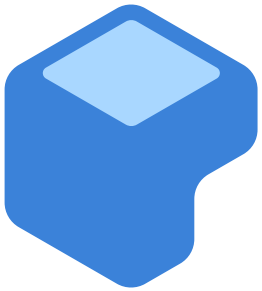


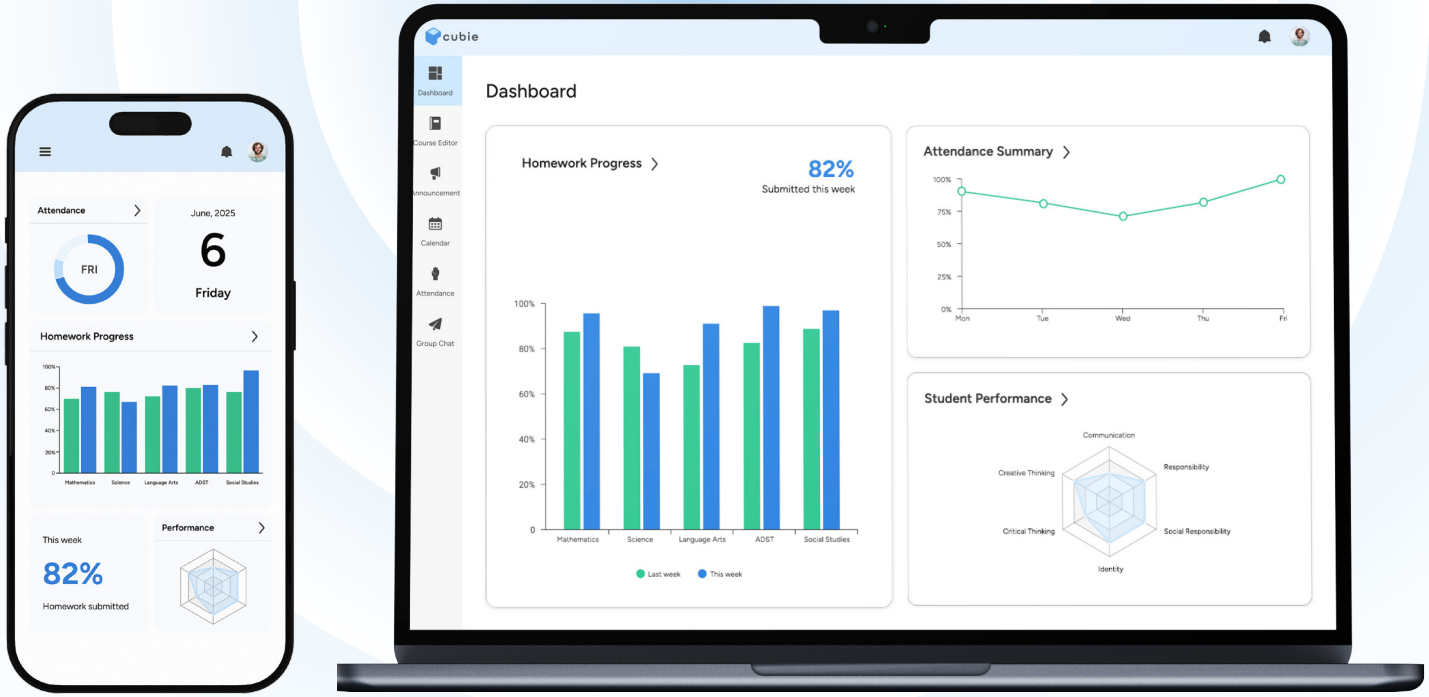
cubie

Elementary school platform
made for everyone

Built for kids
Designed for teachers
Trusted by families

Index

01 | Project Overview

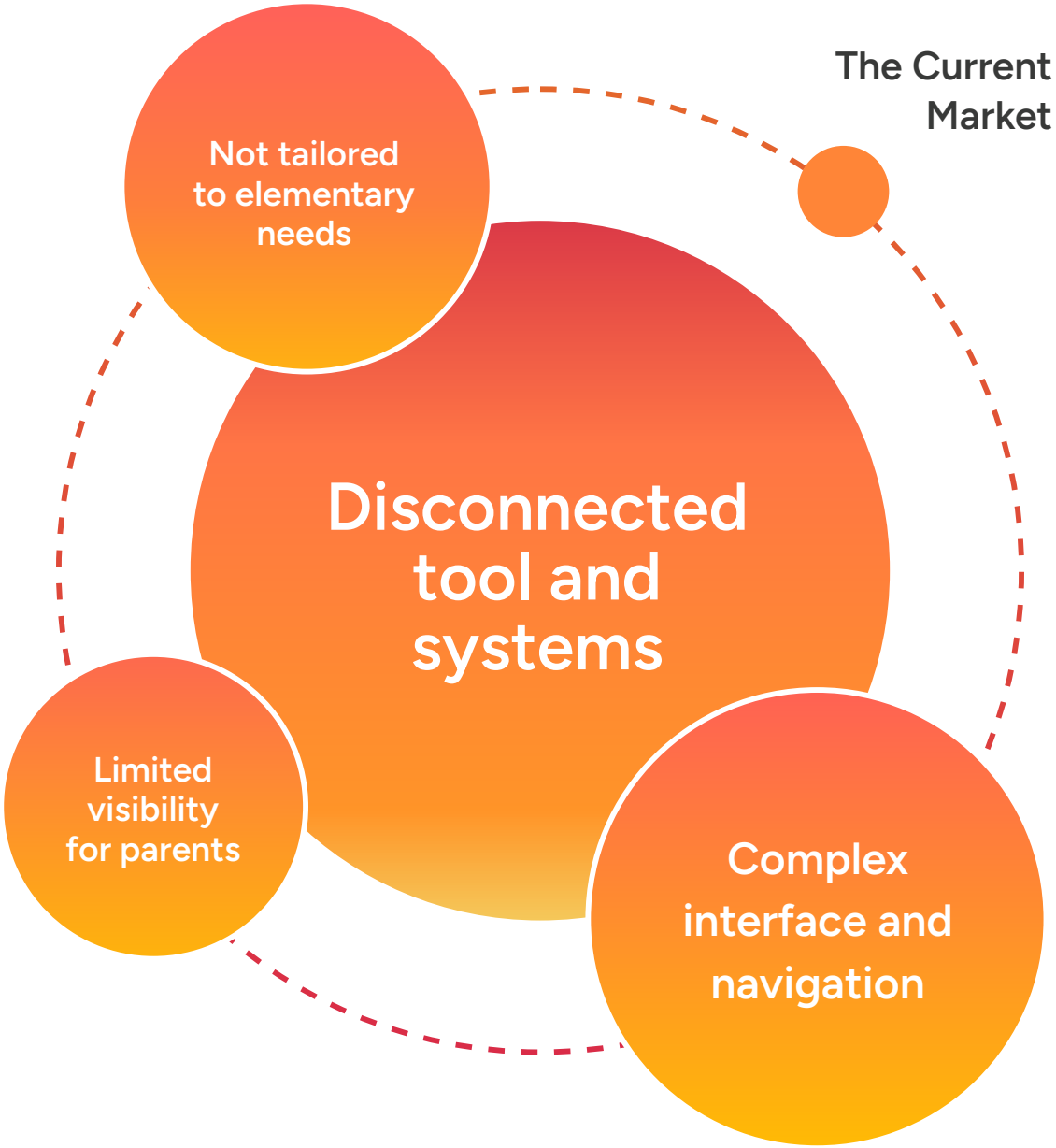


What is Cubie?

Cubie is a child-friendly learning management platform designed specifically for elementary school students, teachers, and parents in the Vancouver Lower Mainland school districts. It bridges the gap in age-appropriate educational technology by offering intuitive, visual interfaces for young learners, while still providing robust features for educators and parents.

Problems

Currently, elementary schools across Vancouver Lower Mainland districts rely on platforms such as Office 365 and Google Classroom, systems that were not designed with young children in mind. This misalignment creates significant challenges: students often face confusing interfaces and struggle to manage their assignments independently; teachers spend valuable time providing technical support and coordinating materials across disjointed systems; and parents encounter limited access to their child's learning progress, complex login procedures, and a lack of timely updates.



Our Solutions

Cubie addresses these challenges by offering an all-in-one learning platform built specifically for elementary schools:

Child-Friendly Interface

Simplify navigation with visual, intuitive layouts that match young children's cognitive abilities, helping students manage assignments independently without getting overwhelmed.

Integrated Teacher Dashboard

Enable teachers to manage course content, assign homework, and track progress all in one place, saving time and minimizing the need for technical troubleshooting.

Parent Engagement Tools

Give parents clearand real-time access to their child's progress, upcoming important events, and school communications, all without confusing logins or missing updates.

AI-Powered Practice Tools

Provide smart and personalized learning activities that reinforce student understanding while minimizing the need for repeated one-on-one instruction.

Target Market

Cubie is designed for public elementary schools in the Vancouver Lower Mainland, including districts like Vancouver, Surrey, Burnaby, Richmond, Coquitlam, North Vancouver, and West Vancouver.

Our main users are K–7 students, teachers, and families. School administrators and tech staff are also part of the broader stakeholder group.

Cubie is designed based on direct input from local elementary school teachers and families through interviews and user testing, ensuring the platform truly reflects their real needs in learning, communication, and classroom management.

Main Features

Content Management

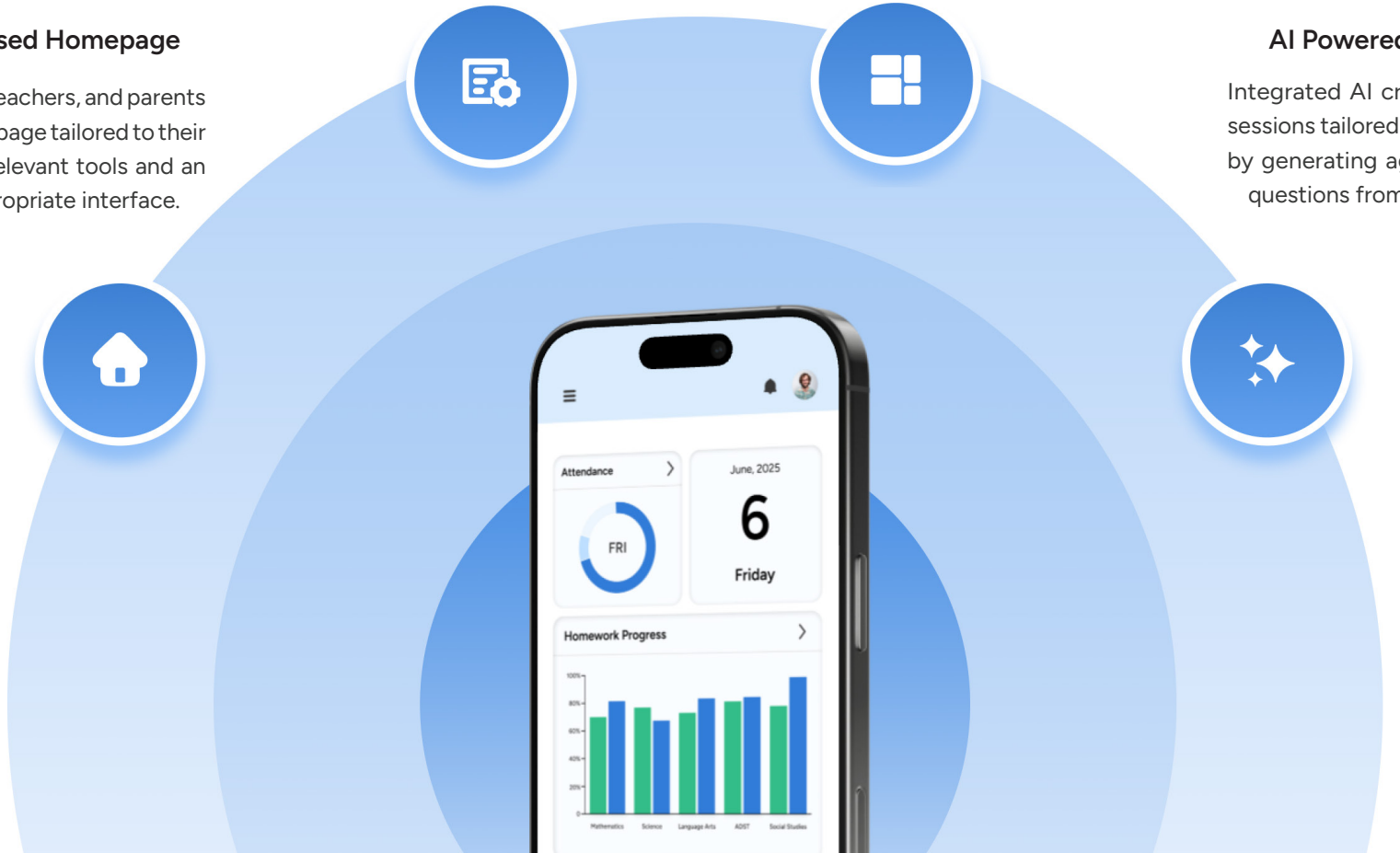
Teachers can easily organize lesson materials, homeworks, and resources all in one place.

