

Community Coding & Industry Skills Impact Proposal

May 2024-2027

Multi-District CS & Coding Initiative in Partnership
with Baylor University

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Introduction

Based on the inquiry by Baylor University, research has been undertaken and an impact-focused CS & Coding venture has been prepared.

A suggestion was put forth to invest in an easy-to-use platform and curriculum which can kick-start improved school STEM programs and Teacher STEM skills through an innovative 3-year, school-driven Coding and AI campaign in 20 schools within surrounding districts.

The core proposal centers impact around providing full platform licenses and training to 60 teachers - Approximately 3 per school. To leverage off of this and build sustainable and industry-defying, future-safe and confidence-building skills in the pre-teens and teens in the country and region.

Background

CodeTribe was founded based on the successful CodeJKA program which teaches 160,000 students per year.

CodeTribe differentiates itself radically from other platforms in that it is focused on skills which are industry-transferable.

It does this while providing a creative and gradual learning curve through an encouraging, self-guided model. - This plays out in a truly astounding way, such that teachers can easily manage a large class of students who have never coded before.

Teachers across hundreds of districts and thousands of schools can attest to the incredible ease with which especially girls and non-technical students engage and create their own artifacts - Games, Websites and AI Tools.

Motivation

The goal of this venture is to enable great career confidence and opportunity to, starting with pre-teens and teens. The duration of the venture allows the skills of both students and teachers to mature.

Studies show how being exposed to Computer Science and coding significantly demystifies technology, increases creative confidence in other subjects and, surprisingly, also boosts math scores. The attention to detail, creative nature, debugging and immediate feedback of the coding give a sense of autonomy and confidence that other subjects find hard to rival.

Goals

The goal of the program is to rapidly build momentum and to both sustain and expand skills year on year.

Year 1: Provide licenses and **train 60 teachers** across the three “Tracks” offered: Web-Dev, Game-Dev and AI & Automation.

Students Trained and Impacted: 1800

Year 2: Rollout an aligned micro-bit driven **robotics program** to further engage some of the classrooms. Bringing code to the physical is a powerful way to reinforce and amplify concepts and team-work.

Students Trained and Impacted: 2400

Year 3: Besides on-going training and improvement an accelerated and **advanced Summer Camp** is implemented. This will be suggested for 3-5 specific schools that have the appetite to launch and run it.

Students Trained and Impacted: 2600

Initial Rollout

Rollout is suggested for September 2024 with preparations ongoing throughout August.

The flow of the rollout and program will follow this suggested flow:

Phase I: Leadership Engagement - Aug/Sept 2024

Informal Meetups with each 3 “Lead” districts: Key Teachers, Curriculum Coordinators and leadership will offer insight, suggestions and ask any questions during this phase.

Based on this feedback and relationships, rollout per district will be coordinated.

Each school or district will highlight the teachers suggested or who volunteered to be part of this coding initiative.

Phase II: Platform Awareness - Sept 2024

Teachers will receive emails outlining the exciting partnership and are encouraged to explore the platform and sign up for a “PD: Platform Introduction Calls”.

Phase III: Induction and Classroom Rollouts - Oct 2024

Reminders, highlights from other teachers and classrooms demos will be shared to teachers who may be late in taking part in the PD Sessions.

It is recommended that each Teacher take part in three 45 minute virtual sessions. However, even taking part in a single session will be sufficient to launch and rollout very successfully.

Phase IV: Computer Science Education Week Nov/Dec 2025

Teachers will be encourage to take part in CSEd Week and special micro projects are recommended for even younger or less experienced classes to get snapshots into the world of coding.

More community-building between teachers will occur via a dedicated Discord channel and AMA hours. Teacher ambassadors will be recommended who are within the region and may enjoy taking questions or in-person calls from other teachers.

Phase V: Ongoing support, mentoring and “I’m Stuck” assistance

Teachers will be able to not only request assistance, but easily share student projects for learners to get direct feedback support and debugging from the CodeTribe Trainer team.

