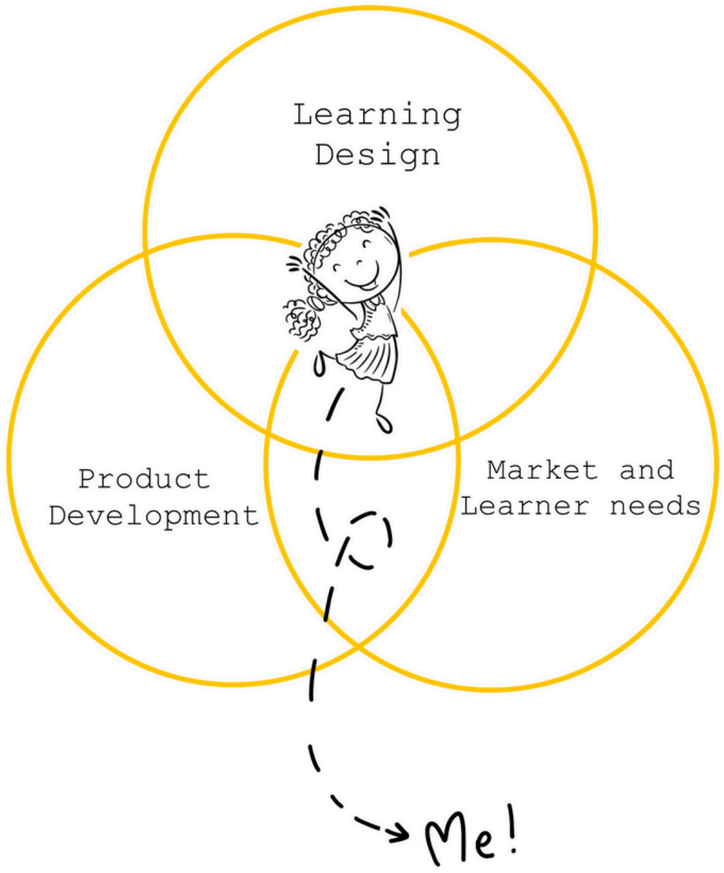
HI THERE!

I'm Shreya Rajahamsa



I'm an Ed-Tech Design Strategist

*Having worked in diverse roles to **enhance learning** and graduated from **Harvard University** with a **Masters in Educational Technology**, I thrive at the intersection of:*

Evidence-Based Learning Design

- Research and Analysis
- Data driven lesson planning

Learner-Centric Product Development

- Learner feedback integration
- Prototyping and Testing
- Qualitative and Quantitative Analysis

Strategic Product Management

- Market Analysis and Fit
- Roadmap development
- People / stakeholder management

My Design Process

I often adopt the **Double Diamond Design** process, **converging and diverging** as I move from the research phase to ideation to the implementation stage.

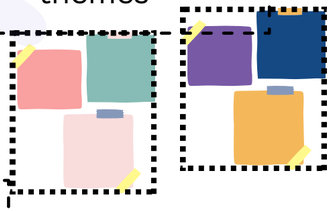
Classroom Observations

User interviews students + teachers

Stats - Big Picture deep dive

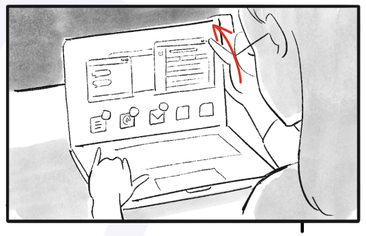
Analysing Current interventions

Bundling themes



Brainstorming 30+ ideas

Design Brief



Mocks up and Prototype

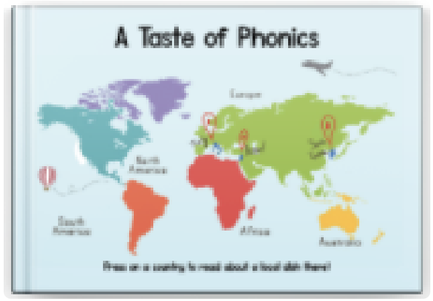
User Test + Iterate

A Collection of my Projects

You will always find empathy and evidence in my creative work.

