** Programs such as Kahoot! And Quizlet engage students in active learning through quizzes and games.
- **Collaborating Tools:** Tools like Microsoft Teams and Zoom facilitate remote learning and collaboration among students and teachers, especially important during the COVID-19 pandemic.
- **Assessment Tools:** Software for formative and summative assessments, such as ExamSoft, helps educators evaluate student performance and adjust instructional strategies.

New Emerging Technologies

- **Artificial Intelligence (AI):** AI-driven tools offer personalised learning experiences by analysing student data to recommend resources tailored to individual learning styles.
- **Augmented Reality (AR) ad Virtual Reality (VR):** These technologies enhance learning experiences by providing immersive environments where students can explore concepts practically and engagingly, such as virtual field trips.
- **Blockchain:** This technology can be used for secure records of student's credentials and achievements, enhancing the verification process for institutions.

Meeting Different User Needs with Digital Solutions

For Students: Digital Solutions like personalised learning platforms cater to diverse learning needs, allowing for self-paced study and immediate feedback. Accessibility features and platform designed for various learning disabilities help create inclusive experiences.

For Educators: Teacher-centric tools (e.g., grade management software, curriculum planning tools) streamline administrative tasks, allowing educators to focus more on teaching. Professional development platforms support continuous learning for educators.

For Parents: Communication platforms and grade tracking apps (such as ClassDojo and ParentSquare) help parents stay informed about their children's progress and school activities.

For Administrators: Data analytics tools provide insights into student performance, helping administrators male informed decisions regarding curriculum adjustments and resource allocation.

Industry-Specific Guidelines and Regulations

- **Accessibility Guidelines (WCAG):** The Web Content Accessibility Guidelines are essential for ensuring that online educational resources are accessible to students with dis 2bd abilities. Compliance with these guidelines is not only a legal requirement in many jurisdictions but also a best practice.
- **Data Protection Regulations (GDPR):** For institutions in Europe, compliance with GDPR is critical for protecting the personal data of students and staff members.
- **Children's Online Privacy Protection Act (COPPA):** Regulations governing the collection of personal information from children under 13 years old mandate that education technology tools designed for kids must obtain parental consent.

Overall

Digital solutions in the education sector have transformed how education is delivered and managed, catering to the needs of various stakeholders while adhering to essential regulations. As technology continues to evolve, educational institutions must remain responsive to the needs for their users and compliant with guidelines to ensure equitable and effective educational experiences for all.

Activity A(ii)