Monitoring & Evaluation

The core metrics that will be tracked are:

- # Students engaged
- # Total Lessons completed
- # Schools actively teaching
- # Teachers trained
- # Teachers teaching

At the end of the cycle CodeTribe will collate photos, videos and statistics of the impact and present this to the school, district and partners as part of the annual evaluation process.

It will also present recommendations and critical feedback of how the CodeTribe team could perform better based on feedback from students, teachers and administrators.

Benefits

The benefits of this program, while certainly hard to measure in entirety, will be clearly identifiable and the team expects them to be visible immediately.

Due to CodeTribe's expertise in rollouts with teachers from all subjects and students from all income levels the approach will be fun- and creativity-driven.

Expected Outcomes for Schools:

1. Improved Teacher confidence around STEM and CS.
2. Improved student confidence, skill and motivation around technical and analytical subjects.
3. Improved relations with parents as they see their students showcasing impressive coding projects. (Which is the unique outcome of the CodeTribe platform.)
4. The opportunity to run school- or district-level hackathons.

Expected Benefits for Baylor:

5. Closer connection with the surrounding education eco-system.
6. Volunteering opportunities for students.
7. A technical-oriented pipeline for students from the region.

Budget

Budget Overview

\$23,976	Licenses
\$5,400	PD Sessions
\$11,520	Teacher & Student On-Demand Mentoring
FREE	Hackathon Partnership
\$40,896	Diamond Package: Total per Annum
\$29,376	Premium Package: Total per Annum
\$1.42	<i>Diamond: Cost per Student per Month</i>
\$1.02	<i>Premium: Cost per Student per Month</i>

Licenses

\$37	Per Teacher Per Month
60	Teachers
\$2,220	Per Month
10%	Discount
\$23,976	Per Annum