GRYP

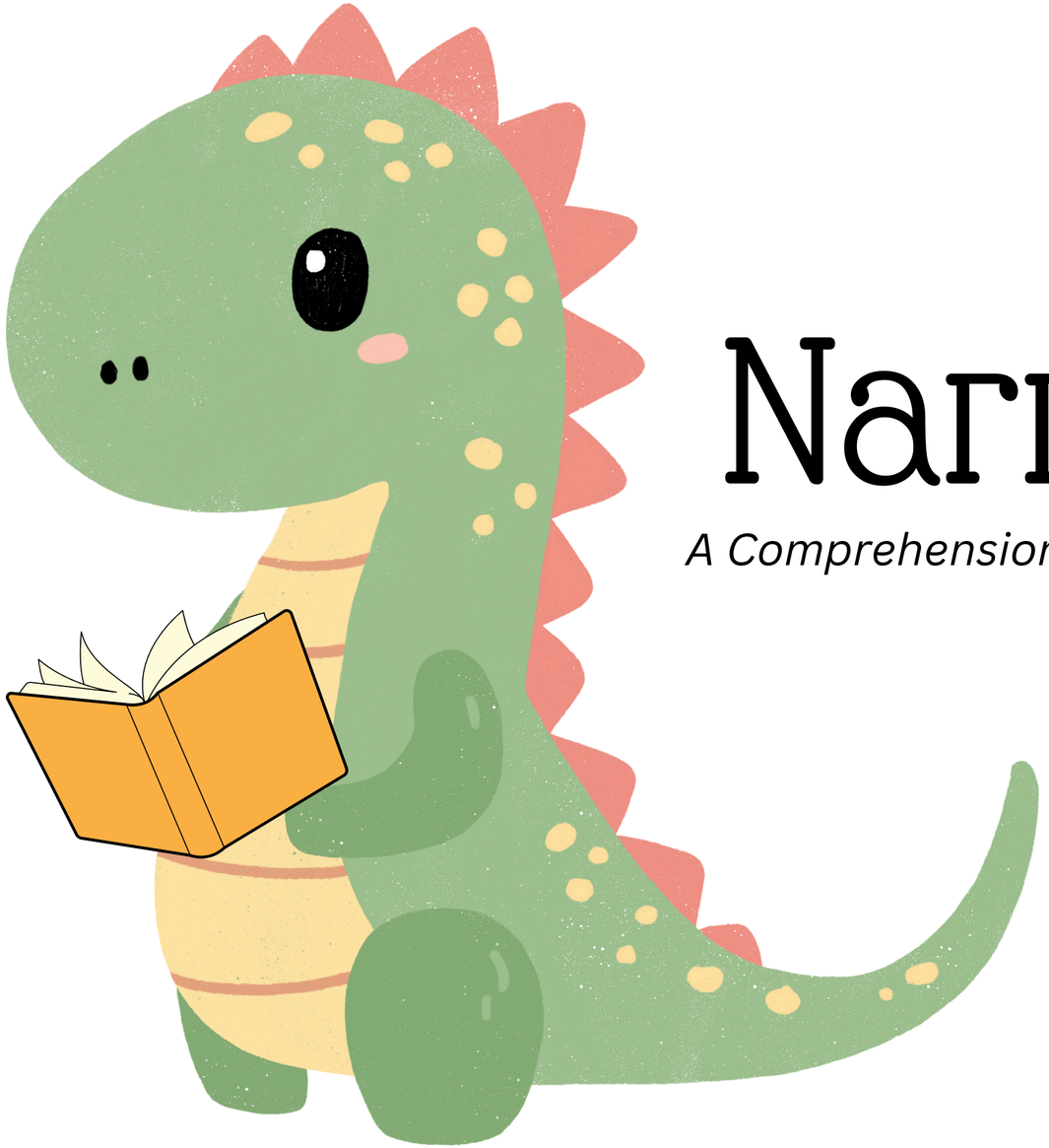
Narrataur



A Taste of Phonics

Growing Good

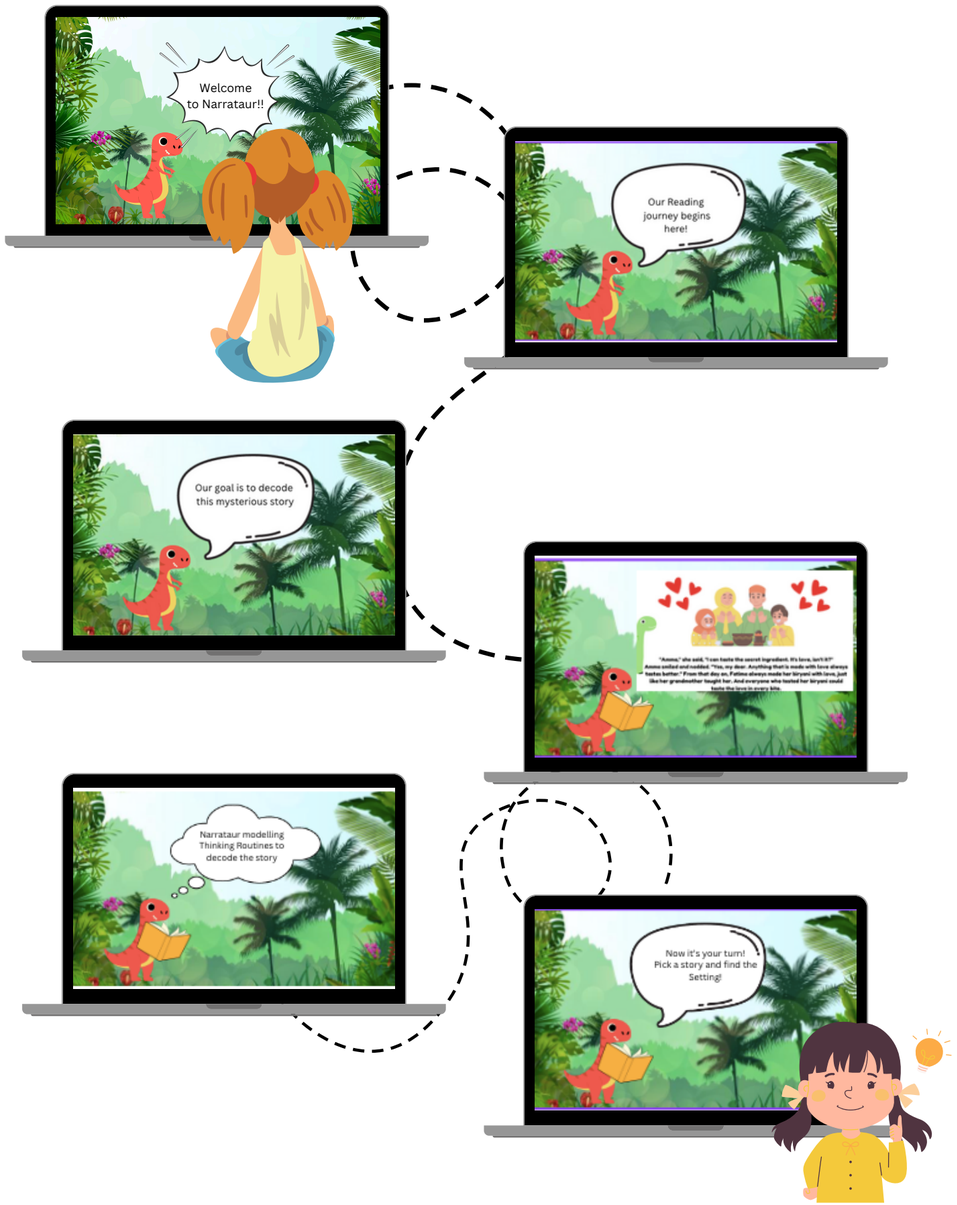
Journal



Narrataur

A Comprehension Partner that Thinks Aloud

Independent Project for a course by Prof. Chris Dede



What is Narrataur?

Narrataur is envisioned to be an engaging, animated character designed to **enhance students' reading comprehension skills.**

When users launch the app, Narrataur guides them through various learning objectives by reading stories aloud and **demonstrating thought processes** for decoding and understanding the text.

For each comprehension objective, Narrataur reads a story, verbalizes key strategies, and either fills out a graphic organizer or engages in a related game.

Afterward, students are encouraged to apply these thinking routines to new stories of their choice. If they encounter difficulties, they can rewatch Narrataur's instructional video for additional support.

Problem

Many existing reading apps focus on fluency and engagement but often **do not prioritize deep comprehension**, leaving students with gaps in their critical thinking.

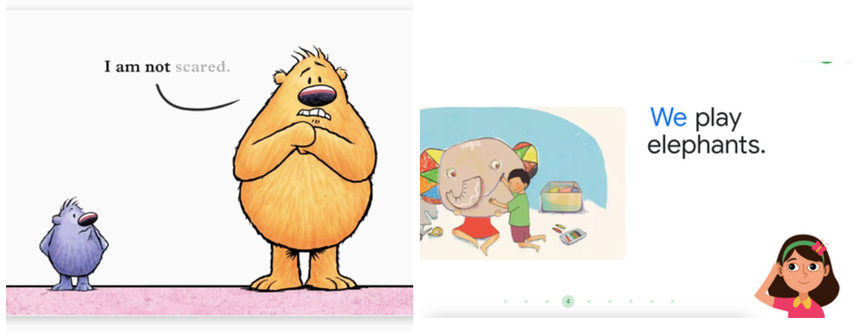
Why is this a gap?

Reading fluency does not guarantee comprehension. Ultimately, ***“Reading is Thinking”.*** It is understanding the essence of the text.

How existing Apps work

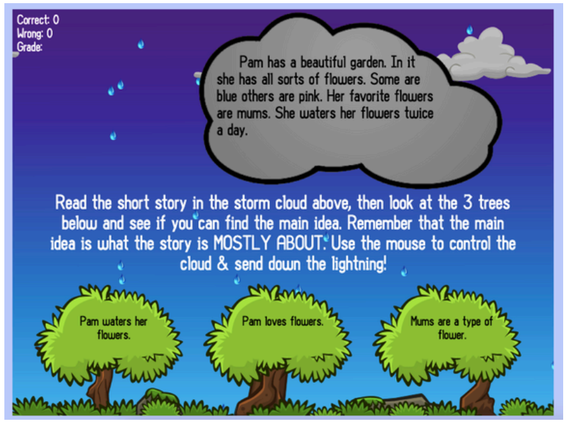
Superficial Engagement

Many apps that rely on **Gamification** strategies, do it **superficially**. They reward number of pages read or books completed which can be done by **simply flipping** the digital book.



Lack of Focus on Comprehension

Video books and “Text-to-speech / speech-to-text” apps **focus too much** on **fluency** and less on the actual comprehension of text. Fluency **does not guarantee** comprehension.



Limited Assessment

Apps that do leverage games / graphic organizers for comprehension, do not provide reason for answers. It is often a **trial and error** or a game that is **unrelated to the objective.**

Access research

Research & Research Methods

I first **identified this challenge in 2020** during school closures caused by COVID-19. There were abundant reading apps to turn to but very few that made comprehension accessible.

