Project Brief

Document Information

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Approval

Date	Name and Signature

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Definition

Background:	Remote learning is very topical at the moment due to COVID-19. Schools are closed and students cannot meet in person. Some individuals are not receiving any education and may look to other means for assistance. There is a demand for an online learning solution to replace existing offline learning
Main Goal:	Create an all-in one platform for e-tutors to provide students with one on one lessons for various subjects
Desired Outcomes:	Simple sign up process for both students and tutors with simple verification of tutor credentials. Tutors can provide a headshot, description and their qualifications to teach a subject. Tutors can register under a subject and provide their price & availability Students can find a tutor for a given subject and arrange a time for a one on one class. An online classroom with file sharing, whiteboard, screen sharing and webcam streaming features. Tutors are paid upon completing a class. Tutors can pay out their balance to a bank account
Constraints and Assumptions:	The project length is 8 weeks WebRTC Is required for video streaming WebRTC web support isn't consistent. An external STUN/TURN server may be required for punching NAT/relaying for WebRTC We assume tutors will provide sufficient documentation during the signup process. Linux is required to host the backend and serve the web content The system is containerized using Docker and will be deployed using Docker Compose The external payment processor will be Stripe

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	The database will be PostgreSQL The backend language will be Go lang The frontend framework will be React (with TypeScript) A classroom will support at minimum 2 webcam feeds and 1 screen feed
Interfaces:	We will interface with our payment processor Stripe via their API. Our backend will call Stripe API endpoints when payment is required.
Project Approach:	We will use the Scrum agile framework for tracking our progress We will use daily stand-ups via voice/slack message to report our sprint progress Weekly scrum meetings will be held to: ● track sprint progress (weekly) ● have an overview of the product backlog with the product owner ● communicate feedback from the product owner We will hold sprint planning meetings to select product backlog items for our sprint and decide on a sprint goal A Kanban board will be used to track the Sprint Backlog progress. After each sprint we will review the current project progress

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Outline Business Case

Online learning is becoming increasingly more prominent due to recent circumstances such as Covid-19, lockdowns, etc. This has meant that remote learning platforms have become a requirement for effective learning. Once the pandemic ends there will still be a strong need for online platforms due to increased public awareness of such learning methods.

By building a service that connects students with tutors and provides an online space for facilitating learning, we could take a 16-33% cut of any fees paid for tutorship.

Our only costs are:

- Hosting
- Maintenance
- Moderation
- Marketing

We are aiming to avoid the dependencies we saw with other platforms we researched:

- The project is scoped to be subject-agnostic, we don't place a dependency on a particular curriculum, any subject can be supported (some competitors hyper-focus on particular curriculums in their implementation)
- We are also avoiding the term 'grinds' (while "grindsapp" is being used as a development codename) to prevent the project being HIberno-centric and avoid placing limits on the future scaling of the project outside of Ireland

By building an all-in-one system (with a video classroom), we have the full power to improve the learning experience rather than relying on external services like Zoom

The market can be competitive as many solutions exist (MyTutor, FirstTutors, Skooli, Chegg, JumpAGrade, ClassHub) however there is large room for expansion. While the project scope is defined as above, new features/potential stretch goals could include:

- Marketplace for notes
- Pay-per-assistance
    - e.g. request a tutor for assistance in solving a problem for a small fee (1-2 euro)
- Arranging in-person tutorship (when COVID-19 has subsided)

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Key Stakeholders

Major Stakeholder	Notes
Product Owner	
Scrum Master	
Development Team	

Project Objectives

	Target	Tolerance
Scope	Accounts System Classroom System Invoice System Tutor Request System Notification System	
Time	6 weeks	1 week
Cost	5 FTE over 7 weeks	5 FTE over 6 weeks
Quality	Intuitive user experience Video streaming Quickly find suitable tutorial time Verify qualification of Tutors	Functional UI 480p minimum Provide functionality to coordinate time slot for a lesson between a student and a tutor Vetting process where tutor must upload proof of qualifications
Risks	WebRTC might experience peering issues because of NAT resulting in a hindered user experience.	Some devices may not be supported and will need to rely on a TURN server.

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	Time-overrun due to difficulty implementing classroom system	Federate to an external service (i.e schedule meetings over Zoom via Zoom API)
Benefits	All in one platform for e-learning	Find a tutor, schedule a time slot, provide a online classroom with whiteboard,file sharing and video streaming
	Increase tutor availability exponentially as they can do back to back sessions online due to a robust scheduling system.	Allow the tutor to connect with students and facilitate time optimized meetings through the use of calendars.

Project Management Team

Role	Reports to	Appointee
Product Owner	God	Jason Quinlan
Scrum Master	Product Owner	Rotated by developer per week
UI/UX Designer **Full Stack Dev**	Scrum Master	Eric Moynihan
UI/UX Designer **Full Stack Dev**	Scrum Master	Aleksei Ivanov
Full Stack Dev	Scrum Master	Raymond Reynolds
Full Stack Dev **DevOps**	Scrum Master	Oisin Canty
Back End Dev **DevOps**	Scrum Master	James Cotter