



RV College of
Engineering®

techTANK

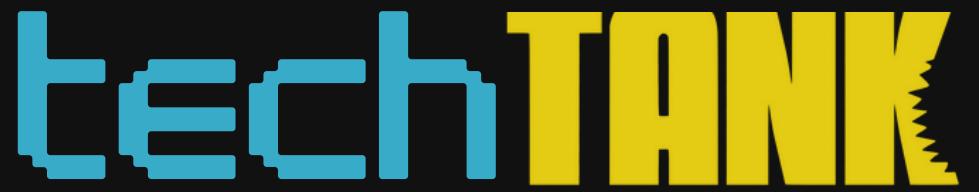


TEAM NAME : AI4TW

TEAM ID: 67E4EE24402689D026D6006E

THEME : CAMPUS INNOVATION – EDTECH, STUDENT LIFE SOLUTIONS

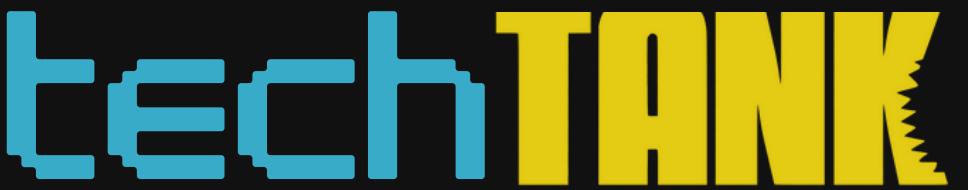
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OVERVIEW

Introducing - Adept AI Agent, an intelligent personal tutor, that is designed to be every student's personal academic GURU.

Adept is an AI agent that will transform a student's digital learning library into a systematic roadmap which will be uniquely fabricated for each student depending on their learning curve.



IDEATION AND PROBLEM DISCOVERY

The greatest source of study material that a student can get is the Google Drive link made by seniors which consists of a consolidated list of all the notes that they have come across.

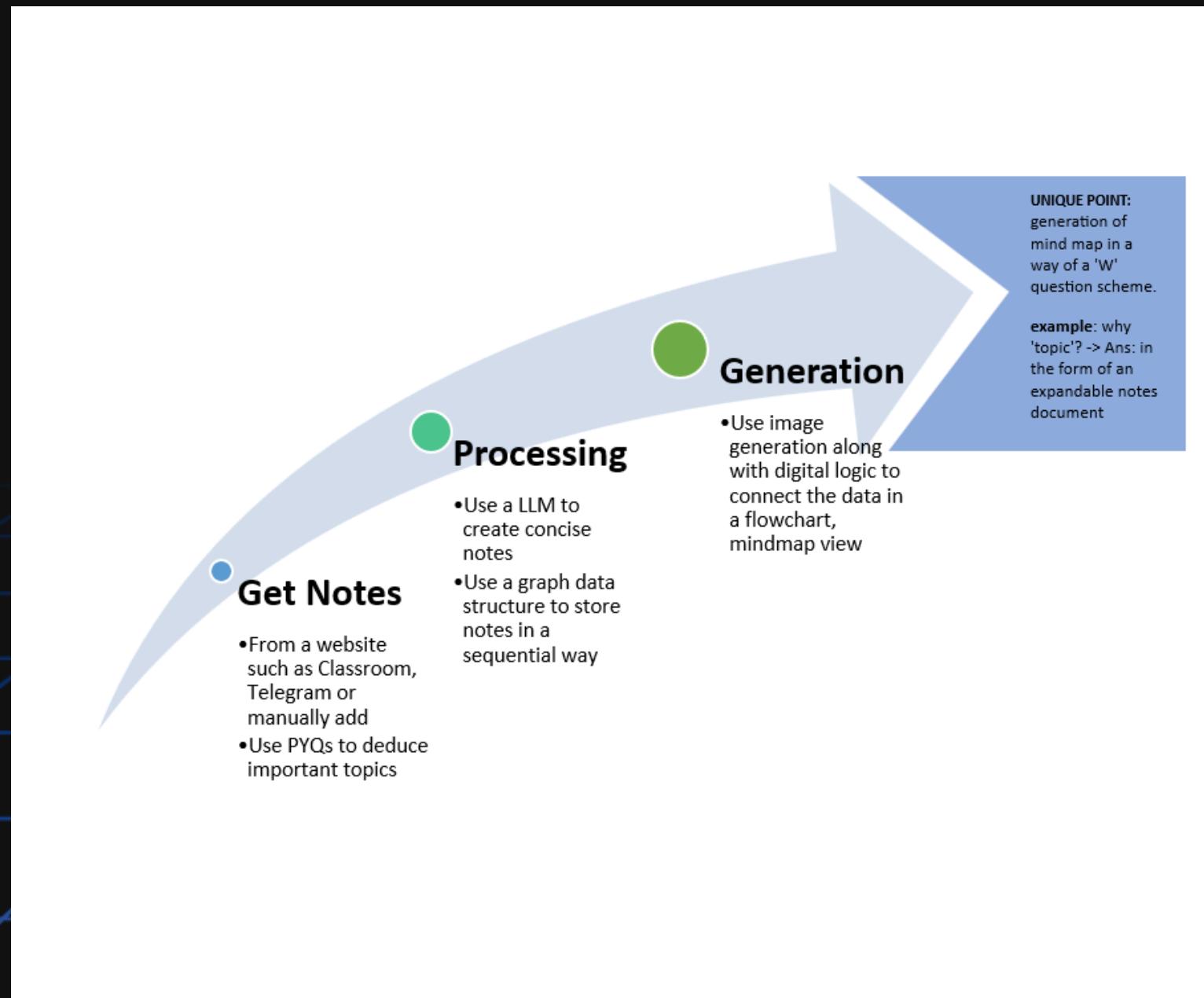
Adept will be an AI agent that will eliminate the need to manually consolidate all the notes and will also improve on it by acting as a personalised tutor for the student, thus preventing the chaos that ensues a night before the semester end exam when the student is unable to find the correct study material to revise from.