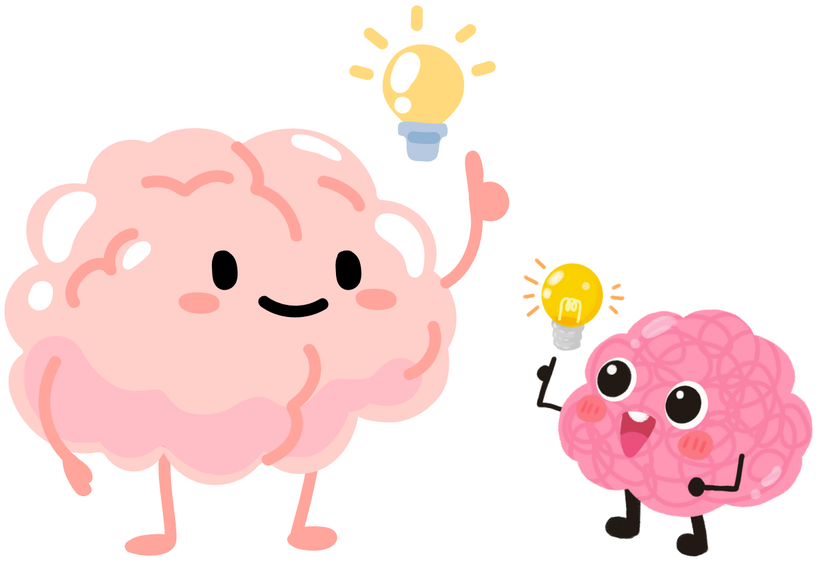
I conducted **Secondary Research** and I **interviewed** 10+ educators, parents, 20 elementary school students,

Access research

Project Name: Narrataur

Expert	Interview (members of impact ecosystem)
“There should be adaptive learning algorithms that adjust content based on comprehension level”	Parents: “Kids should become independent readers - they should be able to read and understand a story on their own”
“Besides prior background knowledge, metacognition is very important for a reader to develop critical thinking skills”	Elementary school kids: “I like reading digital stories but many times I don’t understand the text” “When I play reading games, I keep trying until I clear the level.”

Insights - Metacognition is Key

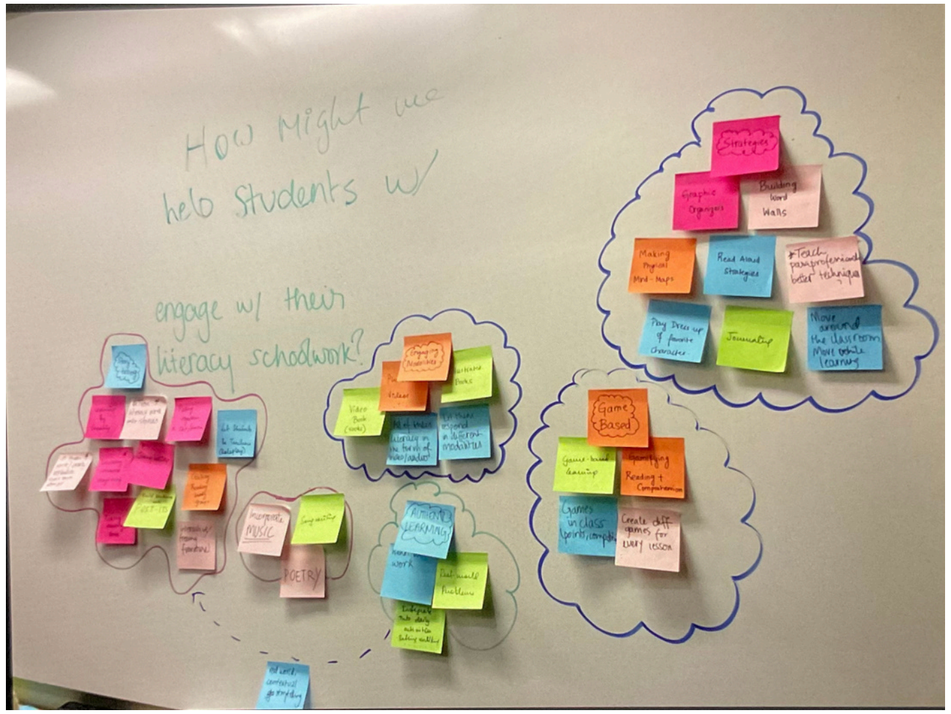


Metacognition = Thinking about Thinking.

It highlights one's own cognitive process. and is central to building critical thinking skills. It is also a very *teachable* skill such as modeling, read alouds, self-reflection.

Access research

Design Goal: How might we **foster metacognition** for elementary readers while they **engage** with new texts**?**



Dialogic Reading

Think Alouds through Modelling

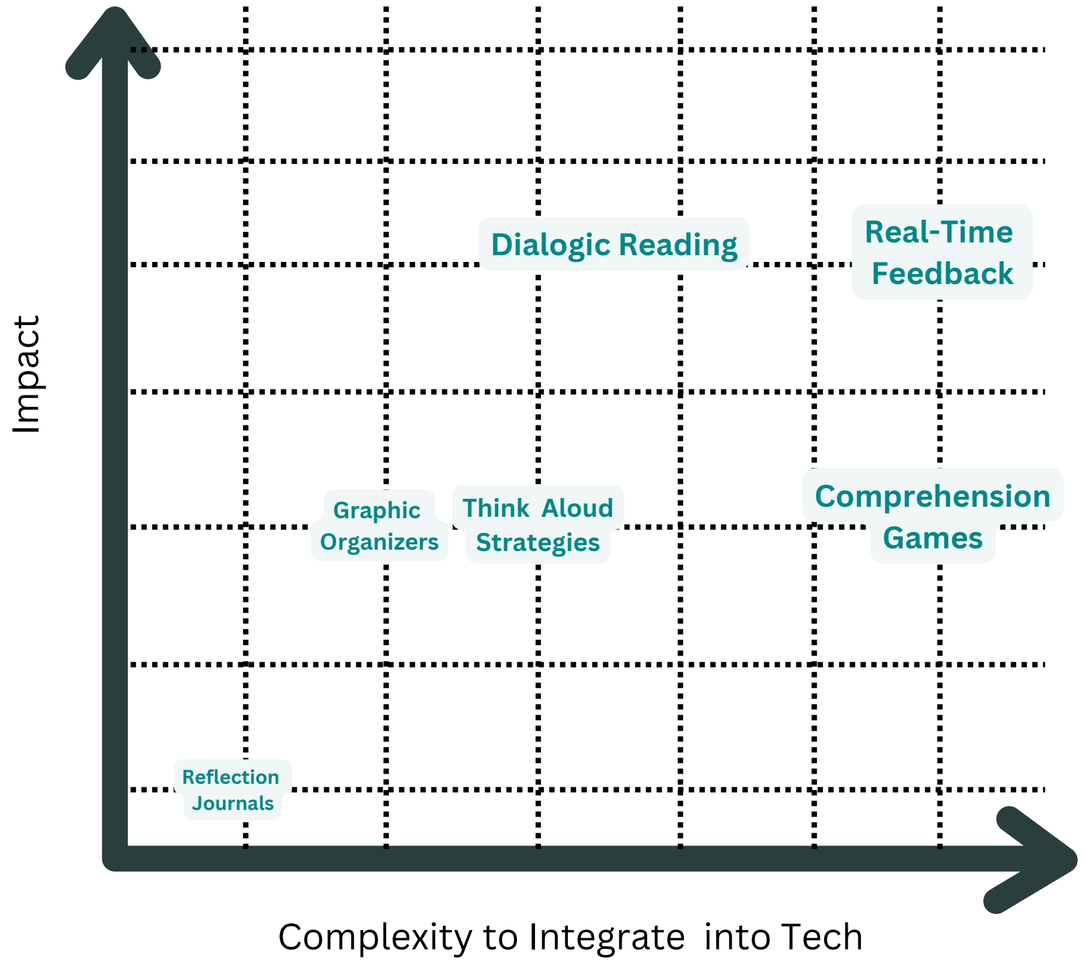
Graphic Organizers (Making Thinking Visible)