Smart Dashboard & Data Visualization

Track student progress at a glance with a dynamic dashboard that visualizes key learning data, insights, and trends in real time.

Role-Based Homepage

Students, teachers, and parents see a homepage tailored to their role, with relevant tools and an age-appropriate interface.



AI Powered Practice

Integrated AI creates practice sessions tailored to your lessons by generating age-appropriate questions from the content.

Competitive Analysis

	cubie	Edsby		
Child-Friendly Interface	✓	✗	✗	✗
Organized by Subject	✓	✓	✗	✗
Grading Tool	✓	✓	✓	✓
AI-Generated Practice	✓	✗	✗	✗
Progress Visualization	✓	✓	✗	✗
Simple Navigation for Young Learners	✓	✗	✗	✗

Competitors

Edsby

https://www.edsby.com/

Edsby is a provincially adopted platform widely used in Ontario public schools. Its simple home screen provides students with quick access to essential tools like their calendar, class list, and attendance. The interface supports both students and teachers in staying organized and on track.

What they do well

- Clear calendar view
- Well-structured content
- Quick access to class list and attendance for teachers

Google Classroom

https://edu.google.com/

Google Classroom is a core part of Google's education suite, designed to streamline assignment distribution, communication, and classroom management. It is widely adopted across all grade levels and supported in many public school systems.

What they do well

- Integration with Google Drive and Docs
- Easy assignment distribution and grading
- Free and scalable

Microsoft 365 Education

https://www.microsoft.com/education

Microsoft 365 Education is a comprehensive suite that includes Word, Excel, PowerPoint, OneNote, Outlook, and Teams. It supports classroom communication, assignment management, grading, and file sharing, and is widely used in K–12 and higher education.

What they do well

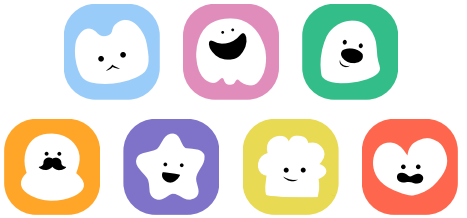
- Integration with Microsoft Office apps
- Supports video calls and messaging within Teams

What Makes Cubie Better

Gamified Achievement Badges

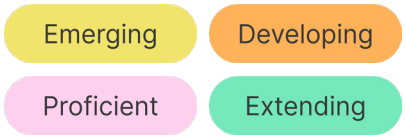
Motivating young learners with badges awarded for:

- Submitting all assignments on time
- Attending all classes
- Receiving three excellent grades



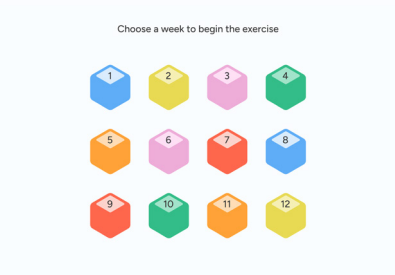
Fun and colorful interface for students

Specifically designed for young children, Cubie offers fun profile picture options for students and simplified navigation to make the experience more engaging and easy to use.



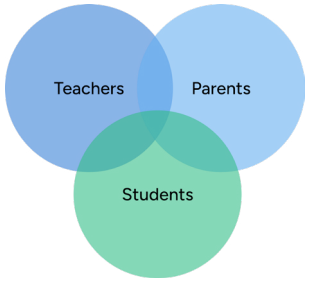
BC-grading Compatible Rubric

Designed for BC's education system, Cubie supports the non-letter grading scale like "Emerging," "Developing," "Proficient," and "Extending," along with the five core competencies in the curriculum.



Buit-in AI Practice Session

Cubie includes built-in AI that generates practice questions based on classroom content, helping students reinforce their learning through personalized review each week.



Role-specific Access

Role-specific access offers tailored tools and interfaces for students, teachers, and families, creating a more focused and user-friendly experience for each group.

02 | Project Execution Summary

Project Timeline

	WEEK 01	WEEK 02	WEEK 03	WEEK 04	WEEK 05	WEEK 06
Design	Brainstorm & Research	• Market Researh • Persona • Logo	• User Flow • Site Map	• Wireframes • UI Kit • Branding	• Prototype • Usability Testing	• Revised Prototype • Revised UI Kit • Mockup
Development	Brainstorm & Research	• Tech Stack Selection	• Frontend/Backend Initial Setup • VCS, DB Setup	• Authentication • File Storage Service Setup	• Database Structure • Business Logic Implementation	• API Implementation • Initial Frontend UI Build

- Finalized UX
- Design Hand-off
- Marketing Strategy
- Project Proposal Draft
- Revised Project Proposal
- Social Media Assets
- Landing Page
- Revised Social Media Assets
- Slide Deck
- Finalized Digital and Print Assets

- Business Logic Update
- Frontend / Backend Integration
- Main Feature Build
- Sub Feature Build
- Alpha Demo
- Bug Fix
- Functionality Completion
- Beta Demo
- Styling
- Account Setup for Demo
- Code Freeze

Tech Stack

Project Management

Slack
Communication

Jira
Project Tracking

Google Drive
File Storage

Design

Figma
Wireframing
Prototyping

Adobe Illustrator
Illustrations

Adobe Photoshop
Photo Editing

Adobe InDesign
Printing Material Design

Google Doc

Google Sheet

Google Form

Research and Documentation

Front-end Development

React
Framework

Material-UI
Interface UI

Recharts
Analytics

Socket.io
Real-time messaging

Back-end Development

Node.js

Express.js

Gemini
AI Integration

MongoDB
Scalable Architecture Database

Runtime Supprt for Real-time APIs

Design Process and Tools

UX Research

For efficient data collection and collaboration during the research process, the design team used Google Workspace.

Surveys:
Google Forms

Interviews:
Conducted in person

Documentation:
Google Docs
Google Sheets

Ideation

We chose FigJam and Figma for their intuitive interfaces and collaborative features, making them ideal for ideating, developing user personas, and designing user flows.

Brainstorm:
FigJam

Persona Creation:
Figma

User Flow:
FigJam

Wireframing and Prototyping

The team selected Figma for wireframing and prototyping due to its intuitive interface and real-time collaboration features, allowing the design team to work simultaneously, iterate quickly, and gather feedback efficiently.

Wireframing:
Figma

Prototyping:
Figma

Mockups:
Figma
Adobe Photoshop

Icons and Illustrations:
Adobe Illustrator

Usability Testing and Refinement

Figma's interactive prototypes made it easy to conduct user testing, observe interactions, and quickly apply refinements based on feedback.

Usability Testing:
Figma
Conducted in person

Documentation:
Google Docs
Google Sheets

Proposal and Marketing Assets

Adobe InDesign was used for print materials due to its strong CMYK support and precise control over hyphenation and text justification. For digital assets, Figma was used for its intuitive interface, previews, and real-time collaboration features.

Proposal:
Adobe Indesign

One Pager:
Adobe Indesign
Figma

Social Ads:
Figma

Photo Editing:
Adobe Photoshop

Development Process and Tools

Database

MongoDB
MongoDB was selected for its flexible, document-based structure, making it ideal for evolving educational content and diverse user data. Its schema-less design supports easy updates as the platform scales, while integration with Node.js via Mongoose enables efficient data handling and reliable performance.

Front-end Development

React
The team chose React for its flexibility and efficiency in building large-scale apps. Its component-based structure enables code reuse and fast development, while improving experience through smooth rendering. React allows faster and more flexible updates compared to Angular or Vue,

Material UI
We used Material UI to build a clean, consistent interface quickly, following Google's design guidelines for ease of use.

Recharts
Recharts was used to create clear, flexible charts that make complex data easy to understand.

Back-end Development

Node.js
Node.js was chosen to handle server-side logic because of its non-blocking, event-driven architecture, which is ideal for real-time interactions like chat and notifications. It supports high concurrency and enables us to write both frontend and backend in JavaScript, streamlining development.

Express.js
Built on Node.js, Express.js is a minimal web framework the team used to create APIs. It simplifies routing, middleware usage, and request/response management, making backend logic clean and scalable.

AI Integration

Gemini
Gemini was chosen for its fast performance, reliable output, and budget-friendly nature. It supports basic AI tasks such as answering questions and generating learning prompts, helping enhance user support and overall engagement on the platform.

Real-Time Features

Socket.IO
Socket.IO powers our real-time messaging and notification features. It allows instant data transmission without page refreshes, ensuring a responsive experience. Its event-driven architecture supports live chat rooms and real-time alerts effectively, even on browsers that don't support WebSockets.

03 | Design Overview

Persona 1

Charlie Baker | Grade 4 Student

Age: 9
Location: Vancouver, British Columbia
Personality: Curious, playful, optimistic

Background

A grade 4 student who manages his school life well without having his parents' worries. He starts learning how to use software tools to complete his daily assessment at school.

Pain Points

Students struggle with using multiple software tools to complete homework, requiring extra effort to learn each one separately. The lack of a centralized and organized platform makes it difficult to manage documents and stay updated with teacher announcements, leading to confusion and inefficiency.

Technology Expertise

Amateur to average. Occasionally needs help from parents or teachers.

Needs

- Centralized platform to organize school files and assignments.
- Easy way to access teacher announcements and class updates.
- Simple communication tools for talking with classmates.
- Study tools that support review and self-assessment.
- Interface suitable for a child's reading and tech level.

Goals

- Keep all my school stuff in one place so I don't forget anything.
- Be able to ask questions or talk to my classmates when we work together.
- Feel more confident before tests by practicing what I've learned.

Persona 2

Ellen Randolph | Homeroom Teacher

Age: 32
Location: Burnaby, British Columbia
Personality: Organized, passionate, understanding

Background

An elementary school teacher who prepares materials and handouts day by day. Ellen also assesses students' work and provides help to students who encounter basic technical issues.

Pain Points

Ellen regularly prepares and organizes online materials, follows up on late submissions, and manually tracks student progress. She needs to use several tools to perform these tasks as no single platform offers all the features she needs.

She also finds it frustrating that none of the available tools support the non-letter grading system or the core competencies framework required in British Columbia.

Technology Expertise

Not highly tech-savvy and takes time to learn new tools, but already familiar with Microsoft and Google platforms.

Needs

- A centralized platform to organize and distribute teaching materials efficiently.
- Tools for monitoring student progress in real time without manual tracking.
- A platform taht supports British Columbia's non-letter grading and core competency reporting system.
- An intuitive interface suitable for teachers who are not highly tech-savvy.

Goals

- Reduce time spent on organizing and managing teaching materials online.
- Streamline student assessment and progress tracking.
- Easily communicate updates to students and parents to students.
- Conveniently assess assignments with BC's core competencies without extra effort.

Persona 3

Ashley Baker | Mother and Business Consultant

Age: 38
Location: Vancouver, British Columbia
Personality: Caring, supportive, time-conscious

Background

A mother of a grade 4 student who works a full-time job as a business consultant during daytime and deals with lots of housework at night, including tracking the learning progress of her child. She usually checks her child's assessment results by asking him directly.