Proposal

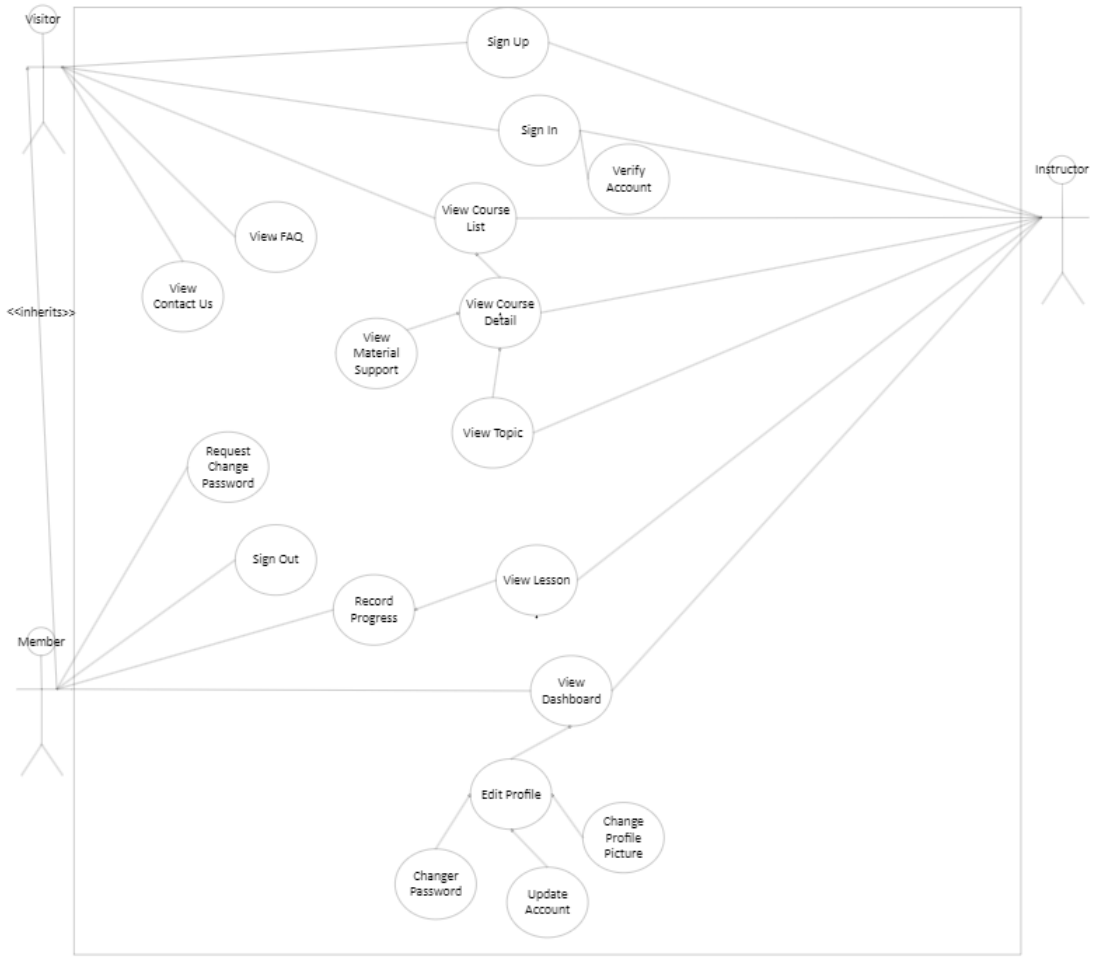
Description of proposed system

Everybody learns a new thing or two every day of their life. As we continue to live, we all go to school, work and many different places. So why not get it all in one place, Acquire knowledge about various things, History, Tech or A new skill. Learn it all with **GibJohn Tutoring.** I have been asked by the owner of GibJohn Tutoring to develop a system that will:

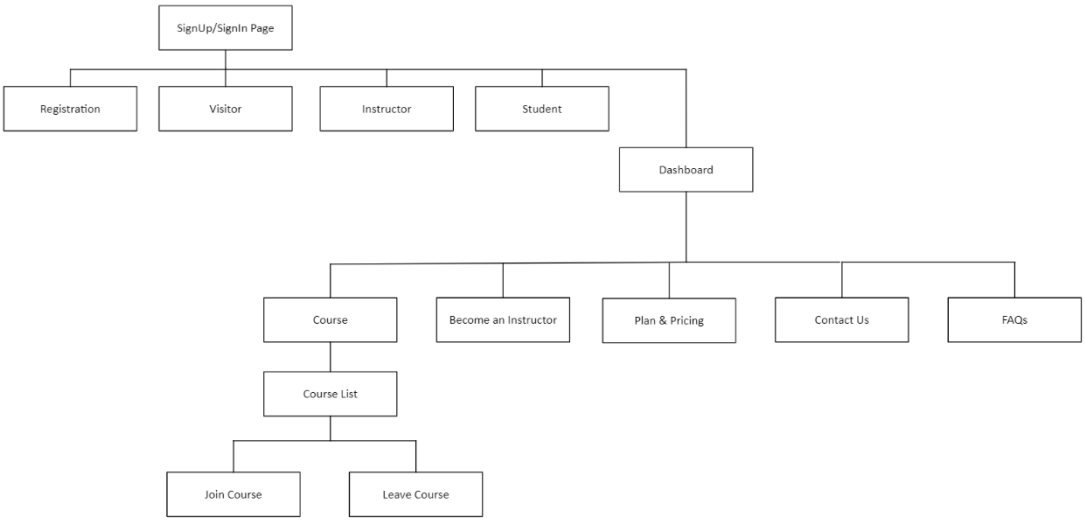
- provide interactive teaching and learning resources in a range of subjects
- provide access to digital content to encourage wider learning
- support assessment and monitoring of learner progress
- collaborative teaching and learning tools
- accessibility features to support a wide range of users
- a learning reward system
- gamified learning.

GibJohn Tutoring would like to help its customers (students and instructors) to

For this project, we will produce the first prototype, which will be the website interface as well as a hierarchy diagram as well.



Hierarchy Diagram



The website can be accessed via a mobile or a desktop computer and will have the following functionality.

Business Context

Market Analysis

The website is focused on students who are in leaving secondary school, in college, adult learner and parents, who are looking to learn certain skills and gain experience for their personal reasons.