Objective-aligned Comprehension Games

Real-time Feedback

Reflection Journals

Design Decision - Think Aloud through Modelling and Graphic Organizers



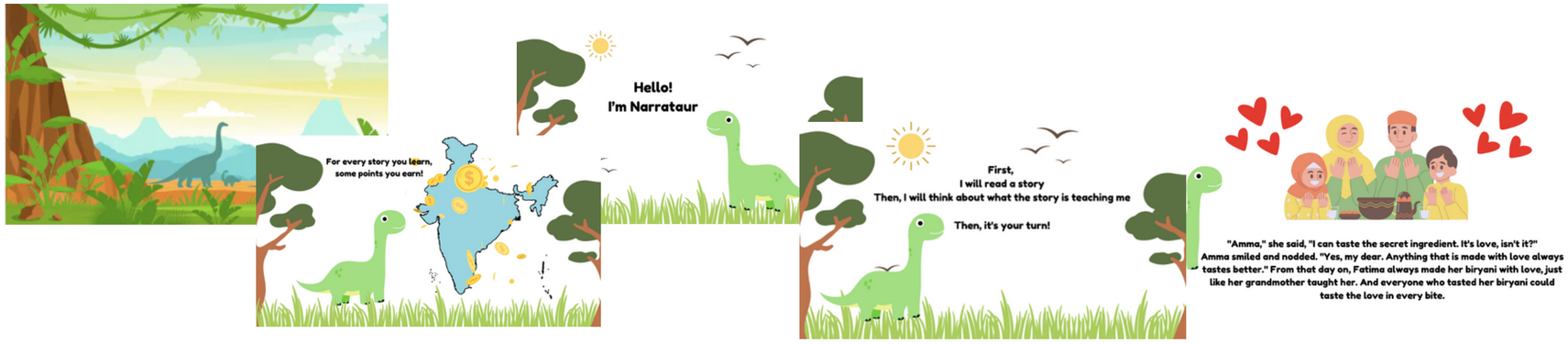
Why I chose to Prototype Think Aloud + Graphic Organizers

After brainstorming and identifying potential solutions, I evaluated and analysed which solution is most viable on and **prioritised** it on the basis of impact, complexity to integrate into Tech, engagement, and scalability.

An instructional video by a relatable animated character that can be played any number of times for the same video seemed to be the **most lean way to begin.**

Prototyping and User Testing

Access Prototype here

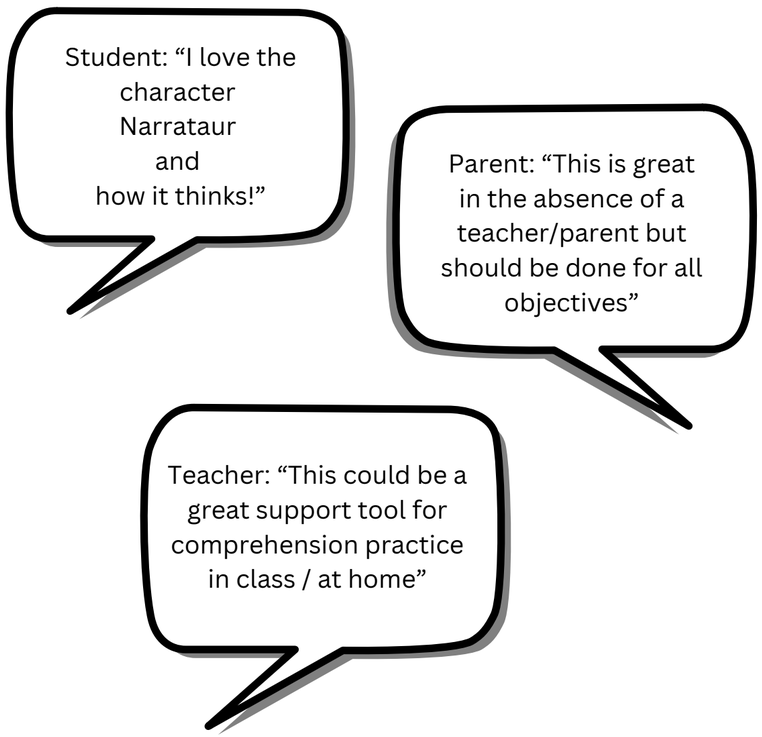


The goal was to make it a lean prototype that's easy to build and test. I created a video of a **few story texts with a voiceover of the character Narrataur reading it.**

The video also contains Narrataur thinking out loud the strategies to comprehend the text + play a comprehension game + use a graphic organizer.

I tested it with 5 different elementary school kids by playing the video first and then giving them the comprehension game + graphic organizer for the same objective.

Feedback



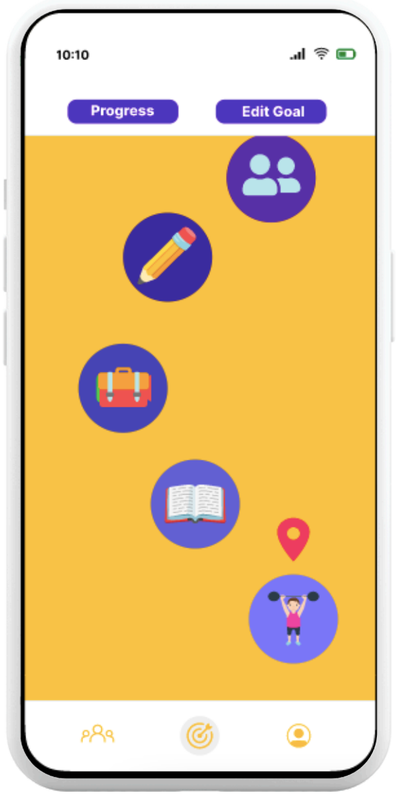
My Reflections

It was an incredible opportunity to explore this problem at greater depth.

On seeing kids get excited about a character that thinks out loud makes it likely that it would be an engaging way to foster metacognition.

The use of a character could also be developed into **Dialogic Reading** by leveraging advanced technology such as Predictive AI + Generative AI, which would also create the ***Protege Effect.***

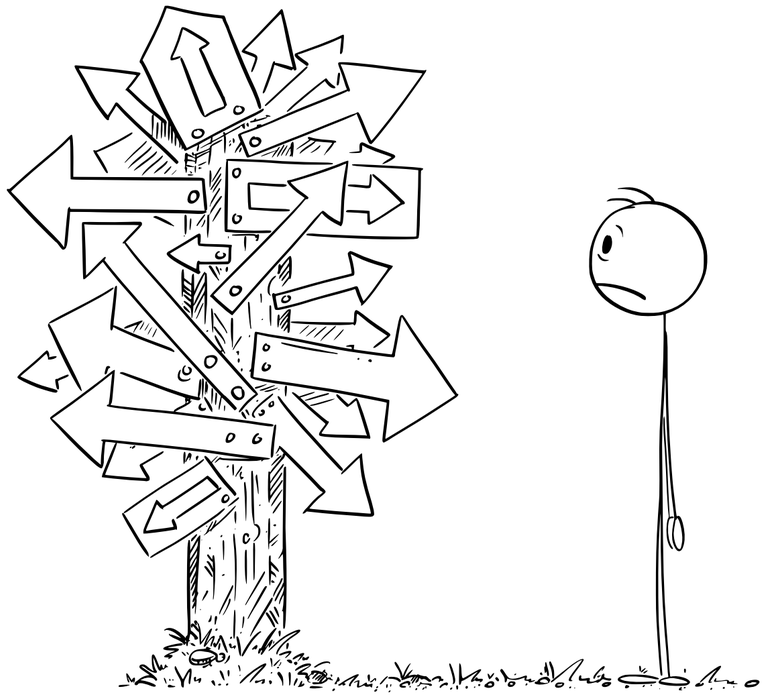
However, for now, the focus is to continue working on the limitations that a pre-recorded video format for modelling thinking can pose.