Pain Points

Ashley finds it frustrating to track down teacher contact information and wait for infrequent report cards to understand her child's progress. She also faces challenges when her child struggles to submit assignments online, leading to delays and added stress.

Technology Expertise

Average - Need intuitive tools.

Needs

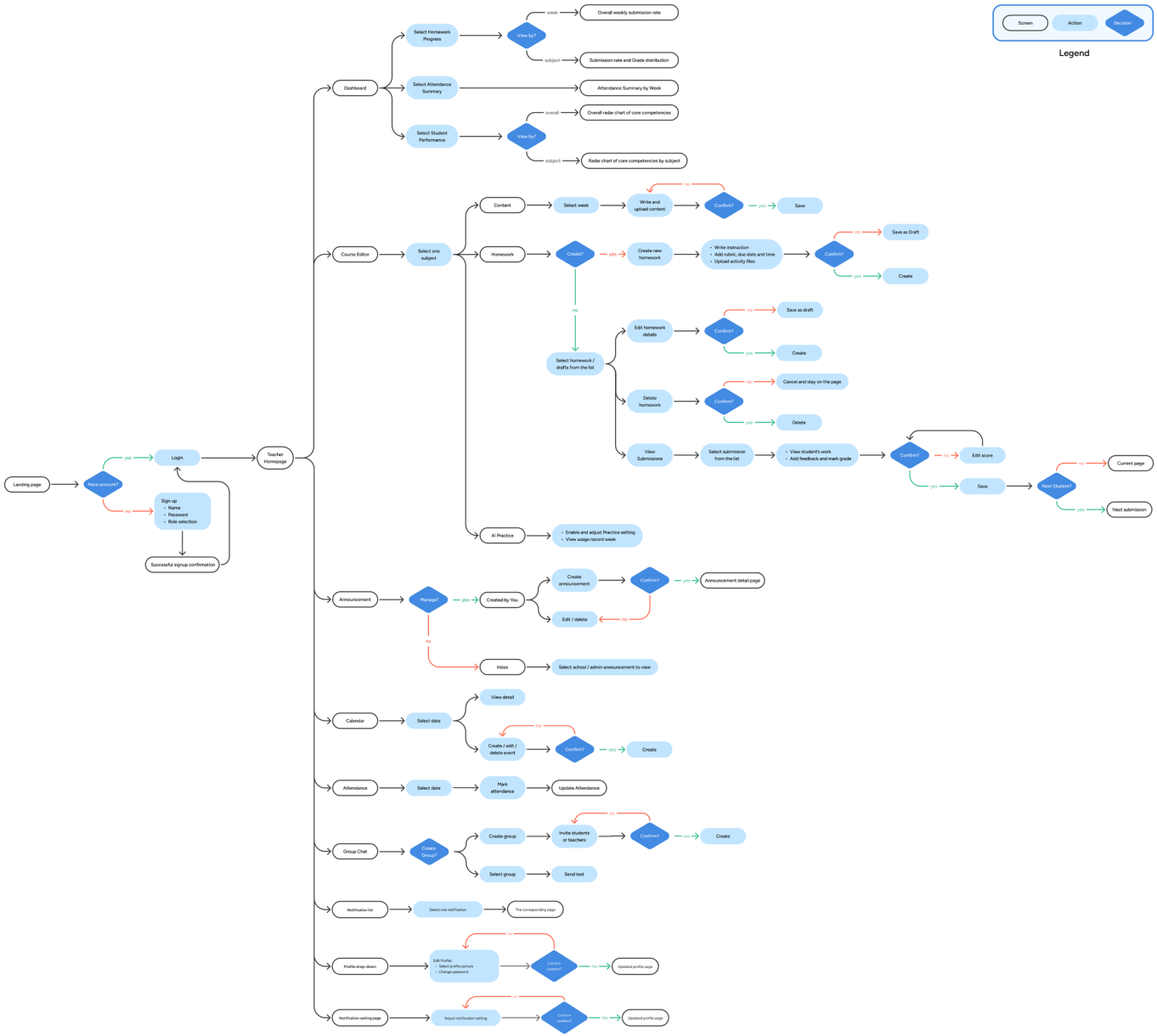
- Clear access to her child's progress, teacher's contact information, and school updates in one place.
- Timely updates from teachers on important events.
- Tools that help track submission status and upcoming deadlines.
- Simple interface that's easy for both parents and children to use.

Goals

- Save time by efficiently managing school-related tasks from one platform.
- Feel reassured that her child is on track and supported academically.
- Stay informed about her child's school performance without relying solely on report cards ad able to compare current and last term's performance.
- Ensure her child submits assignments on time and regularly attends classes.

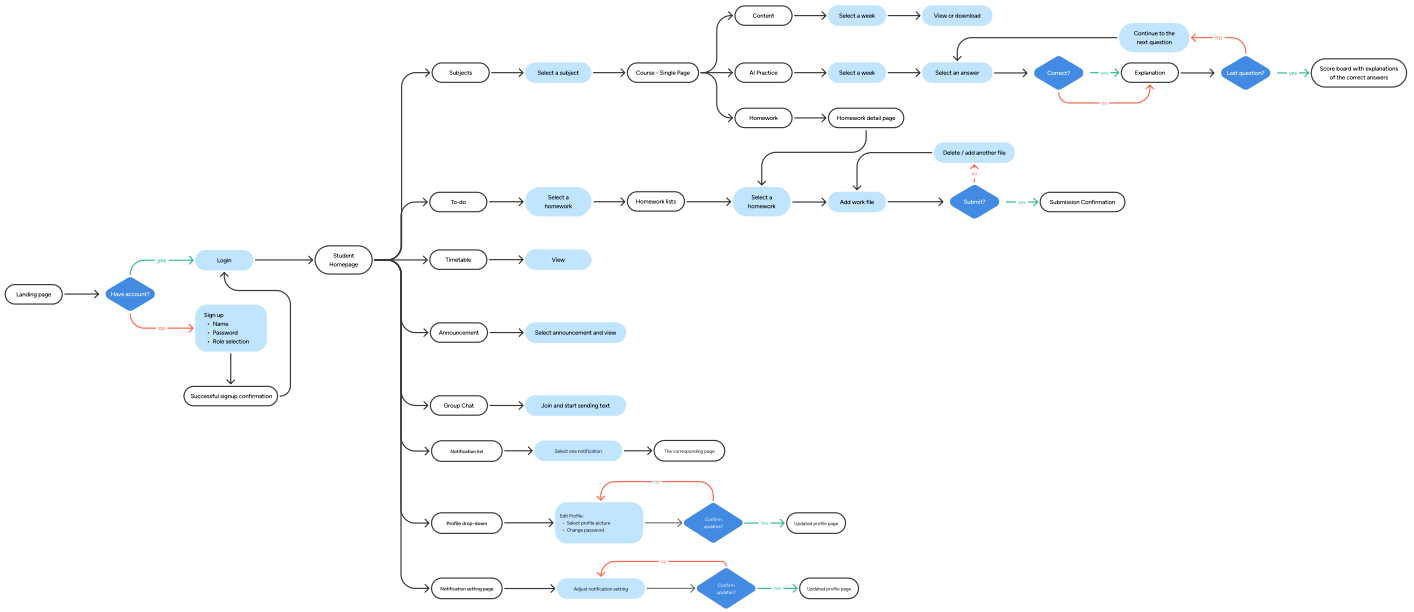
User Flow

Teacher
User Flow

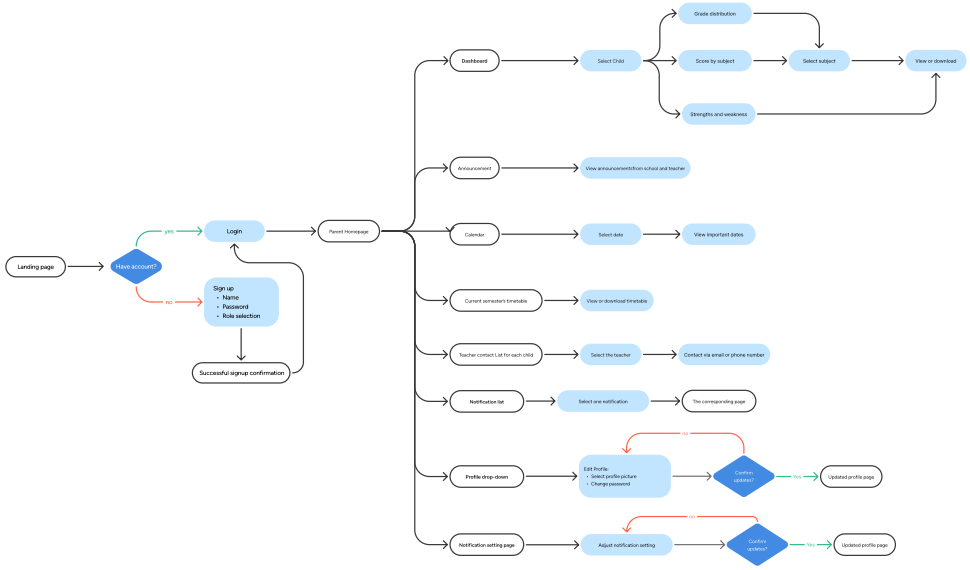


View the full-size user flow online at
cubie-learning.wmdd.ca

Student User Flow



Parent User Flow



View the full-size user flow online at cubie-learning.wmdd.ca

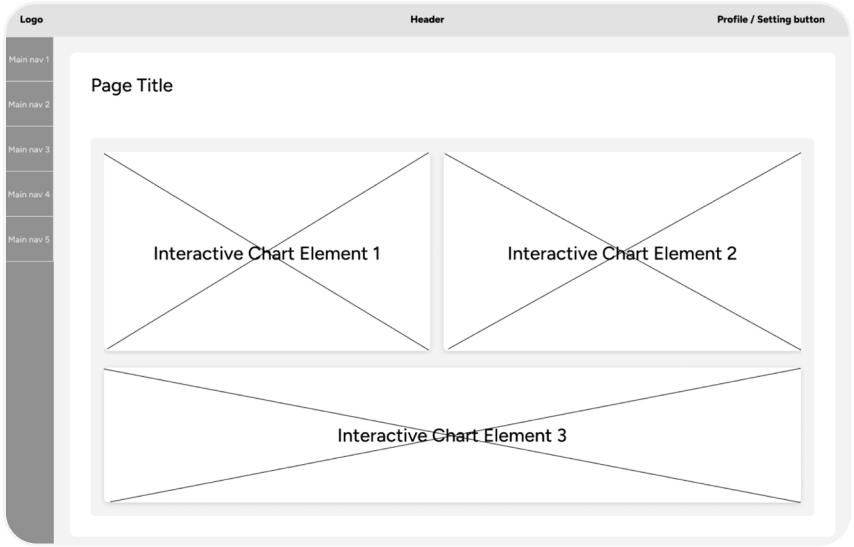
Wireframe

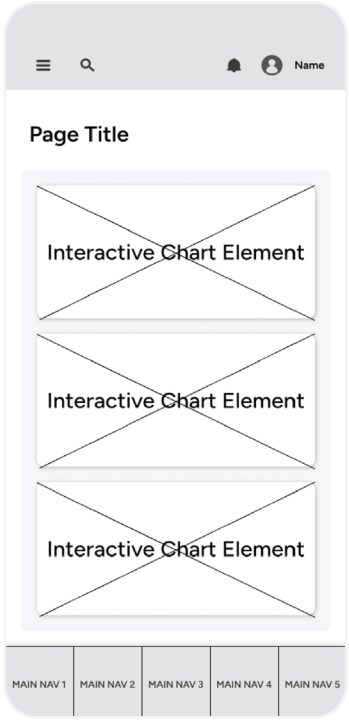
The wireframes presented here are a preview of key screens.