LEAN CANVAS [SIMPLIFIED]

- The existing study material contains a lot of redundant knowledge that is not efficient when we are trying to learn things. We aim to streamline this process and make it more efficient.
- Our Adept AI Agent will be designed to be used by every student in any phase of education, ranging from high school to PHD studies.
- Our solution will implement a user-tailored system that can compare multitude of notes for various courses and present them in a form of the user's liking.
- A token based system like chat-GPT's can be used as a source of revenue, in which the user will have to pay for unlimited access and use the more premium features.
- Resources such as cloud services for LLMs and APIs, domain name and other miscellaneous subscriptions will be required.

BASIC SYSTEM DESIGN



Our prototype will make use of the MERN tech stack - MongoDB, Express, React and Node. We will also be using Python for making specific API calls and will make use of libraries such as Flask, FAST API, PyPDF2, HuggingFace transformers, etc. This tech stack is the most widely used tech stack for making AI based applications because of its performance, security and simplicity.



ROADMAP + NEXT STEPS

- The first Prototype will include scraping of documents from google classroom, sort them subject wise and then unit wise according to the syllabus, and provide a personalised roadmap to the user which will include a short summary, youtube video links and solved PYQs.
- Technical Scaling: Prototype works on Local Machines. Scaling it will include deploying it on cloud infrastructure (AWS, Google Cloud, Azure). The increasing cost will be covered by revenue generated from selling licences of the product world wide
- Business scaling: Starting from small group of Testers to being supported by our college to Selling the licences to other Colleges and school. Business will scale from Bengaluru to Other Parts of India



PROBLEM

- Significant resource for students is the collection of notes that is compiled by seniors. This is a source of frustration among seniors due to slow working speed.
- Students face difficulty in efficiently studying the topics due to redundant amounts of topics in different forms(pdfs,ppt,docx).
- Parents also feel frustration when their child is not able to perform well only because of lack of concise notes.
- College also faces difficulty in gathering and sharing same notes provided by different faculties.



EXISTING ALTERNATIVES

- Digital Flashcard Apps: Tools like Quizlet or Anki helps making flashcards for memorisation but lack depth.
- Learning Management Systems including Google Classroom, telegrams are used by institutions to distribute materials but duplications of same materials end up being hectic work of sorting for students.
- General LLMs do help students understand certain topics but often requires repeated prompting and giving whole context before actually being helpful.
- That's when Ai Agents comes into play, they are specifically crafted Ai who have only specific goals in mind, so users can directly interact with them for the work.



SOLUTION

- Collection of notes : Automated the notes scraping((potentially scraping from sources like Google Classroom or allowing manual additions).
- With the help of Key mapping analysis performed by LLMs. We analyse the Syllabus with notes and automatically map that specific note belong to which unit.
- Highly Accurate and reliable summary generated per Unit and per subtopics within a unit, assisted with 2 youtube link students can refer for each topics creates a trustworthy roadmap for students.
- Potential Plan to create more specific roadmap as per student academic performance.
- "Academic GURU" will transform the learning library into a systematic roadmap uniquely fabricated for each student based on their learning curve.