From recent market trends it is discovered that the online education market is experiencing rapid growth, projected to reach $319 billion by 2025. Increased adoption of digital learning tools, especially after the pandemic has created a surge in demand for online tutoring services, with there also being a shift towards personalised learning experiences where students can learn at their own pace using tailored content.

Competitors, established platforms like Tutor.com, Khan Academy, Udemy, Coursera are major competitors, and they offer a variety of on-demand and scheduled tutoring services. Local tutoring centres transitioning to online models increase competition, highlighting the need for unique offerings.

Business Goals and Objectives

Mission and Vision:

The vision here is to become amongst the leading online platforms connecting learners with expert tutors/instructors to facilitate personalised and effective education.

The mission is to provide accessible, high-quality tutoring that empowers students to achieve academic success and foster a love for learning.

Short-term Goals and Objectives:

Within the time range of 1 year

- Launch the tutoring platform and secure at least 500 active users.
- Build a network of at least 100 qualified tutors across various subjects.
- Achieve user satisfaction ratings of 90% or higher through feedback and surveys.

Long-term Goals and Objectives:

Withing the time range of 1-3 years

- Expand the tutoring to include specialised online courses and certification programs.
- Scale user acquisition to 5000 active users and increase tutor count to 500.
- Establish partnerships with schools and educational institutions for integrated tutoring solutions.

Value Proposition

Unique Selling Proposition (USP):

- A user-friendly platform matching students with thoroughly vetted tutors on learning style, preferences and academic needs.
- Flexible scheduling and session formats (video calls, or in-person) tailored to user convenience.
- An integrated learning management system that tracks progress, provides resources, and allows ongoing communication with tutors.

Benefits to Users:

- Personalised, on-demand access to quality tutoring from qualified educators.
- A supportive learning environment encouraging academic growth while accommodating individual learning styles.

Operational Considerations

Platform Development:

- Invest in a robust, scalable learning management system (LMS) that can handle user registrations, tutor profiles, scheduling, payment processing, and communication (chat/video).
- Ensure the platform is mobile-friendly and offers an intuitive user interface for both learners and tutors.
- Incorporate features for tracking student progress, managing resources, and collecting feedback.

Tutor Recruitment and Management

Vetting Process:

- Develop a rigorous screening and onboarding process to ensure that tutors meet the qualifications and standards set by the platform.
- Conduct background checks and verify credentials and experience.

Training and Development:

- Provide training for tutors on using the platform effectively and on best practices for online teaching.
- Offer ongoing professional development opportunities to enhance their skills.

Tutor Retention:

- Create an incentive system (e.g., bonuses for high user ratings or referrals) to retain qualified tutors and ensure quality service.

Marketing Strategies

Targeted Marketing:

- Develop marketing campaigns aimed specifically at the segments identified: high school students, college students, adult learners, and parents.
- Utilize social media platforms, SEO, and content marketing to highlight the advantages of personalized online tutoring.

Partnerships:

- Establish partnerships with schools, colleges, and educational organizations to promote the platform.
- Collaborate with influencers or educational bloggers for brand awareness.

Referral Programs:

- Implement referral programs to encourage existing users to bring in new students and tutors.

Customer Support and User Feedback

Support Channels:

- Provide multiple channels for customer support, including email, chat, and phone support.
- Ensure prompt response times to user inquiries and issues.

Feedback Mechanism:

- Regularly collect user feedback through surveys and ratings to continuously improve the platform and services.
- Utilize feedback to adapt offerings and enhance user satisfaction.

Financial Management

Pricing Strategy:

- Develop competitive pricing models for tutoring services while ensuring the sustainability of the platform.

- Consider offering introductory promotions to attract new users.

Budgeting and Forecasting:

- Create detailed budgets for platform development, marketing, tutor compensation, and operational costs.

- Establish financial forecasting to track growth and expenses over time.

Conclusion

Establishing an online tutoring platform requires careful planning and consideration of various operational aspects. By addressing technology, tutor management, marketing strategies, customer support, financial management, and cultural inclusivity, the platform can effectively meet its short-term and long-term goals, offering an enriching educational experience to its users.

Functional and Non-Functional Requirements

Functional Requirements:

1. **Interactive Teaching Resources:**
    - Digital content creation tools for tutors.
    - Multimedia resources (videos, quizzes, study guides).