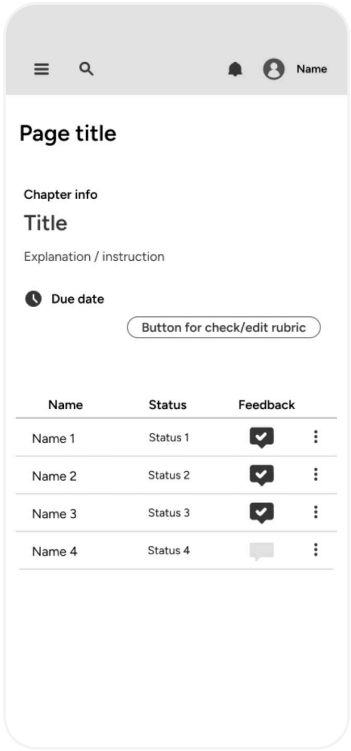
Visit cubie-learning.wmdd.ca to explore the full set.

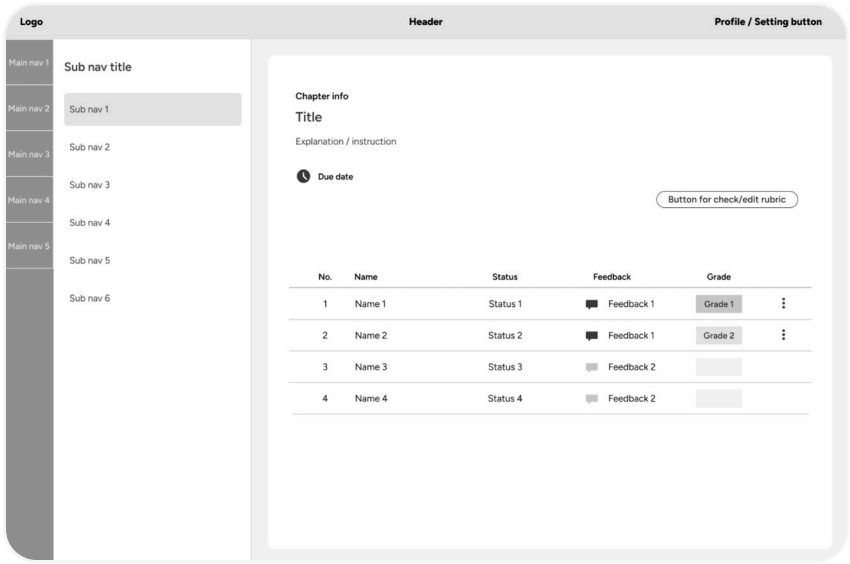
Teacher

Dashboard







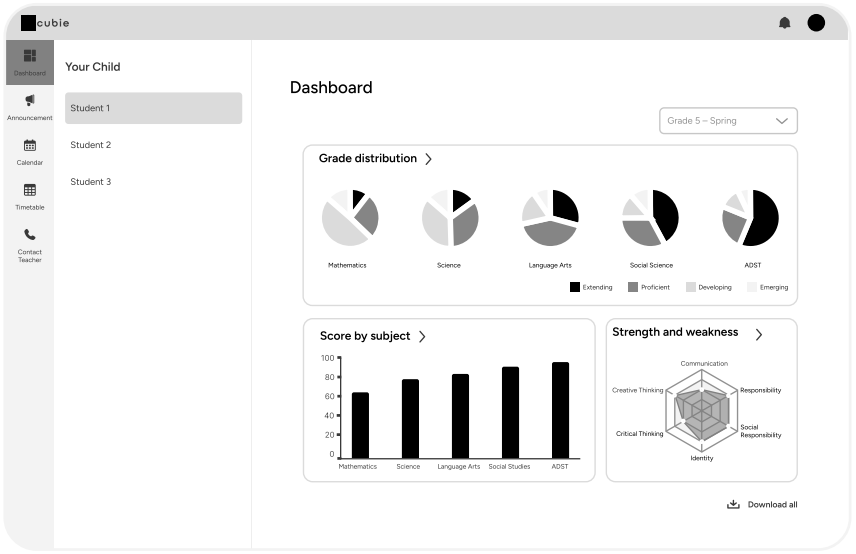


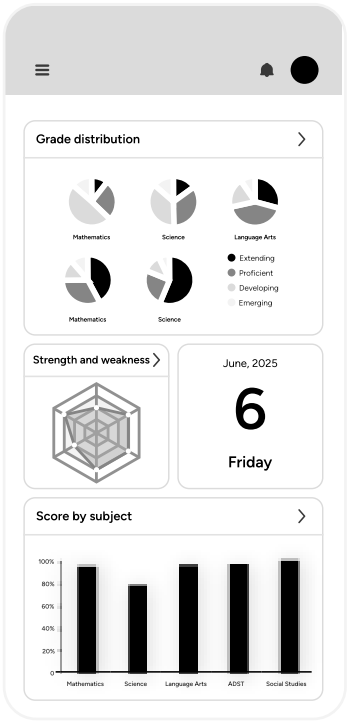
Teacher

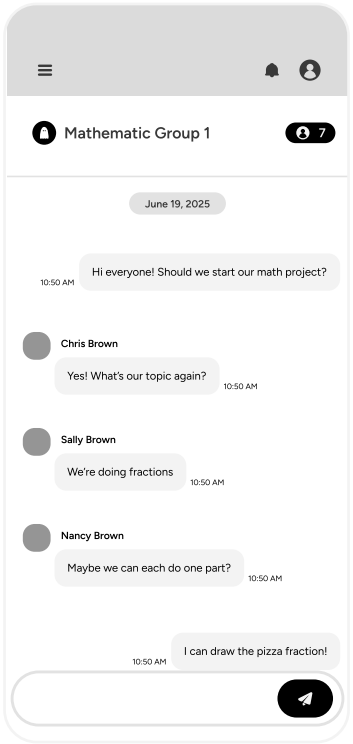
Grading

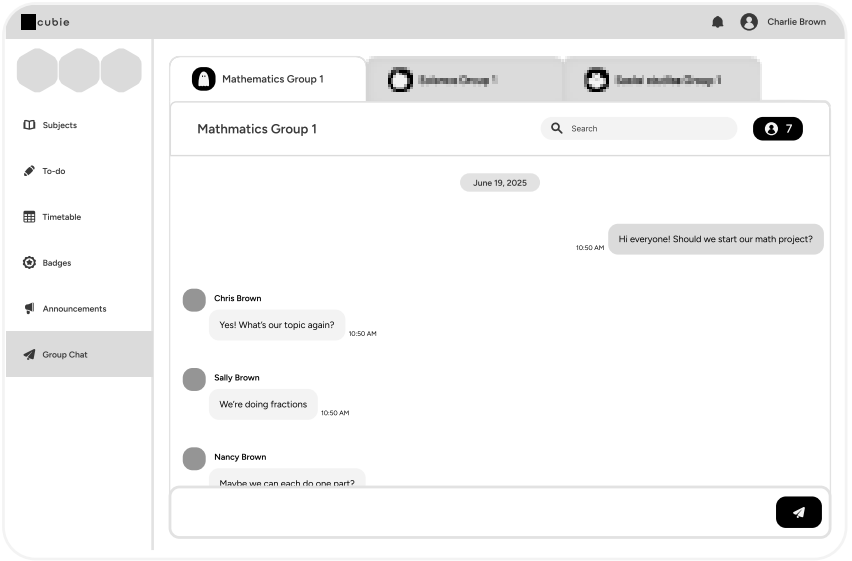
Family

Dashboard







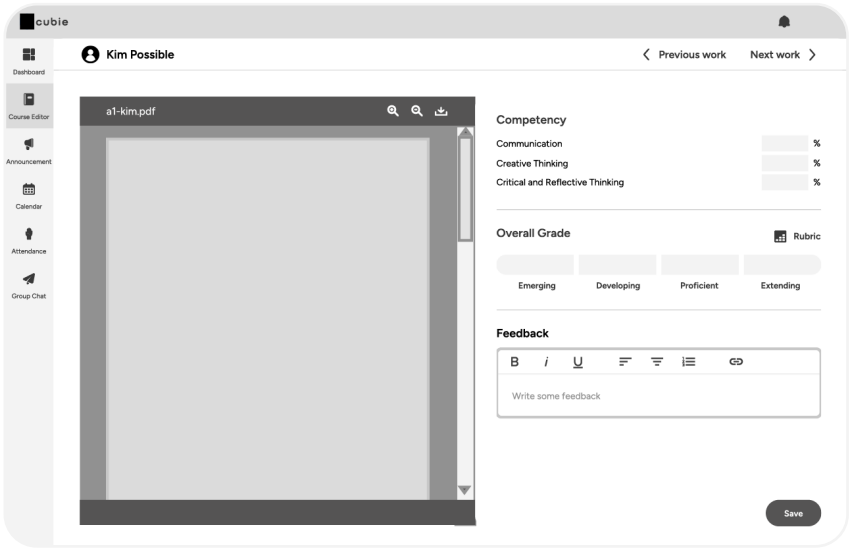


Student

Group Chat

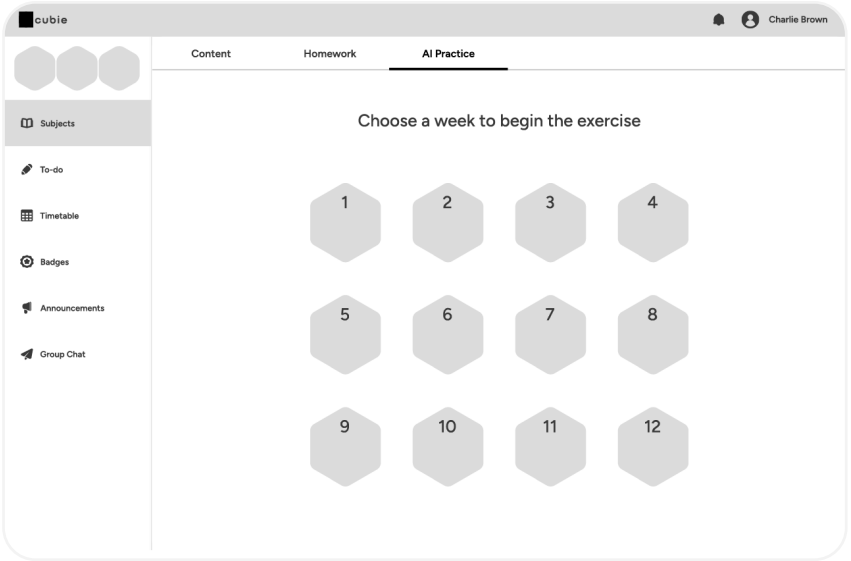
Teacher

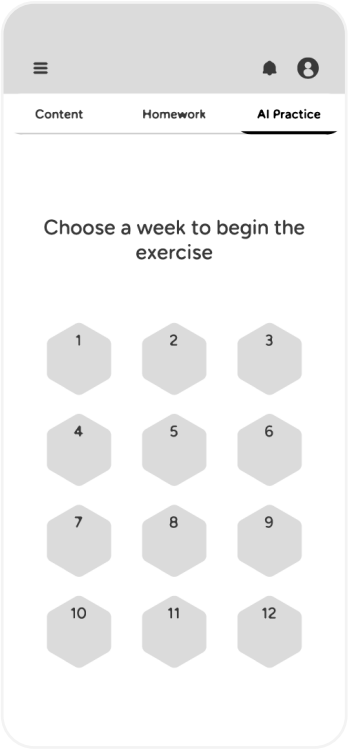
Grading



Student

AI Practice Quiz

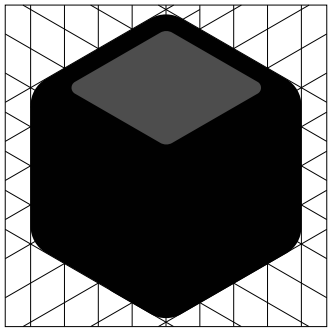




Branding

Logo Design

Cubie's logo is inspired by a cube to represent learning and knowledge. It is structured into a softer, curved form to mimics toy blocks. This blend of geometry and playfulness symbolizes Cubie's mission to make learning both engaging and foundational.