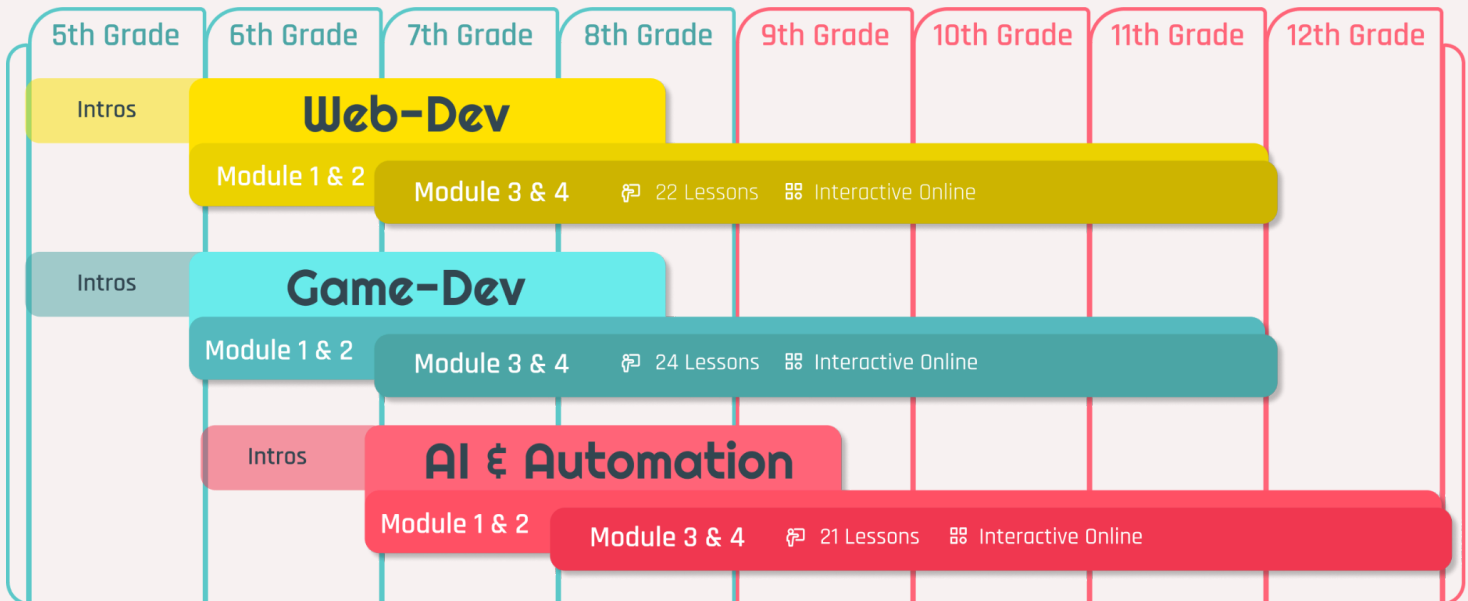
Professional Development Sessions

6	Community Sessions (Remote)
3	Tracks (Web, Game & AI)
18	Total Sessions
\$300	Per Session
\$5,400	Total PD

Teacher & Student Mentoring

\$2	Mentoring Monthly per person
2400	Students
\$4,800	Per Month
80%	Discount
\$960	Sub-Total Monthly
\$11,520	Annual Mentoring

Course Mapping



*Module 3 & 4 of these courses may be revised every 24 months to ensure relevance.

** The courses linked and supplied under the supporting pillars may not be eligible for full online progress tracking due to the nature of the content or the platform hosting the interactive activities.

Supporting Pillars

Design Thinking
 How to build and design solutions. From design, to prototyping to creating a purpose-built app

📖 21 Lessons 🤝 Partner
 🧩 Mainly Offline 📄 Code.org

Problem Solving & Computing
 Computational thinking and how computers and the internet work. A flow of mainly offline activities, videos & discussion points.

📖 8 Lessons 🤝 Partner
 🧩 Activities 📄 Code.org

Data & Society
 Data Structures, Data uses and manipulating data. Securing your data online and providing data automations.

📖 21 Lessons 🤝 Partner
 🧩 Interactive 📄 Code.org

CAPSTONE:
 Digital Entrepreneurship & Social Impact Project
 Partnerships with various non-profits: US-based & International.

📖 6 Lessons
 🧩 Planning & Coding

Standards-aligned curriculum | Built on a web-based, mobile-friendly collaborative and teacher-oriented learning environment.



Origin Story

Founder Jonathan, launched CodeJKA in South Africa in 2018 as a way for teens to learn how to code without: A teacher, money or an internet connection.

The first version used fun and engaging PDFs to show learners how to code in Notepad and run it in the browser of any PC. This then evolved into a project to help learners get introduced to coding via a browser on their phone.

After initial prototypes the team began designing a mobile friendly version which could work on any device with an absolute minimum of bandwidth, as data is still costly in many developing countries.

After many iterations CodeJKA launched a full version with an online version of the curriculum. After partnering with CodeTribe a revised curriculum and a Game Dev course was launched in late 2023. These modules received very positive feedback and resulted in the platform being adopted and replacing other platform providers.

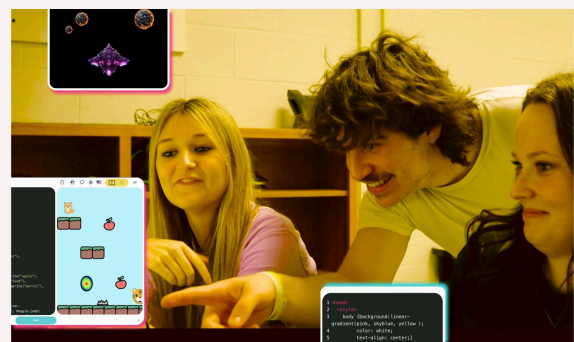
We're blessed to work with amazing team members and are excited to launch our teacher-centric platform version, as well as building a new AI & Automation course.

Come build with us!

Why Girls Love Learning Coding with CodeTribe


Girls love learning to code when using CodeTribe.com because of the impressive customization, iterative encouraging graphics, the step-by-step guidance and the full projects which the learner creates throughout each module.

On the CodeTribe platform, the kids were able to "make it their own" and change the background colors, whereas with the previous one, CodeHS, they had to follow exactly in order to go to the next step.