GRYP

Like Duolingo, but for Careers

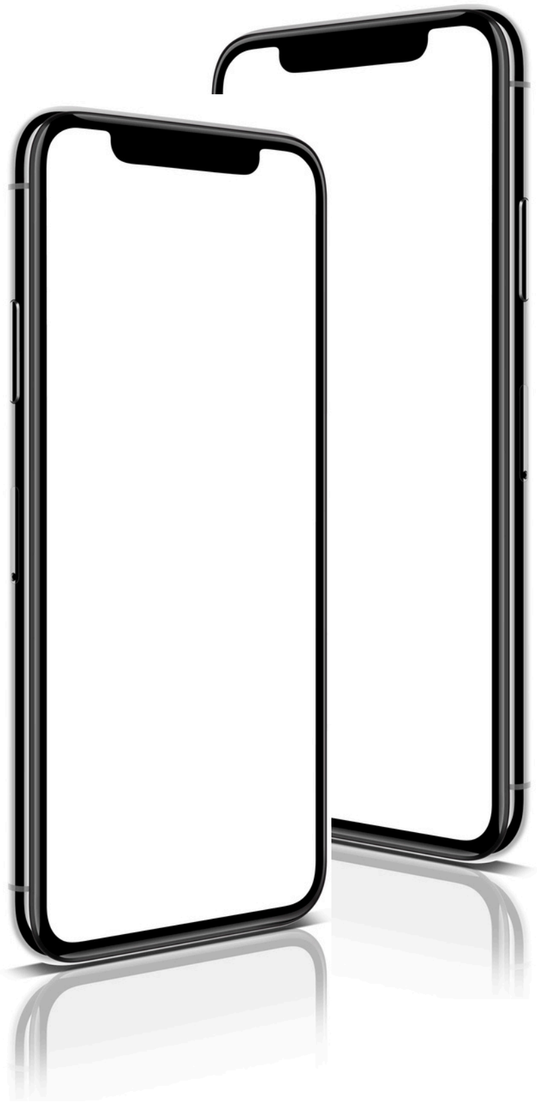
Note: As the Entrepreneur-in-Residence, I led the end-to-end product conception and development



93% of schools in India lack Career Counselors

The student-counselor **ratio is 3000:1** in India, leaving students **without** the essential **guidance** needed to make **informed decisions** about their careers and college choices.

This significant gap in support leads to students often **choosing misaligned career paths**, which can result in dissatisfaction, underachievement, and **untapped potential**.



GRYP

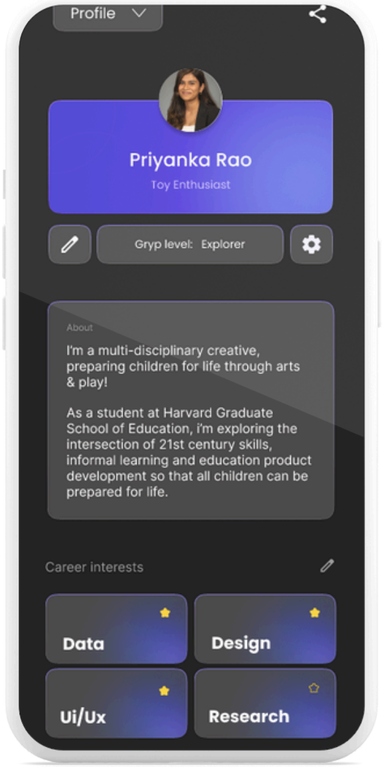
Grow and Realize Your Potential

GRYP is a mobile-based app designed to provide a **self-paced**, **goal-oriented** approach for students to **navigate** their career journey.

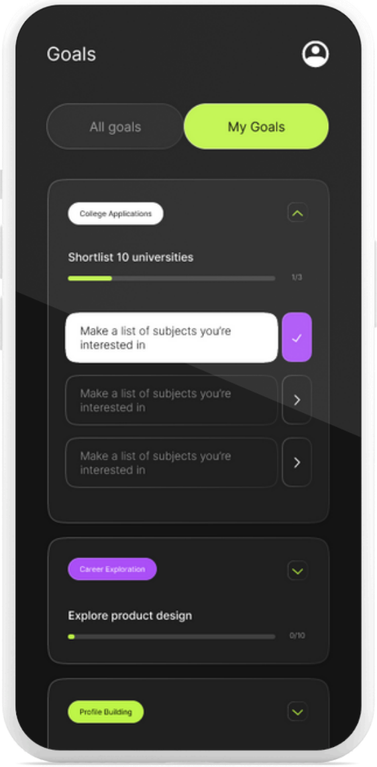
Each goal is supported by **curated resources** and a **community** platform for peer-to-peer learning, ensuring comprehensive guidance.

The process is **gamified**, with points and badges that **unlock opportunities** for students to build their profiles and resumes, making career navigation engaging and rewarding.

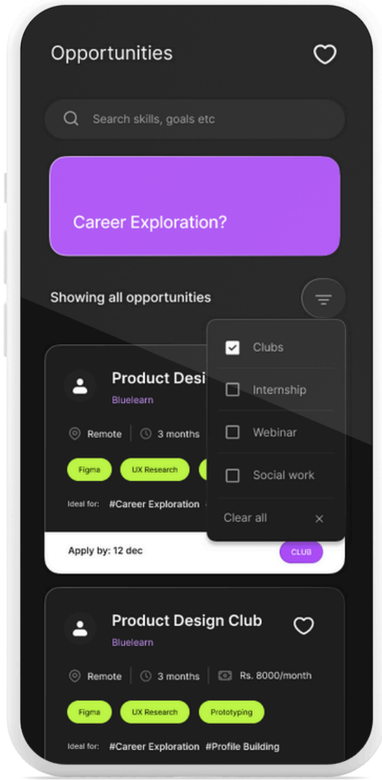
Features



Profile page that they can use as a Digital Resume



A list of Goals for the User to pick from Provides flexibility as per stage i.e exploration, profile building, college applications



An opportunity board that allows users to view opportunities and filter as per choice

Why Goal-Based and Gamification?

Goal-Based Learning:

- Motivation and Engagement: Goal-setting in learning enhances students' motivation by providing clear objectives and measurable milestones. It helps students understand what they need to achieve and keeps them focused on their educational journey. Goal-based learning promotes deeper engagement as students see their progress and understand the relevance of their activities (Bellotti et al., 2013).

- Gradual Progression: By setting specific, measurable, attainable, relevant, and time-bound (SMART) goals, students can clearly see the pathway to their final career aspirations, ensuring a sense of direction and purpose.

Gamification:

- Increased Motivation and Performance: Gamification transforms the learning process into an interactive and enjoyable experience. Studies have shown that incorporating game elements such as points, badges, and leaderboards can significantly boost students' motivation and performance (Domínguez et al., 2013; Garris et al., 2002).

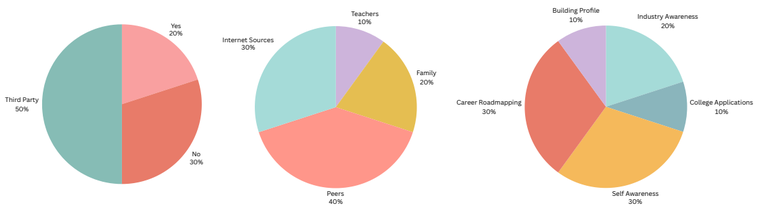
- Enhanced Engagement: Gamified learning environments encourage active participation and sustained engagement. By incorporating game mechanics, students are more likely to remain interested and committed to their learning tasks (Giannetto et al., 2013).

Design Process

I followed IDEO’s Design Thinking Process with several rounds of **iterations** each time, repeating the cycle:
Empathize — Define — Ideate — Prototype — User Test — Develop