Logo Variations

cubie

cubie

cubie

cubie

Typography

Figtree

Aa

abcdefghijklmnopqrstuvwxyz
ABCDEFGHIJKLMNOPQRSTUVWXYZ
1234567890/.,"?!*&#@{}[]+-_=(_

SemiBold
Medium
Regular

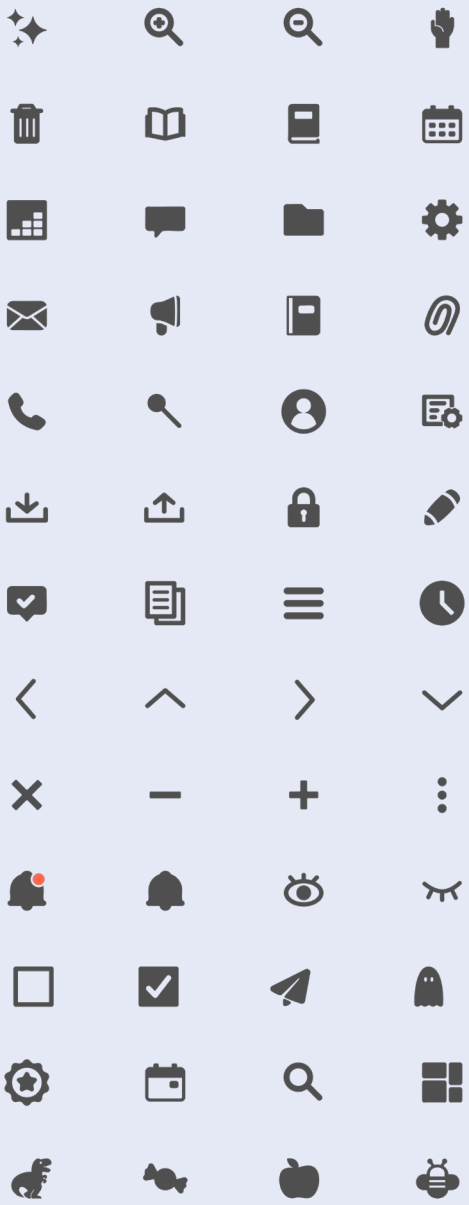
Headline

H1	28px Medium
H2	20px SemiBold
H3	18px SemiBold
H4	16px SemiBold
Button and label	13px SemiBold

Body

Body	16px Regular
Secondary body	14px Regular
Short body	12px Regular
Small label	10px Regular

Iconography



Color Palette

317CD8 A9D7FF 393939 FFFFFF

Brand Color

F06C00

Accent Color

F3F3F3 E2E2E2 CFCDCC 918F8F 787878 555454

Neutral Color

FE674D E8DA53 EEACD9 33C58D FFA237

Secondary Color

UI Kit

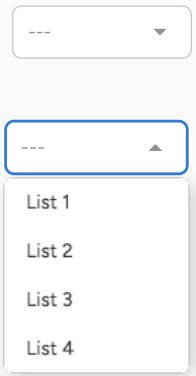
Buttons

	Default	Active
Primary	Default	Active
Secondary	Default	Active

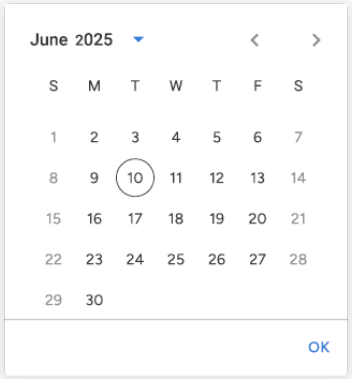
	Default	Active
Primary	Default	Active
Secondary	Default	Active
Tertiary	Default	Active

Components

Dropdown List



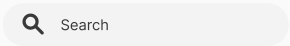
Calendar



File Card

Input Field

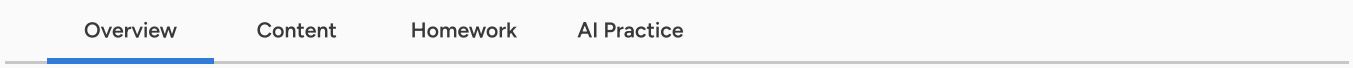
Search Field



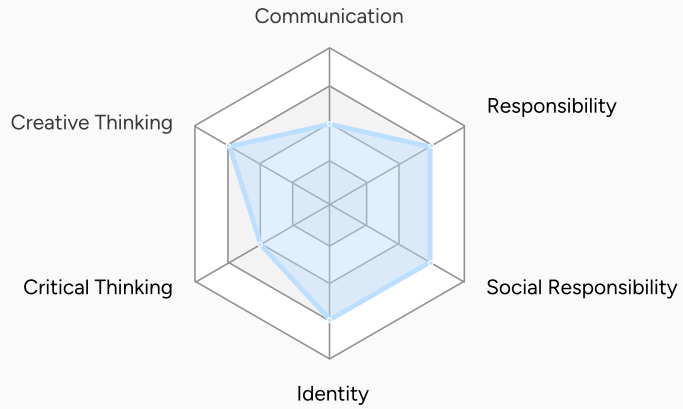
Navigations

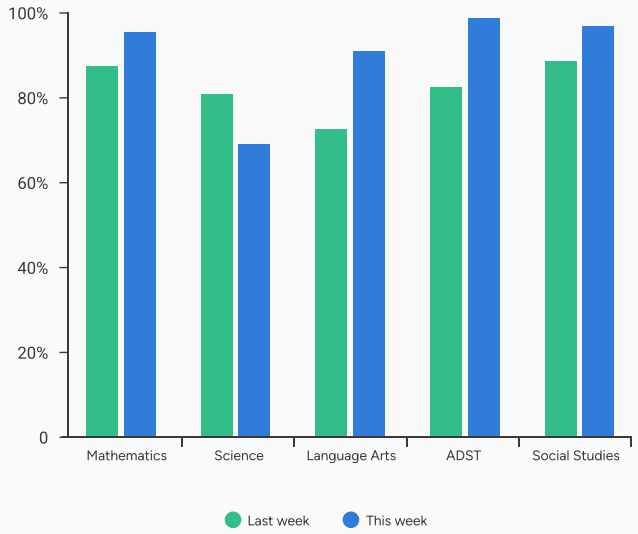
Upper Navigation

Tab



Data Displays

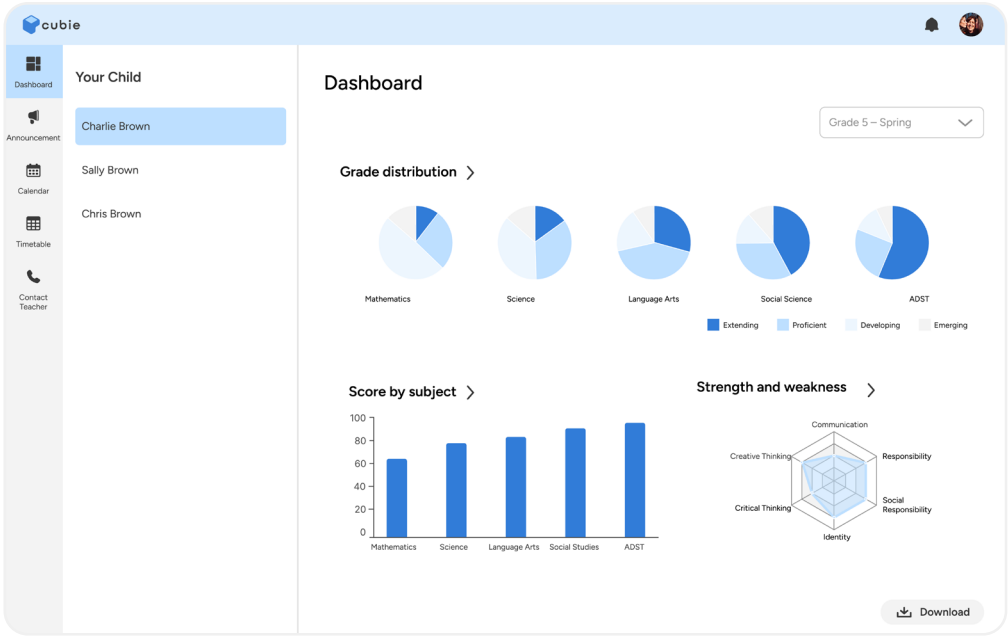


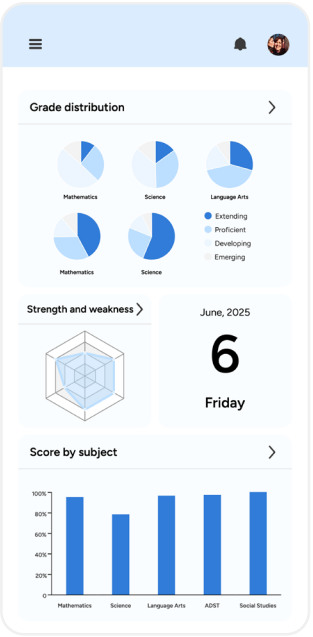


Mock-ups

The mockups presented here are a preview of key screens.

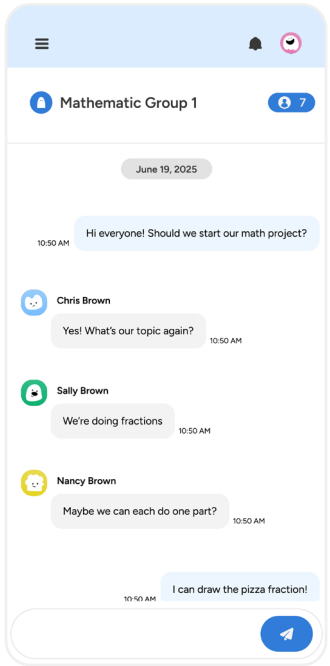
Visit cubie-learning.wmdd.ca to explore the full set.

