Vision Document

1. Introduction

Learning is often more effective when it feels like play. Many educational apps use quizzes,but these can become repetitive and boring. A learning app with interactive puzzles and gamification can improve engagement while reinforcing knowledge. This project focuses on developing a mobile/web application that delivers various puzzle-based learning activities with progress tracking and rewards. The emphasis is on app development (frontend + backend), user experience, and gamification mechanics.

2. Positioning

2.1 Problem Statement

Problem	Disorganized learning materials and exercises in learning environments Existing classroom learning/exercise structure sometimes demotivating
Affects	Lecturers and students in learning environments
Impact	For lecturers: increased workload (difficulty revising material, manually grading exercises, organizing documents) For students: low learning enthusiasm and ensuing suboptimal performance, difficulty estimating progress
Solution	Customizable, user-friendly gamified learning platform

2.2 Product Position Statement

Target Demographic(s)	Lecturers and students in learning environments
Target Demand	Learning materials easy to revise and update Engaging learning exercises Track learning progress
Product Category	Gamified learning platform
Benefit	Standardized learning materials (e.g. flashcards, presentations, digital exercises) Gamified learning exercises drive enthusiasm and engagement Progress tracking helps organize study priority, e.g. finding points of struggle
Primary Market Alternative	Kahoot
Primary Differentiation	Gamification scope

Gamification has been shown in numerous studies to have an incentivizing effect toward continued - even habitual - use of software products.

This element has been leveraged by numerous previous learning productivity products e.g. Kahoot, Duolingo, Quizlet, Khan Academy. Nabu aims toward a similar goal, with the most analogous example being Kahoot, however Nabu aims to include more explicitly gamified elements for users e.g. Duolingo.

This broader and deeper presence of gamified elements will drive continued and repetitive use by prospective users.

3. Stakeholder Descriptions

3.1 Stakeholder Summary

3.1.1 Internal Stakeholders

Name	Description	Responsibilities
Project Lead	Overall project coordinator	Project planning and scheduling Production documentation Production timeline development Rresource and risk management Task allocation Team coordination Stakeholder communication
Software Architect	Technical structure designer	Technical architecture design Technical documentation Technology selection Technical guidance Code standardization and review
Quality Manager	Quality assurance officer	QA strategy coordinator Test planning Bug fixing priority coordinator Performance testing Compliance audit Continuous improvement User feedback
Developers	Development team members	Feature development Coding and implementation Version control Bug hunting and fixing Team cooperation General documentation

The primary goal of the development team is to produce a usable learning app with gamified elements, focusing on functionality and aesthetic appeal.

3.1.2 External Stakeholders

Name	Description	Use-Case
Lecturers	Instructors in classroom settings and learning environments	Classroom supplement Create/manage repositories Organize lecturing materials Create exercises for students Track student progress
Students	Learners in classroom settings and learning environments	Interaction (use repositories) Utilize lecturing materials Supplement personal notes Complete gamified exercises Build enthusiasm Track/compare own progress
Independent instructors/ Hobbyists	Hobbyists or other independent instructors	Create/manage repositories Documentation Drive interest in a subject Free exchange of information Build independent learning community
Independent learners	Amateurs or other individuals seeking independent learning	Interaction (use repositories) Pursue independent learning Utilize information repositories Build enthusiasm for a topic Compete with other amateurs Track personal progress

Investors	Outside investors financing development	ROI Influence development Support userbase growth

3.2 User Environment

There are several groups of target users: lecturers, students, and independent learners. Lecturers will be working alone to develop supplementary learning materials in the app. These learning materials will then be distributed to the students in their class so they can interact with the app, thus helping their learning. These lecturers will most likely want to set up private classrooms for their students to participate in.

Today, teachers commonly use apps like Kahoot or Quizlet to promote learning among their class through academic competition. Students will be working in groups to participate in games organized by the lecturers, or on their own to develop independent learning materials such as flashcards or quizzes. The students could be the end user for material developed by the lecturer or the end user of material they developed themselves.

Students will most likely want to create public classrooms where they can share material they have created with their peers. Independent learners are effectively students for the purpose of creating learning materials for themselves. These learners will also want to search for learning materials available on the app's public classrooms.

4. Product Overview

4.1 Needs and Features

Need	**Priority**	**Features**	**Planned Release**
JavaScript	High	Primary development language	N/A (Const.)
React.js	High	Frontend	Incr1 or Incr2
Node.js	High	Backend	Incr1
SQL	High	Database	Incr1
GitHub repository	High	Internal Version Control	ORG
Jira	High	Scrum	ORG
Additional Scripting Languages	Low	Feature Development	Where Applicable, starting with Incr2
Mobile Application	Low	Accompaniment to WebApp	Roadmap

4.2 Other Product Requirements

Requirement	Priority	Planned Release
Legal Compliance	High	N/A (Const.)
Regulatory Compliance	High	N/A (Const.)
Availability	High	Roadmap
Creative Direction	Medium	Starting Incr1
Usability	High	Starting Incr1
UI Design	Medium	Starting Incr2

As the product will broadly handle data from private persons it is paramount to ensure compliance with laws, regulations, standards and best practices pertaining to secure coding, cybersecurity, data integrity, server stability and availability.

A sleek design and art direction combined with usbility will underpin and reinforce the gamified aesthetic of the final product.