Empathize

Surveyed 1000+ Students

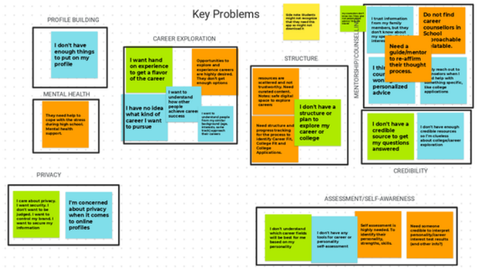


Schools with Counselors

Source of Guidance

Purpose of Seeking Career Guidance

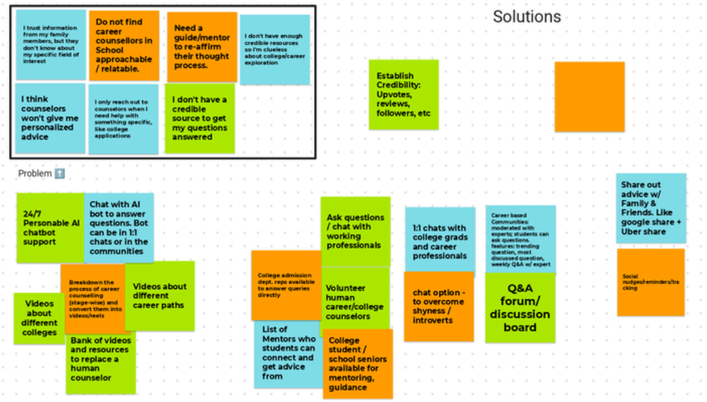
Interviewed 12 high school students

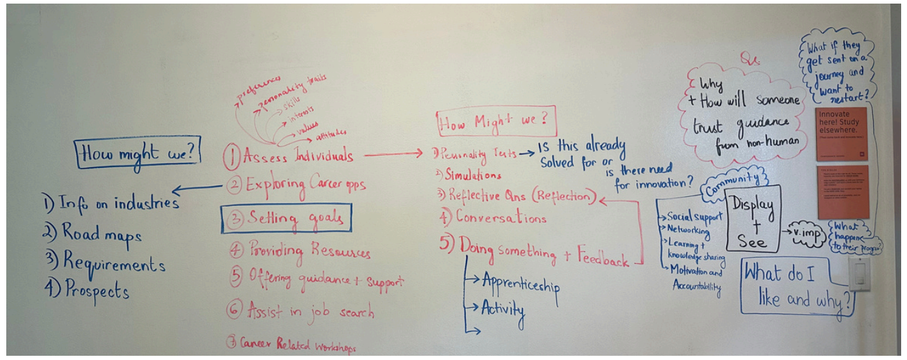


Key Insights

- Students may be in 2 career stages at the same time i.e Career Exploration and College Applications
- Among family members, students turn to cousins as they are more relatable. Students seek to connect with more peers for assurance of not being alone in their journey
- Students are motivated to gain access to opportunities that build their profile / CV
- With an 80% of students using mobiles, students prefer solutions that are mobile-friendly

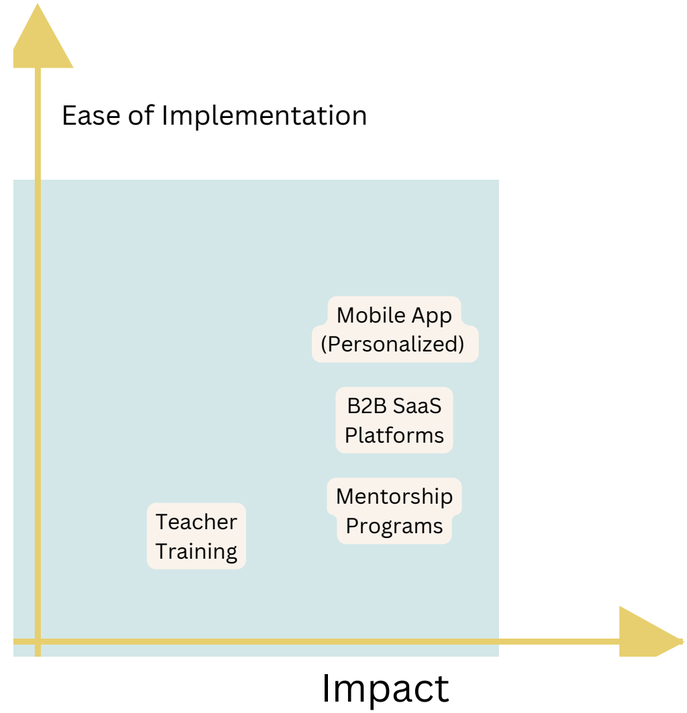
Ideate





Regular “How Might We” brainstorming sessions

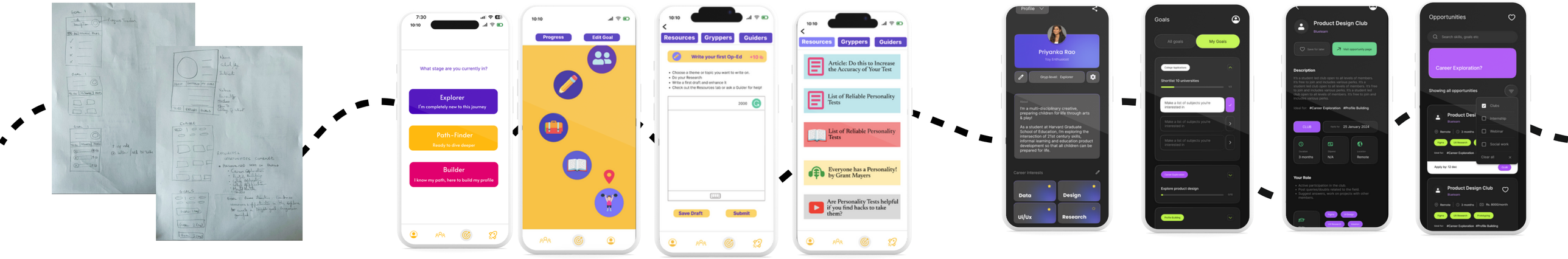
Design Decisions



Through out the Product life-cycle, design decisions were user-centric while also balancing other factors such as Ease of Implementation, Scalability, Competition, Adoption, Accessibility.

A mobile phone app, given ownership of mobiles across the high school demographic, high potential of impact, usability, engagement was the most feasible solution among other things.

Prototyping



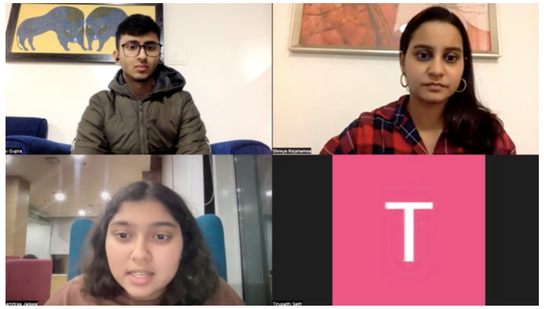
I followed a Rapid Prototyping process to build GRYP. Given the number of elements and features, I wanted to ensure that each feature is as user-centric, lean, and relevant.

Our Solution was to digitise the process that a student goes through when they speak with a counselor.

We moved from Low-Fidelity mockups and seeking feedback to designing mid-fidelity prototypes. After multiple rounds of User feedback, we created Hi-Fid Mocksups on Figma that eventually got developed into an App. I created a Product Requirement Document to communicate and collaborate with the rest of the team.

User Testing and Feedback

Card Sorting
Allowed us to build the architecture of the App. Gave us deep insight into how high school users navigate.



Focus Groups
It gave us diverse perspectives at once. It was an efficient way for s to test with a larger set.

Usability Testing
We gave high school students access to the Figma prototype and observed how they used it while they also thought out loud as they navigated the app.

A snippet of the Feedback:

“We love the App! It is what we need to get clarity on our career raodmap”

“I wish I had something like this when I was in school”

“As counslors I would encourage this as a hybrid solution”

“I wonder if it can be personalized even more, may be curate goals instead of me picking from a list”

Reflection

Scope:

- From the observations, the app is extremely promising. It has the potential to fill the gap of career guidance and navigation.
- The goals can be used to personalize the career journey and as the app’s algorithm advances the resources and suggestions of opportunities get enhanced as well.

Limitations:

- There is a need for constant updation with respect to opportunities and resources
- Long-term engagement could be challenging

The use of AI:

- An AI powered Career Coach is currently being explored
- AI could help personalize career pathways and roadmaps

A Taste of Phonics

Providing meaningul and scaffolded texts for early readers

Note: This was a collaborative project. My role contributed to Secondary research and Final Book Illustrations

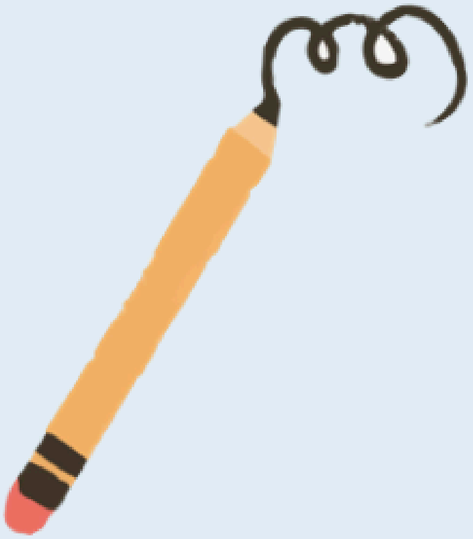
What is our goal?