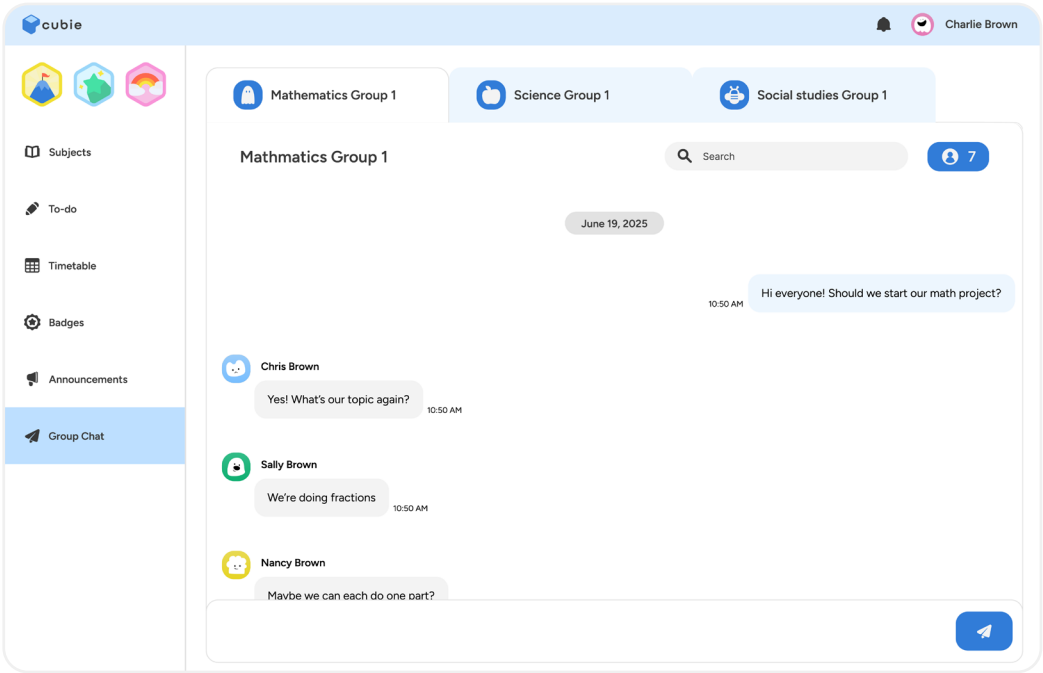




Family

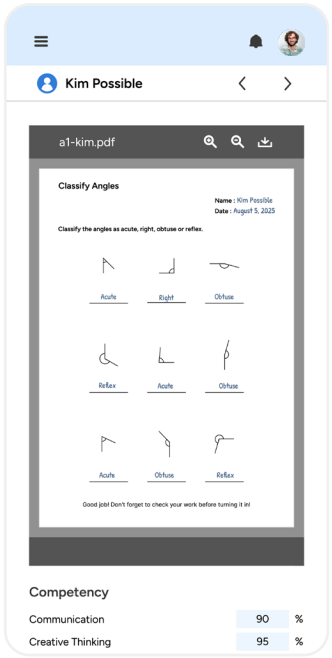
Dashboard

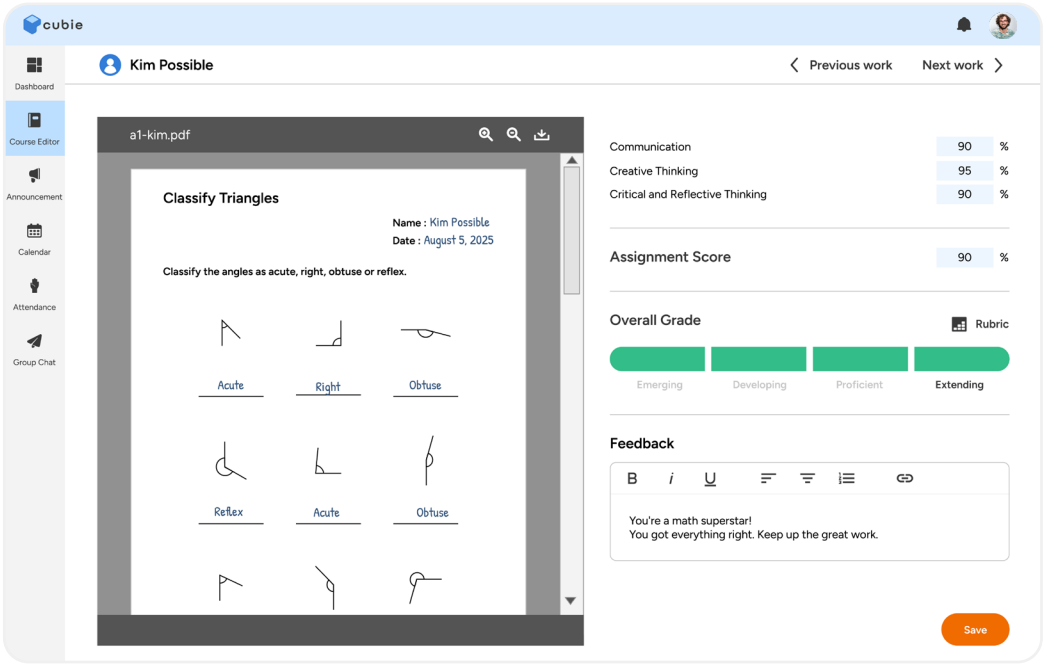




Student

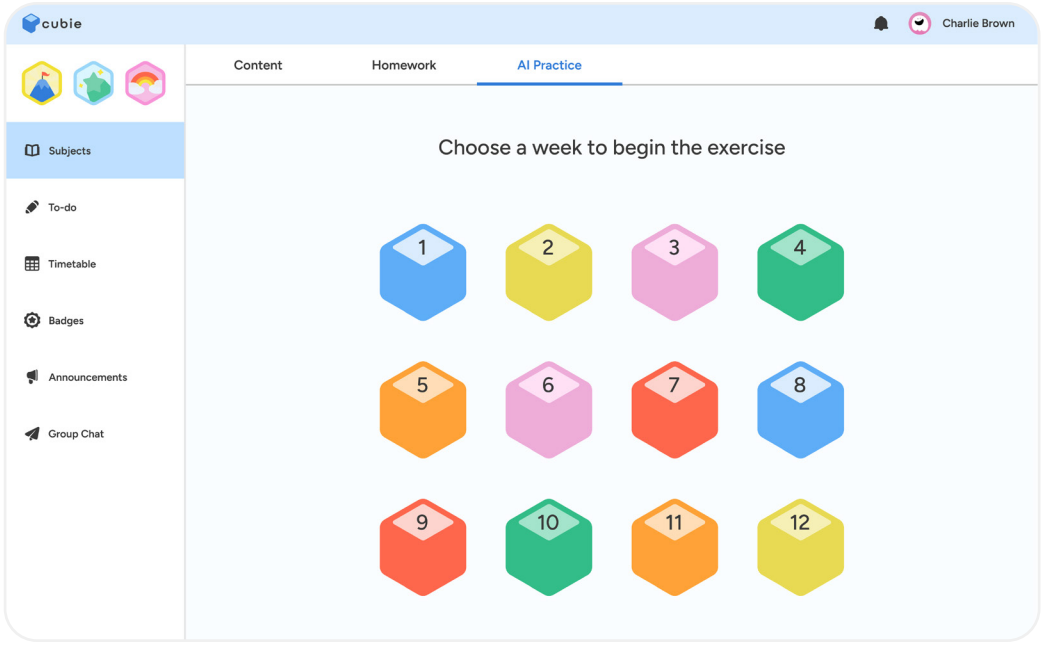
Group Chat

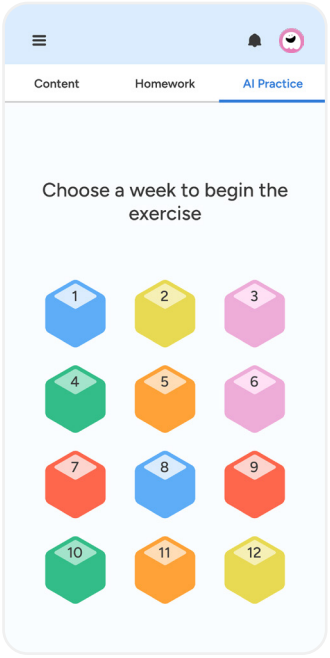




Teacher

Grading



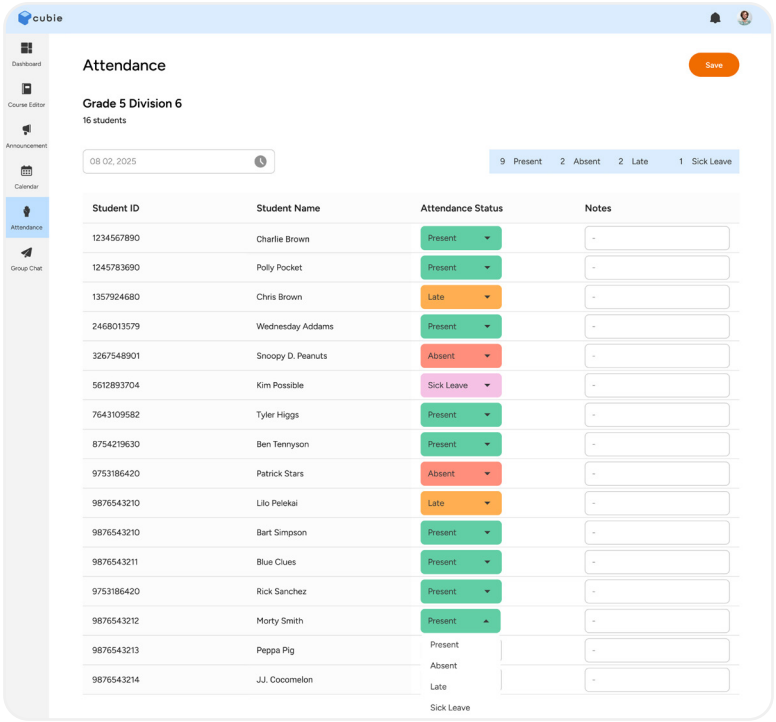


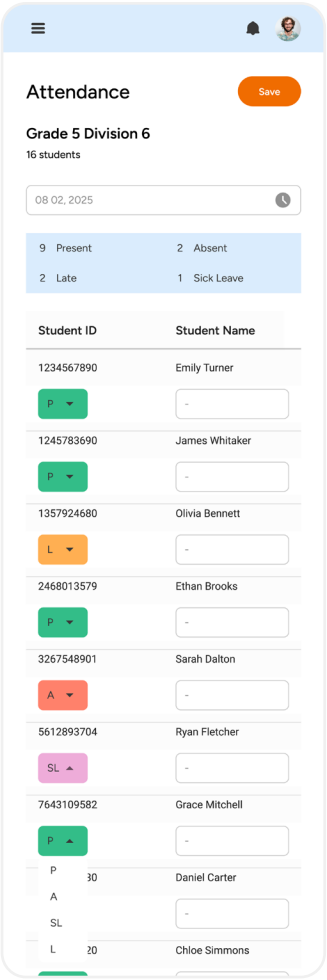
Student

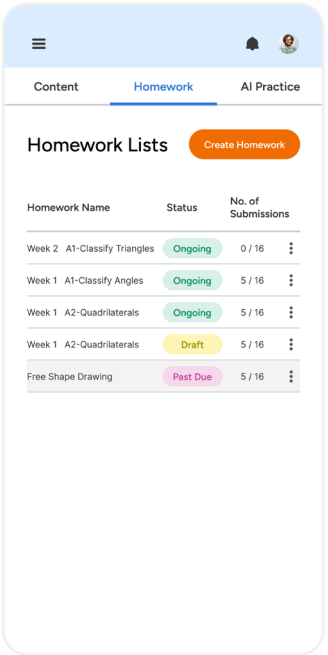
AI Practice Quiz

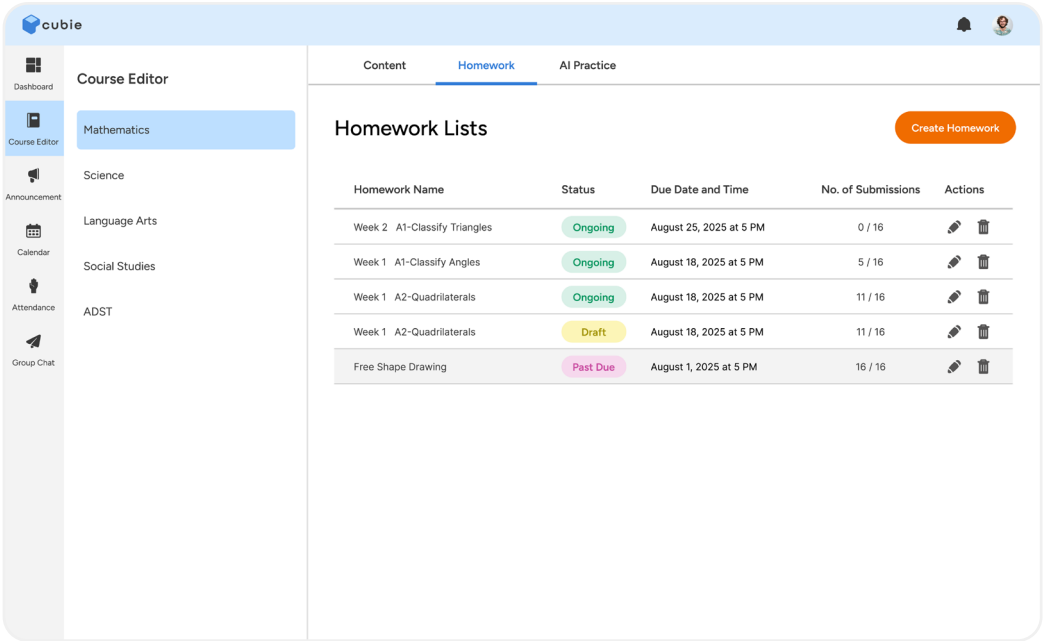
Teacher

Attendance



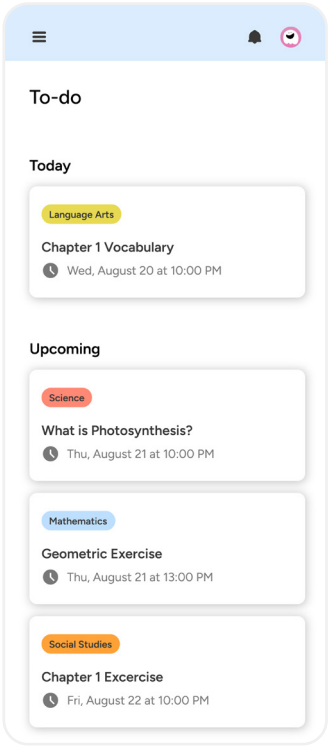


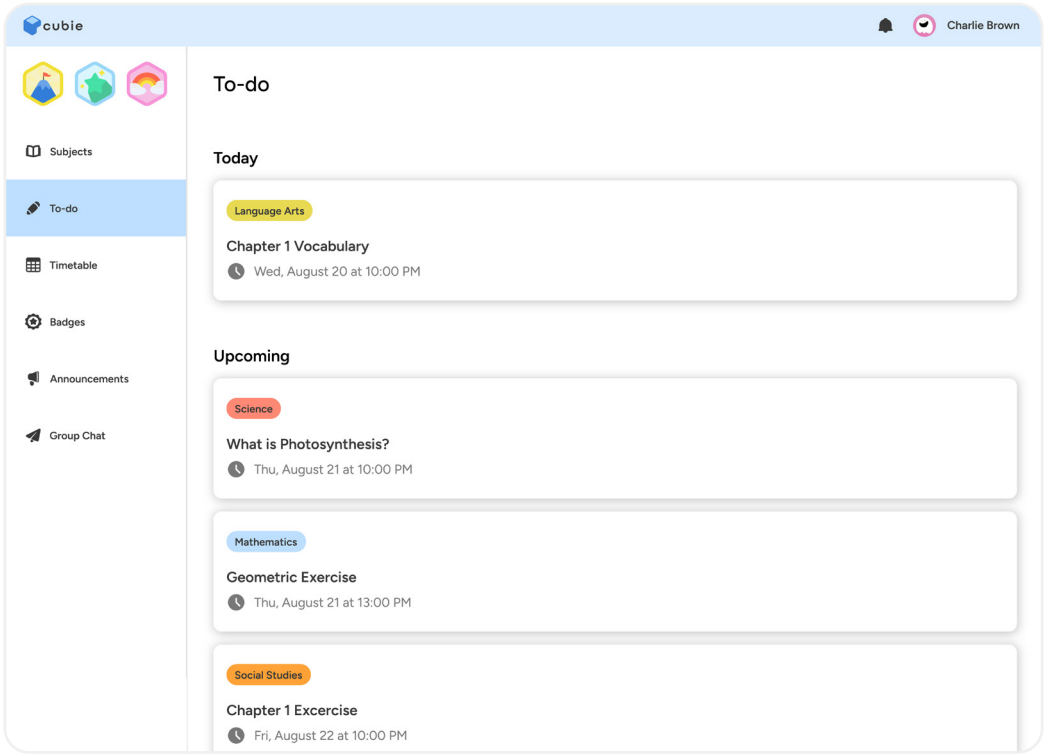




Teacher

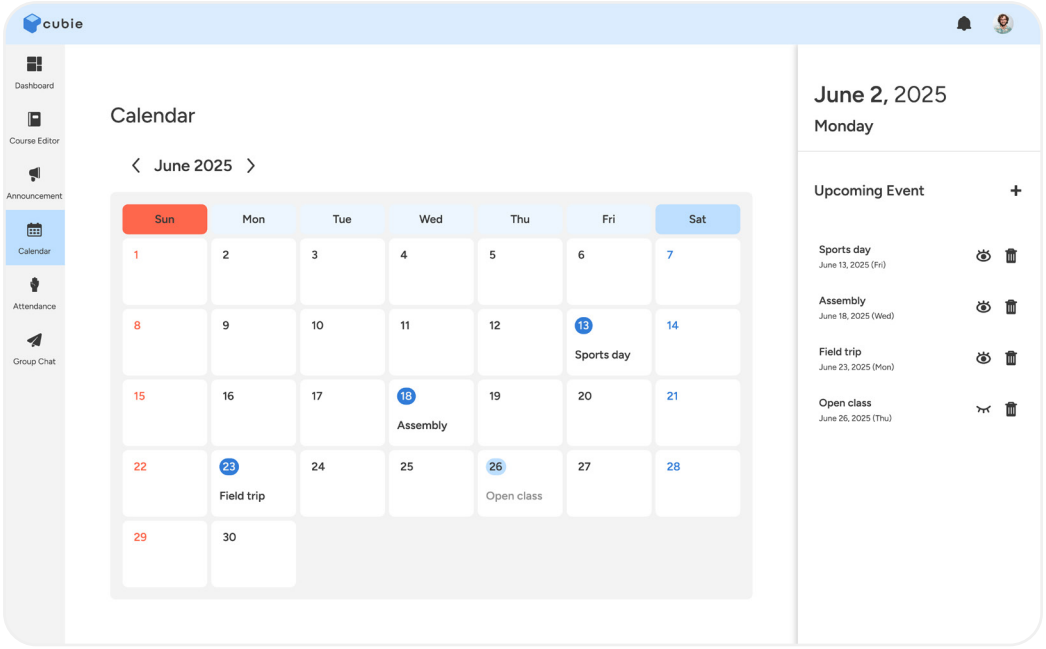
Homework Management

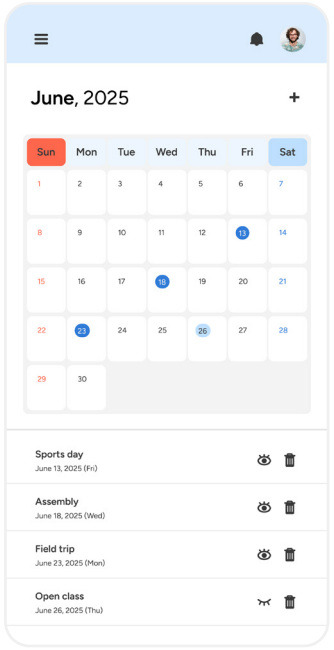




Student

To-Do List



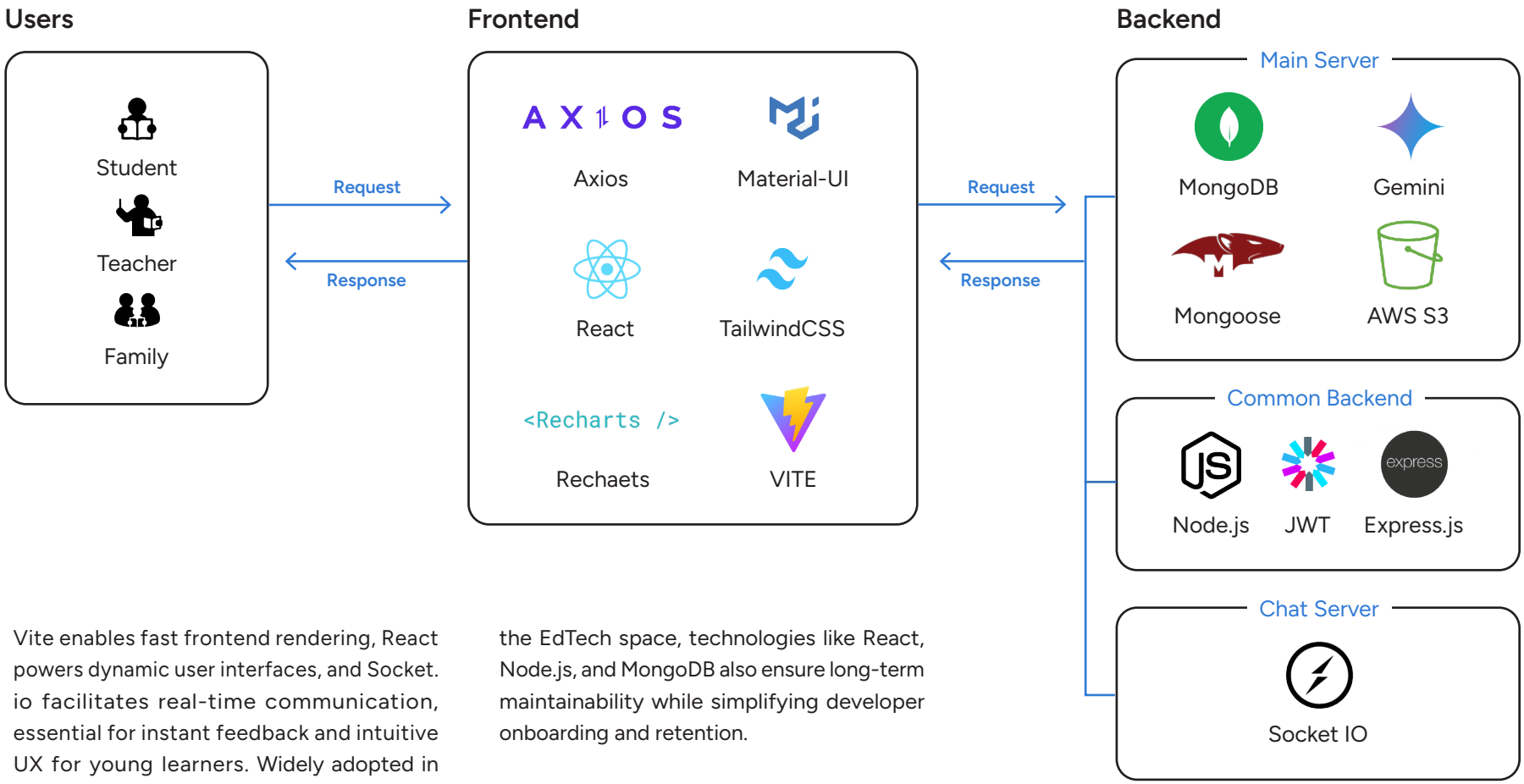


Teacher

Calendar

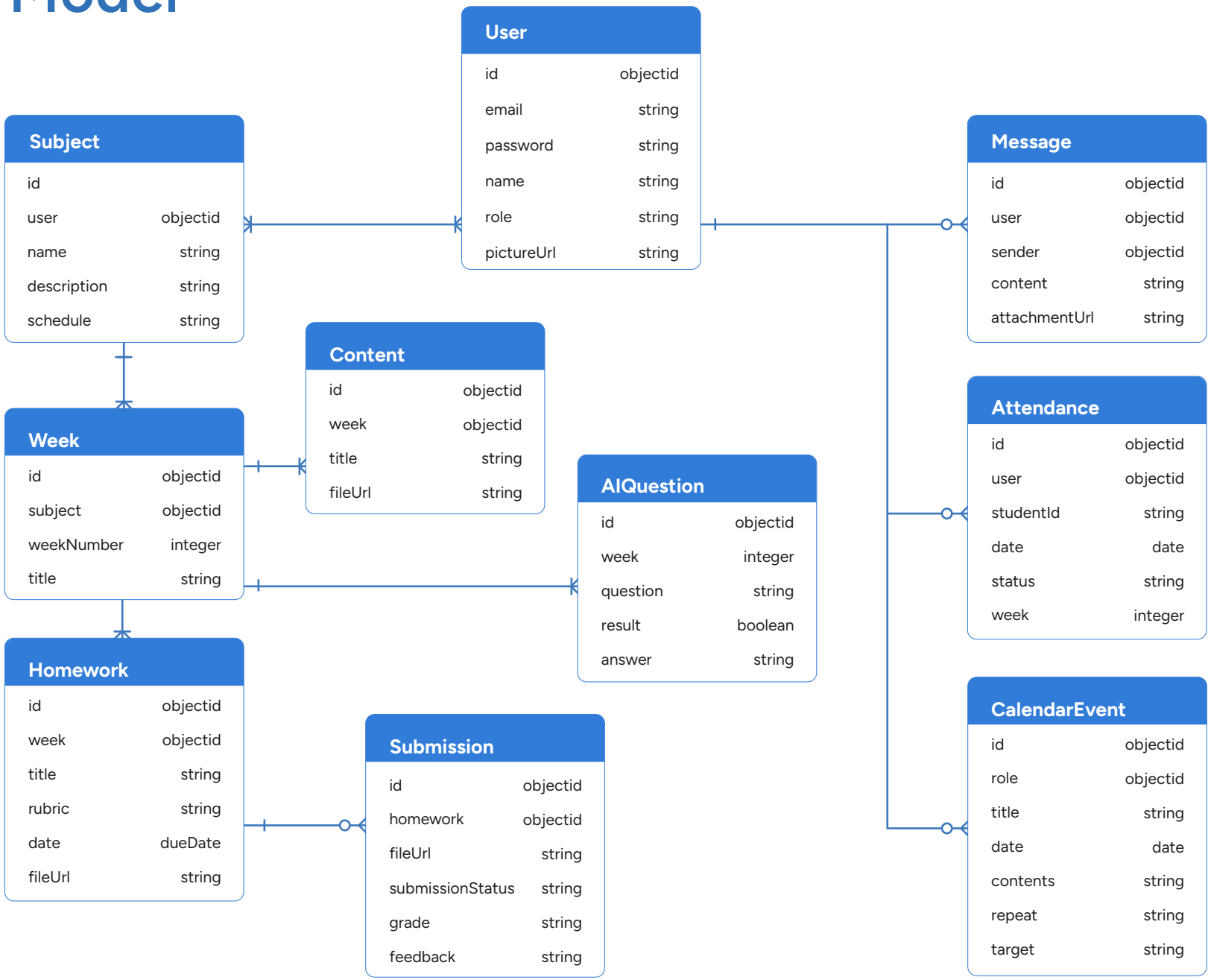
04 | Technical Overview

System Architecture



Vite enables fast frontend rendering, React powers dynamic user interfaces, and Socket.io facilitates real-time communication, essential for instant feedback and intuitive UX for young learners. Widely adopted in the EdTech space, technologies like React, Node.js, and MongoDB also ensure long-term maintainability while simplifying developer onboarding and retention.

Data Model


User
id objectid
email string
password string
name string
role string
pictureUrl string
Subject
id
user objectid
name string
description string
schedule string
Message
id objectid
user objectid
sender objectid
content string
attachmentUrl string
Content
id objectid
week objectid
title string
fileUrl string
Week
id objectid
subject objectid
weekNumber integer
title string
AIQuestion
id objectid
week integer
question string
result boolean
answer string
Attendance
id objectid
user objectid
studentId string
date date
status string
week integer
Homework
id objectid
week objectid
title string
rubric string
date dueDate
fileUrl string
Submission
id objectid
homework objectid
fileUrl string
submissionStatus string
grade string
feedback string
CalendarEvent
id objectid
role objectid
title string
date date
contents string
repeat string
target string

05 | Business Model

Pricing & Plans

Be one of the first 20 schools to pre-sign up and enjoy 1 month of full access for free.

Cubie Starter

A basic plan for schools using their own server, ideal for small-scale operations.

2,000 CAD / Yearly

- ☑ Uses school server / API
- ☑ Includes up to 300 students
- ☑ $5 per additional student

Cubie Smart

Includes AI Practice for enhanced learning support while using the school's server.

2,500 CAD / Yearly

- ☑ Uses school server / API
- ☑ AI Practice Feature included
- ☑ Includes up to 300 students
- ☑ $5 per additional student

Cubie Cloud Starter

A simple plan that runs on Cubie's cloud, with no need for school server setup.

4,000 CAD / Yearly

- ☑ Uses Cubie's server / API
- ☑ Includes up to 300 students
- ☑ $5 per additional student

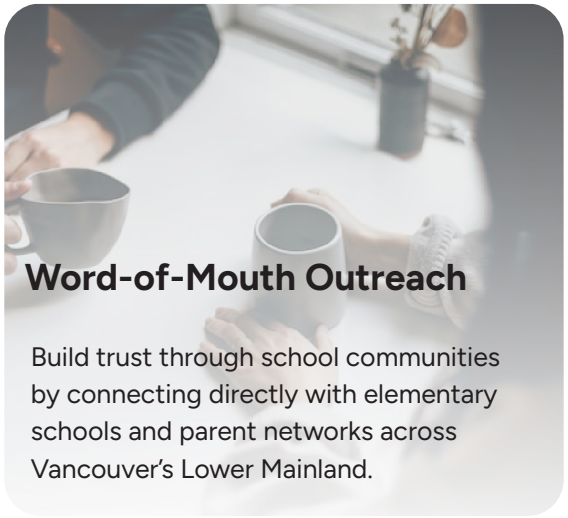
Cubie Cloud Smart

The all-in-one plan with AI features and full cloud-based convenience.

4,500 CAD / Yearly

- ☑ Uses Cubie's server / API
- ☑ AI Practice Feature included