CodeTribe.com is the easiest way to teach CS, because it's also the most fun way to teach Text-based Coding in Middle- and High School.

– Audrey Fipps | Rio Vista, Texas

 [How to Teach Girls Text-based Coding in 2024 | Audrey Fipps with CodeTribe](#)

Unique Pedagogy & Outcomes

IN CONTROL

Everyone wants to feel in control – Drag and Drop is great for conceptual understanding, but it creates a dependency on the specific platform on which it was created.

At CodeTribe, teens actually feel like developers; Debugging & managing files.

SERIOUS, SIMPLIFIED.

Reducing barriers and bottle-necks includes building the system for the learner as well as the teacher. We expect self- & peer-learning & created a conservative learning curve so that no one gets left behind.

UNIQUE OUTPUT

We respect learner's time and maximize the number of sessions to accelerate subject expertise.

Imagine if almost every single character typed from Lesson 1-8 contributes toward a singular, impressive project with a student-customized message, colors and design. Something to be proud of –And that's what our vision is, to allow kids to get excited building WHILE learning, not after.

THE CREATOR ECONOMY

Ready to create your lessons, slides and courses?

Yes, it's as simple as writing or modifying the course you wish to implement and pasting text and graphics into the slides.

Web-Dev Track

A super-beginner-friendly course for anyone needing an intimidation-free and fun start to their web-dev journey.

All lessons are auto-graded with micro-challenges that encourage the learner to build slowly, one line of code at a time.

28 Lessons

Module 1: My First Landing Page

Introduces you to building a website. The outcome is a simple, colorful landing page.

6 Lessons (Including "Intro Lessons")

Module 2: My Web CV

Present your skills and plans in an attractive and engaging Website CV built with HTML, CSS, and emojis.

6 Lessons

Module 3: My First Business Website

Build your first website for a business.

6 Lessons

Module 4: My First JavaScript Game

Build your first JavaScript Game.

10 Lessons

Game-Dev Track

A like-you've-never-seen-before, insanely fun, easy to build game development opportunity that throws you deep into the mechanics in the simplest and most fun way imaginable.

Powered by the incredible Kaboom.js, the student understands game controls in 3 lines of code and can focus on building without worrying about unnecessary syntax. A natural and comfortable progression for any students moving from block-based programming to syntax.

24 Lessons

Module 1: Space Explorer

Build an incredible and complete game with only 60 lines of code. Interact with your game at each step and watch as you enable space exploration for generations to come. 😄

6 Lessons (Including "Intro Lessons")

Module 2: My First Platformer Game

Draw and launch your map in the very first lesson. Then create gifts, enemies, and customize the look. Finally create a portal for new worlds - How many levels will yours have?

6 Lessons

Module 3: Platform Pros

Add scores, sounds and new functionality of your amazing game. Understand how to customize more elements.

This module build on the previous one. The final output is over 100 lines of code and includes 12 lessons.

6 Lessons

Module 4: RPG & Game Dialog

Create incredible branching scenarios where players can explore multiple maps, characters and choices. Communicate with instructions, dialog and notifications.

6 Lessons


AI & Automation Track

Start by connecting directly to a tensorflow engine and image recognition model with only 10 lines of code. Make your simple websites and apps integrate from 5 different apis.

Learn how to send text messages, emails, and automate anything you want with the power of the API and AI.

22 Lessons

Module 1: APIs & Img Recognition

Learn how LLMs work while building a simple prediction website - Then connect it with Image Recognition capabilities. 

8 Lessons (Including "Intro Lessons")

Module 2: How AI's Large Language Models "Guess"

It seems much less complicated when you realize AI is just "Guessing" - Millions and millions of times just to make that image or respond to your question.

6 Lessons

Module 3: Building & Coding with AI

Here students will create and improve practical projects by testing, improving and requesting snippets with AI Chatbots. Working in tandem with AI they will create a social impact project, test and launch it.

8 Lessons

We can't wait to get started on this project with you.
Let's do great things!

The CodeTribe Team