Early readers will be able to decode words within a meaningful text

Decoding is the foundation of reading.

The goal of reading instruction is to foster students' abilities to comprehend texts fluently and accurately (Gough & Tunmer, 1986). In order for students to be able to read fluently, they must have a grasp of what Perfetti et al. (2005) call "code level factors" such as phonological awareness, decoding and word identification. As readers become more automatic decoders, they will have more cognitive availability for deeper comprehension (Miller et al., 2006).

The Problem



Decoding is necessary but not sufficient in learning to read

Decoding may help students connect print with speech, but it does not guarantee that they will understand what they have read (Perfetti et al., 2005). There are many important components that contribute to students' reading development and love of literacy.

Decodable readers have room to grow

They can be very boring

Phonics instruction is often criticized as "drill and kill," overly repetitive instruction that is not engaging (Seidenberg, 2017). The language is very simple and frequently fails to follow a storyline.

They can lack cultural relevance

Because the language of decodable texts is so constrained, it can be challenging to appeal to students' many interests and identities (Cunningham et al., 2004). For example, a line like "The cat in the hat sat next to the bat on the mat" might be imageable, but it lacks deeper meaning and does not relate to students' experiences .

They can be developmentally inappropriate

When students struggle with decoding, they are often given lower level decodable texts that are designed for younger populations. This can prevent students from identifying as readers and developing more complex language skills (Delpit, 1995; Stanovich, 1986).

They can be UNdecodable

Hoffman et al. (2002) measured texts' decodability based on whether students could accurately decode words by applying the spelling-sound rules explicitly taught in the classroom. They found that the majority of decodable texts are *not* decodable by definition.

Our Approach

What else is important?

Background Knowledge

One important factor to early reading is the activation of background knowledge, which these text would attempt to do (Perfetti et al., 2005). Our texts will explore a universal topic: food!

Cultural Relevance

Another important factor in reading and understanding texts is for the texts to be culturally relevant for the student, and for it to build upon the language that they know (Gee, 2001). When texts are relevant for students, and are about topics that interest them, they are more likely to be motivated to read them (RAND, 2002). Our texts will showcase characters from different cultural backgrounds and will focus on food in different cultures. Students can benefit from learning about cultures that are different from their own.

Vocabulary Knowledge

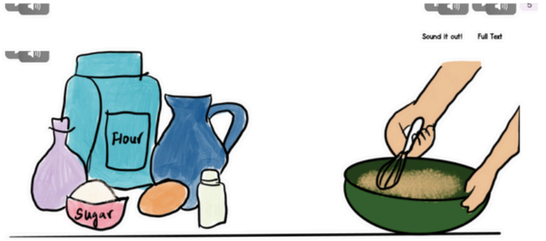
It is also important for young readers to build vocabulary knowledge in order for them to make meaning from the words that they decode (Perfetti et al., 2005). Our texts will support vocabulary learning with pictures that can help the students to understand the meaning of words that may be unfamiliar to them.

A Taste of Phonics

Click here for the Prototype and Research

It is Friday afternoon. Rachel is going to make challah (ha-lah) with her mom!

Challah is a type of bread that is braided. That means that the bread is made up of different pieces that are pulled together.



First. Rachel puts yeast in a bowl.
Next. she pours water. sugar. and flour.

Now it is time to let the dough rise! After that. it is time to braid the challah! Now it is time to bake. Let's put it in the oven!

Our challah is ready. What a yummy treat. Rachel's mom says. "Shabbat Shalom! It is time to eat!"

Challah is a type of bread that many Jewish people eat on Friday nights. It is so yummy!

Why will our approach work?

Access

We will provide multiple means of accessing these texts, including a read aloud option, links to definitions, and images depicting the meanings of decodable words (CAST, 2018). According to the Universal Design for Learning Guidelines, creating multiple entry points into the text through auditory, visual, and semantic aids can support learners with a variety of learning needs and preferences. Specific to the Language and Symbols guideline, we will support decoding of text, clarify vocabulary, and illustrate through multiple media. We will also build support background knowledge through vocabulary word illustrations to provide options for comprehension.

We have designed our product as an online service to assist students in the home. Given that students have varying levels of parental support outside of school (Rowe, 2008), our goal is to provide technological support that is allows students to navigate and successfully comprehend texts independently.

Motivation

According to Guthrie & Barber (2018), students are motivated to read when they find a topic interesting and relevant, they are confident in their abilities, and they have autonomy to choose texts. This aligns with the Universal Design for Learning Guidelines' recommendation to provide options for recruiting interest (CAST, 2018).

We plan to design multiple texts for students to choose from, optimizing "individual choice and autonomy" (CAST, 2018). Another element of recruiting interest is designing materials that are relevant to students. Reflecting the cultural diversity of students in American classrooms today, we will construct texts centered on different cultural foods and values from around the world. For example, our first story explores the Jewish tradition of making Challah. Students will have the choice to select a topic of interest as well as the degree of decoding difficulty.

Scaffolded Support

One feature of our texts that sets them apart from typical decodable readers is built-in scaffolding within each story. Students will have access to all of the texts. In line with the Universal Design for Learning Guidelines' suggestion to "Vary demands and resources to optimize challenge," they will be able to choose their preferred level of difficulty for decoding practice within the texts (CAST, 2018). For example, a story may include the sentence, "The class has gone to the zoo for a field trip." A student who selects Level 1 might be expected to decode "the," "has," "to," and "a" while the remain words are read aloud by the computer. A student who selects level 3 might be expected to decode those words and additional more challenging words, such as "gone" and "field."

Reflection Journal for Teachers

Multiplying Impact

As a teacher and Teaching Fellow during the Teach For India fellowship, I was exposed to the ground realities of the **inadequate instructional and professional coaching** that teachers receive in a year. **Less than a week cumulatively.**

Ever since, I've been passionate about supporting teachers through training workshops and personalized coaching.

This Journal was made to fill the gap of regular coaching that teachers need and want. The journal is instructional in that it provides coaching models which can then be discussed monthly through Communities of Practice.

Sneak-peak into the Journal

Dear Teacher

I am pleased to present you with this journal, which has been specially created to help you reflect on and tackle professional challenges. This journal follows a combination of three powerful models - John Whitmore's GROW model, Elena Aguilar's Powerful Transformation model, and the Immunity To Change model by Robert Kegan and Lisa Laskow.

In this journal, you will find a collection of centering practices and positive affirmations that are designed to help you stay focused and motivated. You can also create your own centering practice, affirmations, or set of questions that particularly help you.

As part of your community practice, you will assemble every month to pair and share your experiences with each other. This will provide us with an opportunity to learn and support each other in our journey as educators.

At the end of the journal, you will find a note that will help you play the role of a coach. This will help you guide yourself through the various stages of professional development and navigate the challenges that you may face along the way.

I hope you find this journal to be a valuable resource that helps you grow as an educator and overcome any obstacles that come your way.

Sincerely,
Shreya

Coachig and Coaching Models

GROW Model - John Whitmore

It stands for Goal, Reality, Options, and Way Forward.

1. Goal: You will clarify your goal and make it specific, measurable, achievable, relevant, and time-bound (SMART). It is important to understand what you want to achieve and how you will measure it.
2. Reality: You will assess your current situation, strengths, and limitations. The questions in the journal will help you explore what is working well, what challenges the coachee is facing, and what resources you have available.
3. Options: You will brainstorm and evaluate options for achieving your goal. The questions will encourage creative thinking and help the coachee identify different paths forward.
4. Way Forward: You will develop a plan of action to achieve their goal. The questions will help you identify specific steps, set deadlines, and establish accountability.

Reflective questions based on different Coaching Models

Establishing Goals

Mindfulness Meditation

- We first start with a centering practice
- Find a quiet place where you can sit comfortably and without distractions.
- Close your eyes and focus your attention on your breath.
- As you breathe in, say to yourself "in", and as you breathe out, say "out".
- If your mind wanders, gently bring your focus back to your breath.
- Continue for 5-10 minutes, or as long as you feel comfortable.

What is moving you toward this goal?