- ☑ Includes up to 300 students
- ☑ $5 per additional student

Marketing Strategy

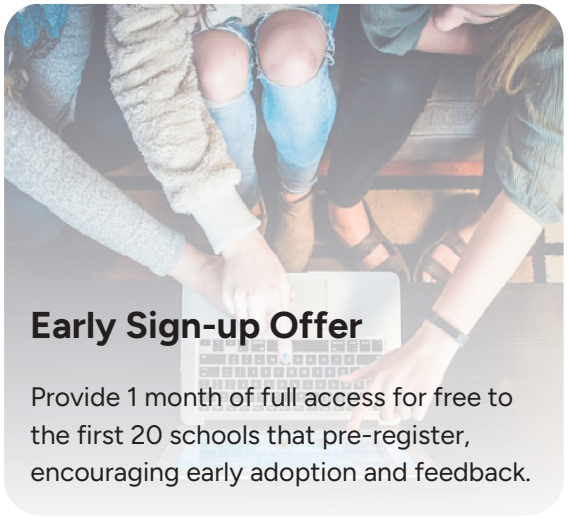


Word-of-Mouth Outreach

Build trust through school communities by connecting directly with elementary schools and parent networks across Vancouver's Lower Mainland.

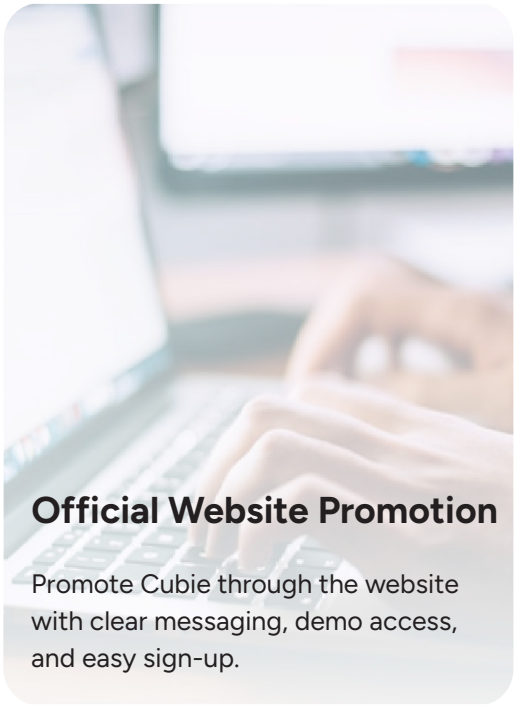
Social Media Advertising

Run targeted campaigns on platforms like Facebook and LinkedIn to reach educators and parents, highlighting Cubie's intuitive, kid-friendly features.



Early Sign-up Offer

Provide 1 month of full access for free to the first 20 schools that pre-register, encouraging early adoption and feedback.



Official Website Promotion

Promote Cubie through the website with clear messaging, demo access, and easy sign-up.

Email Campaign to Schools

Send email campaigns to local schools to introduce Cubie and encourage pre-registration.

Ethics & Social Responsibility

Ethics

As a child-focused platform, Cubie prioritizes ethical responsibility through:

- Full compliance with FIPPA and FERPA regulations.
- Transparent data practices with parent-controlled sharing settings.
- Design choices that respect student privacy and promote accessibility.

Social responsibility

Cubie commits to closing the digital divide by:

- Donating 10% of revenue to provide refurbished devices for underserved schools.
- Empowering families with advocacy tools, including parent-facing features and school-specific petitions.
- Supporting equitable access regardless of a school's fundraising capacity.

Sustainability

Cubie integrates sustainable practices into both design and operations:

- Runs smoothly on low-spec and older devices.
- Partners with refurbishment programs. Each reused PC saves 380kg CO_2, 240kg chemicals, and 5,000L water
  Powered by AWS cloud infrastructure, using 90% renewable energy.

Our goal is to build a fairer, greener, and more inclusive digital future for every learner.

Future Roadmap

Content Safety Filter

Detects and filters out profanity and inappropriate images to ensure a safe learning environment.

Avatar Customization

Students earn custom avatar items as rewards for using the platform, making learning more fun and engaging.

AI Smart Practice Management

AI Smart Practice empowers teachers to guide and monitor, and students to practice at their own pace with tailored questions.

Achievement System

Students earn badges by reaching milestones, turning progress into motivation.

Granular Notification Preferences

Enable notification scheduling for teachers and customizable visibility settings for users.

Advanced Course Management

Support customizable rubric systems to fit diverse grading practices.

Meet the Team | Team Kiwii

Pimsirin Prasartset – Poppy

in/pimsirin-prasartset

Lead UX/UI Designer

UX/UI designer with a background in post-production and project management, experienced in leading end-to-end workflows. Led the overall design direction with a focus on age-appropriate interfaces, clear user journey, and cohesive visuals and branding. Designed core user flows and interface screens across all user roles, along with illustrations.