2. **Collaborative Tools:**
    - Real-time collaboration feature (e.g., shared whiteboards, document editing).
    - Discussion boards for peer-to-peer interaction.

3. **Assessment & Monitoring:**
    - Automated quizzes and assignment submissions.
    - Analytics dashboard for monitoring student progress.

4. **Learning Reward System:**
    - Gamification elements to encourage student engagement (badges, points).

5. **Accessibility Features:**
    - Text-to-speech and screen reader compatibility.
    - Customizable interface for users with disabilities.

Non-Functional Requirements:

1. **Usability:**
    - Intuitive user interface for easy navigation.
    - Comprehensive support documentation and tutorials.

2. **Performance:**
    - Quick load times and real-time responsiveness.
    - Ability to handle simultaneous users during peak times.

3. **Security:**
    - Data encryption and secure authentication mechanisms.
    - Regular security audits to safeguard user data.

4. **Scalability:**
    - Infrastructure capable of scaling to accommodate growing numbers of users.

Decomposition of Problems to Implement Requirements

Decomposing requirements is an essential step in systems design, as it helps reduce ambiguity and confusion by clarifying the scope, assumptions, constraints, and dependencies of the system. It also simplifies the problem by breaking it down into smaller, more specific sub-problems that can be solved independently or in parallel.

Interactive Teaching Resources: Creating partnerships between limited content availability advertising content creators or use of licensed materials.

Collaborative Tools: Integration of different communication tools may require custom APIs to ensure smooth interactions.

Assessment and Monitoring: Designing reliable performance metrics and analytics tools will be essential for validating the effectiveness of assessments.

Gamification: Balancing educational value with engagement by ensuring that gamification does not distract from learning objectives.

Accessibility: Ensuring the compliance with WCAG can be complex, so extensive user testing with various disabilities will be essential to meet the requirements.

Key Performance Indicators (KPIs) and User Acceptance Criteria

KPIs:

User Engagement: The average session duration per user and increase in active users over time.

Learning Outcomes: Improvement in assessment scores pre- and post-engagement with the platform as well as completion rates of assignments and quizzes.

User Satisfaction:

Survey-based user satisfaction ratings.

Net Promoter Score (NPS) to gauge user loyalty.

Technical Performance: Average load time of pages (<3 seconds) and Uptime percentage (99.5% or higher).

User Acceptance Criteria: All functional requirements are met, including usability for various user types plus positive feedback from a beta-testing group composed of tutors, students, and parents with compliance with regulatory requirements is successfully demonstrated.

Description of Proposed Solution

The proposed digital solution will be an online learning platform featuring:

User Dashboard: A personalized portal for students, tutors, and parents to access resources, track progress, and communicate.

Content Creation Suite: Tools for tutors to develop and customize learning materials, including videos, slideshows, and quizzes.

Collaborative Learning Environment: Interactive whiteboards and discussion forums to facilitate peer learning and tutor engagement.

Assessment and Analytics: Tools for quiz creation, assignment submission, and automated progress tracking with visual analytics dashboards.

Gamification Features: A built-in reward system for student achievements to promote motivation and retention.

Justification of Recommended Solution

Meeting Client and User Needs:

The solution addresses GibJohn's objective to provide interactive resources while broadening access to high-quality materials.

Students' need for engaging and supportive learning experiences is fulfilled through collaborative tools, gamification, and progress monitoring.

Risk Mitigation:

Security risks will be managed through extensive testing, robust data protection measures (encryption and password management), and regular audits.

A phased rollout (pilot program) will allow for adjustments before a full-scale launch based on user feedback.

Regulatory Compliance:

All development will adhere to FERPA and COPPA guidelines to protect student privacy and ensure parental consent where needed.

Accessibility will be a priority, adhering to WCAG to ensure compliance and inclusiveness for learners with different needs.

Data protection measures in line with GDPR will be incorporated to safeguard user data, particularly if operating within or servicing clients in Europe.

Conclusion

The proposed digital solution for GibJohn Tutoring is designed to equip the organization with a sustainable, interactive, and comprehensive learning platform. Through careful consideration of user needs, the incorporation of emerging technologies, and adherence to regulatory requirements, this solution promises to enhance educational outcomes for students while providing a robust, user-friendly experience for tutors and administrators alike. Implementing this platform can significantly elevate the standard of tutoring services offered by GibJohn, paving the way for successful growth and adaptation in a digital education landscape.