KEY METRICS

- User Engagement: Track daily active users and monthly active users (MAUs) to gauge the frequency of student interaction.
- User Feedback: The best kind of quality review is always by the user himself, who will help give actual insights about what are the possible improvement our team can focus on.
- Error Rate Reduction: Through iterative learning, we keep improving our agents.
- Ticket/Case creation: Users can create tickets to raise any complaints that provide instant user satisfaction.



UNIQUE VALUE PREPOSITIONS

**"Transforming all those chaotic study materials into your personal AI tutor
that knows exactly what you need to learn and when you need to learn it."**



HIGH LEVEL CONCEPTS

Adept AI Agent closes the gap between overwhelming information and effective learning by transforming unjumbled educational resources into personalized knowledge pathways, representing the evolution from traditional content consumption to be an adaptive, guided learning experiences tailored to each student's unique educational journey.



CUSTOMER SEGMENT

1. The Overwhelmed Undergraduate

Name: Riya, age 19

Situation: Second-year engineering student at RVCE stressing between six technical courses

Pain Points:

- Drowning in study materials shared through multiple Google Drive links
- She Struggles to determine which notes are most relevant for exams
- realized the night before exams that she's missing crucial study materials
- Wasted hours organizing content instead of actually studying

How Adept Helps: Riya uses Adept to automatically organize all her course materials, creating a streamlined study plan that prioritizes concepts based on her upcoming exams and identifies gaps in her understanding.



CUSTOMER SEGMENT

2. The Efficiency-Focused Graduate Student

Name: Vikram, 24

Situation: Master's student balancing research responsibilities with coursework

Pain Points:

- There is very Limited time for studying due to research commitments
- Always needs to quickly master complex topics without wasting time on redundant materials
- Requires deeper understanding beyond surface-level content(deep research)
- There is always an struggle to connect the concepts across different courses and research papers

How Adept Helps: Vikram relies on Adept to create information across multiple sources, eliminate redundancies, and create focused roadmaps that maximize his limited study time while building deeper conceptual connections.



CHANNELS

- Direct Partnerships with Educational Institution: Top institutions across the World are always open to collaborate with new technologies, partnering with them will provides best insights and potential source of incomes.
- Social Media: The power of Social media at our hands could be the fastest way to reach wider audience.
- Alumni networks: The huge amount of connections they have will give us high chances of influence.
- Hackathons and Entrepreneur competitions will give us exposure to connect with important personalities.



CUSTOMER SEGMENT

3. The Last-Minute Crammer

Name: Siddharth, age 20

Situation: Procrastinating student who regularly finds himself in pre-exam panic

Pain Points:

- Always studying at the last minute
- Can't quickly find the most important content to review
- Struggles to prioritize what to study when time is limited

How Adept Helps: When Arjun finally starts studying late, Adept provides him with a prioritized emergency study plan, highlighting the most crucial concepts, providing summary notes, and guiding him to the most relevant practice questions.



EARLY ADOPTER

- Tech-savvy engineering and computer science students at competitive institutions
- People experiencing the pain of managing overwhelming study materials
- Those who actively use Google Drive/Classroom and digital notes for coursework
- People with approaching exam periods when organization needs are most acute



UNFAIR ADVANTAGE

- Early Jump into Ai Agent before it goes mainstream: Help us attract users by giving them exposure in this new genre.
- End-to-End Automation: Each step being connected to next step makes the streamlined process most optimised approach.
- Potential integration of Model Context Protocol: Ai agent being able to connect to thousands of complex tools can open infinite possibilities.

Seamless Integration with Existing Tools: Integrates directly with platforms like Google Classroom automatic document scraping help us work in existing environment without need of creating our own sets of tools.



COST STRUCTURE

- 1. Hosting and Infrastructure
 - Frontend Hosting - Vercel, Netlify, Cloudflare (Free – \$100)
 - Backend Hosting - Render, AWS EC2, Railway (\$10 – \$200)
 - Database - Supabase, PlanetScale, RDS (\$0 – \$100)
- 2. LLM Usage
 - ~10M tokens (\$100 – \$300)
- Domain and SSL
 - Namecheap, Cloudflare (\$10 – \$50)

Monthly Costs for Low Usage: \$100

Monthly Costs for High Usage: \$400



REVENUE STREAMS

- 1. Subscription Plans:
 - Different plans to enable higher customization and designing for users
 - Some tiers will have limited access to provide incentive for the users to buy better subscription
- 2. Institutional Licensing
 - Selling bulk subscriptions to educational institutions like schools and colleges
- 3. Functional API
 - Creating an overlay for websites or applications of big corporations which can use our software inside theirs.
- 4. Create Extensive Knowledge Database
 - Collect data over time and sell completed roadmaps to users