Suro Kim

in/suro-kim

UX/UI Designer

UX/UI designer with a background in video production planning, bringing a strong sense of storytelling and visual clarity to design. Focused on crafting intuitive, engaging interfaces that meet user needs. Responsible for the UX structure, dashboard design, data visualization, and iconography in this project. Aims to balance aesthetics with empathy-driven usability.

Tsun Man Au – Terrance

in/tsun-man-au

UX/UI Designer

UX/UI designer with a background in software QA, with experience working closely with developers to test features and write use cases. Drew on QA and technical experience to ensure to ensure practical and user-centered solutions. Contributed to user research, flows, and usability testing while supoorting desktop and mobile screen design.

Naomi Fujii

in/naomi-fujii

Project Manager / Full-stack Developer

Full-stack developer with a background in design direction and entrepreneurship. Led both front and back-end development while coordinating smooth collaboration across the team. Focused on building reward features and visualizing key data such as submissions, scores, and core competencies. Also responsible for designing APIs and maintaining clear project timelines.

Ryo Ito

in/ryo-ito

Lead Full-stack Developer

Full-stack developer with a background in architecture, skilled in problem-solving and system planning. Leads decisions on architecture, tech stack, and external tools, while maintaining code quality through reviews. Set up the development environment, supported team workflows, and developed the Course Editor feature to enhance functionality.

Chien-Jen Wang – Francisco

in/francisco-wang

Full-stack Developer

Full-stack developer with a background in automation and chemical engineering. Take charge of both front- and back-end development while coordinating with Gemini AI API. Previously built authentication and event features for an award-winning web product. In this project, implemented AI interactions designed to engage smoothly with children in an educational setting.

Semih Cetin

in/semih-cetin

Full-stack Developer

Full-stack developer with a background in humanitarian aid and digital automation, experienced in building systems for crisis response. Developed the real-time chat system as a safe communication space for students with a focus on responsive design, secure messaging, and integration into collaboration spaces. Values accessibility, teamwork, and user-centered development.

Reference

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Competitors

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Design case study

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Pictures

Okolie, P. (n.d.). Smiling woman near tree [Photograph]. Unsplash. https://unsplash.com/photos/smiling-woman-ner-tree-POYpj77zhfs

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Nilov, M. (n.d.). Boy in white crew neck shirt holding a book [Photograph]. Pexels. https://www.pexels.com/photo/boy-in-white-crew-neck-shirt-holding-a-book-8923804/

cubie