What will it be like if you achieved this goal?

What stage is this at now?

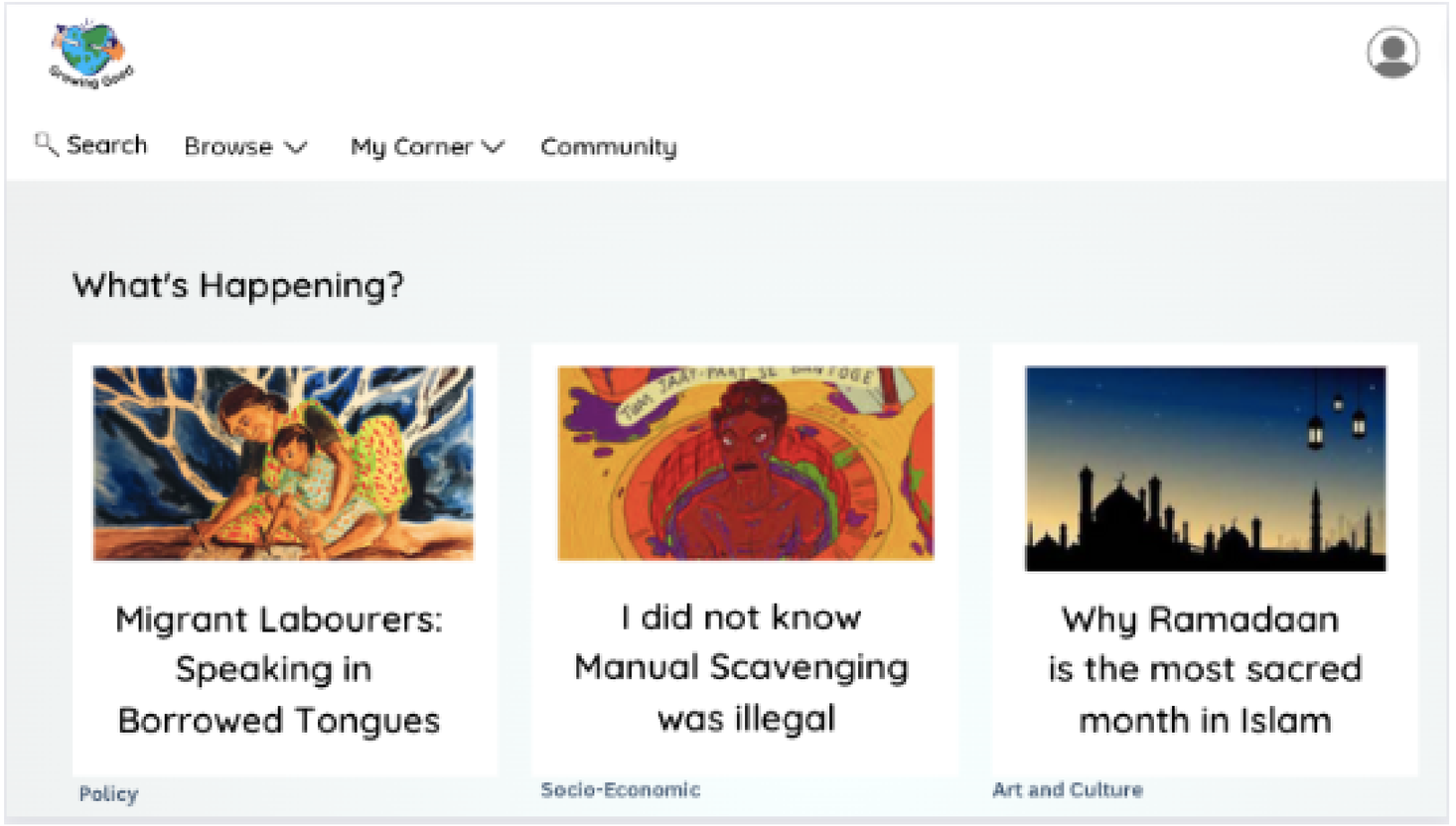
The journal is in the pilot stage. I used it to coach Teaching Fellows at Breakthrough Collaborative and it is currently being used by a school in India.

It’s undergoing a second iteration to incorporate QR codes / integrate Google forms that could make it easier for the teachers to fill and also for a Coach to access it remotely thereby increasing access to coaching.

Growing Good

A Curriculum to Foster Social Good

Note: Project is only in Problem definition and Ideation Stage



Growing Good is a potential hybrid educational platform that would use daily news stories and stories about everyday people to foster civic values, social awareness, and engagement among middle and high school students through interactive, reflective, and project-based learning.

Why is there a need?

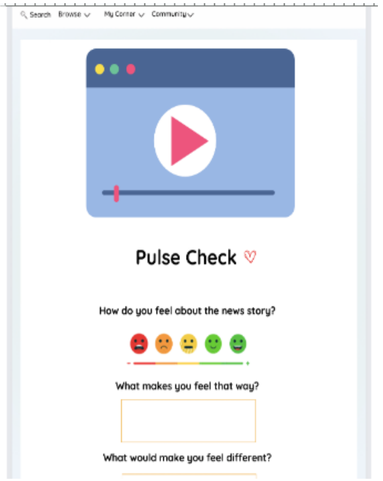
Traditional Social Studies curriculum is failing and nudging us towards an increasingly polarized world.

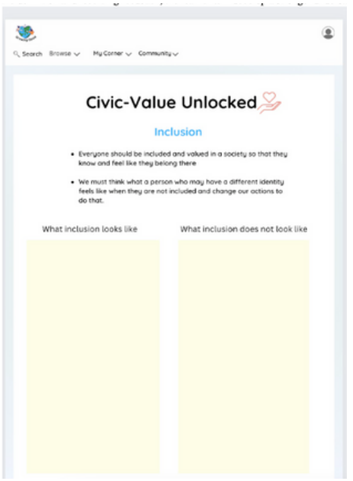
It is now more than ever that the next generation of leaders need to strengthen their foundational understanding of their own identity, diverse identities around them, and the values that harmoniously tie communities together.

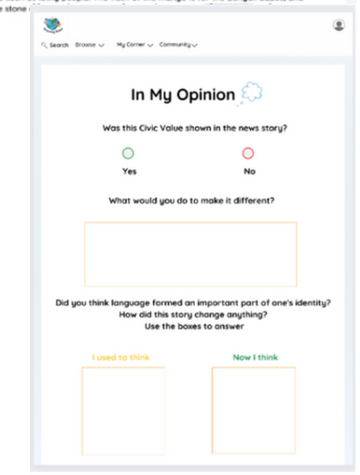
By using News stories, Growing Good hopes to help students understand themselves and the world around them better. It hopes to help them develop the skill of empathy and perspective taking

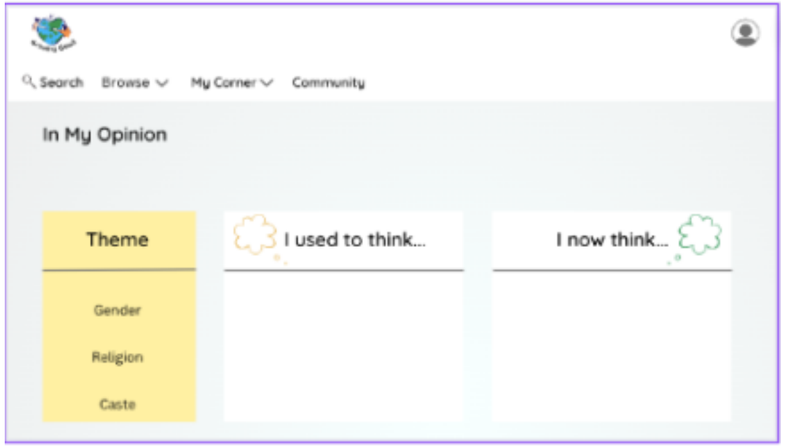
Access Research

Initial Prototyping based on Literature Reviews









Exploring the potential of News Stories as a source for reflection and Social and Emotional Learning.

THANK YOU

for taking a look at my work

You may reach out to me at:
shreyarajahamsa25@gmail.com