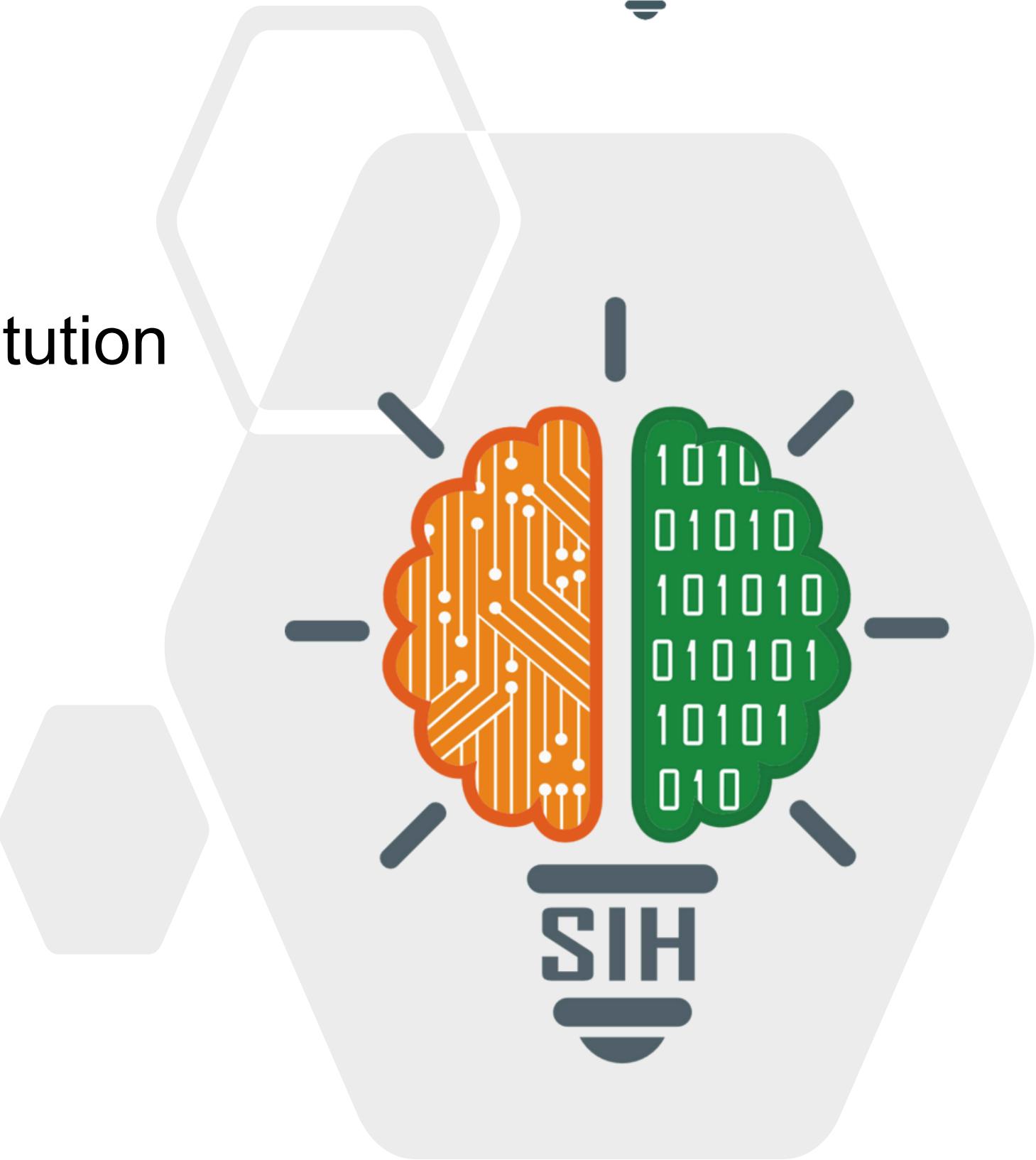


# SMART INDIA HACKATHON 2024



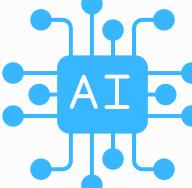
- **Problem Statement ID** – SIH1699
- **Problem Statement Title** – Let's Learn Constitution in a Simpler Manner-Institution Perspective
- **Theme** – Miscellaneous
- **PS Category** – Software
- **Team ID** – 7113
- **Team Name** – WebWeavers



## Proposed Solution

### User Web & App Workspace :

- Multilingual platform with **Indic support**.
- Constitution-based **AI chatbot**.
- **Story-based** article simplification by age.
- **Scenario-based** law assistance.
- **2D & 3D Constitutional-based Games** such as Mario, gesture-based Quiz, Spin the Wheel, Snake Game,etc.
- Progress tracking with **leader boards, badges**.
- Structured course for Constitution with **audio/video learning with certification**.
- Coin **redemption** on ONDC.
- **VR(Virtual Reality)** support for multimedia content.
- Daily Constitutional facts.



### Admin Web & App Workspace :

- **Fine-tuning** chatbot with any type of file.
- Reflect real-time Constitution changes via **biometrics**.
- Add/remove multimedia content easily.
- Convert videos into **immersive VR**.



## How it addresses the problem

### End to End Solution for Awareness:

- Not only prioritizes **knowledge improvement** but also fosters positive **behavioral and mindset changes**
- Provides entire **roadmap** to user for using the platform.
- Addresses all of the **age groups** present. .
- **Adaptive** approach that provides **personalized** experience and also **improves through feedback**.

## Innovation & Uniqueness

### Innovative Approach in Solution:

- Engaging learning through **games and VR**.
- Resource-efficient AI model training using **1-bit LLM** with **real-time law amendment** updates.
- Secure **Coin Storage** using **Blockchain**.
- **AI-Driven personality identification & prediction** through performance and **analytical insights**.
- **Adaptive questioning** guides user **behaviour** in Games.



# TECHNICAL APPROACH

## Technologies

### Frontend

Web: **NEXT.js**



### Backend

Flask

**NEXT.js**



### Database

Firebase



redis

### Deployment

**Vercel**



**aws**

### Gaming

**Pygame**



three.js

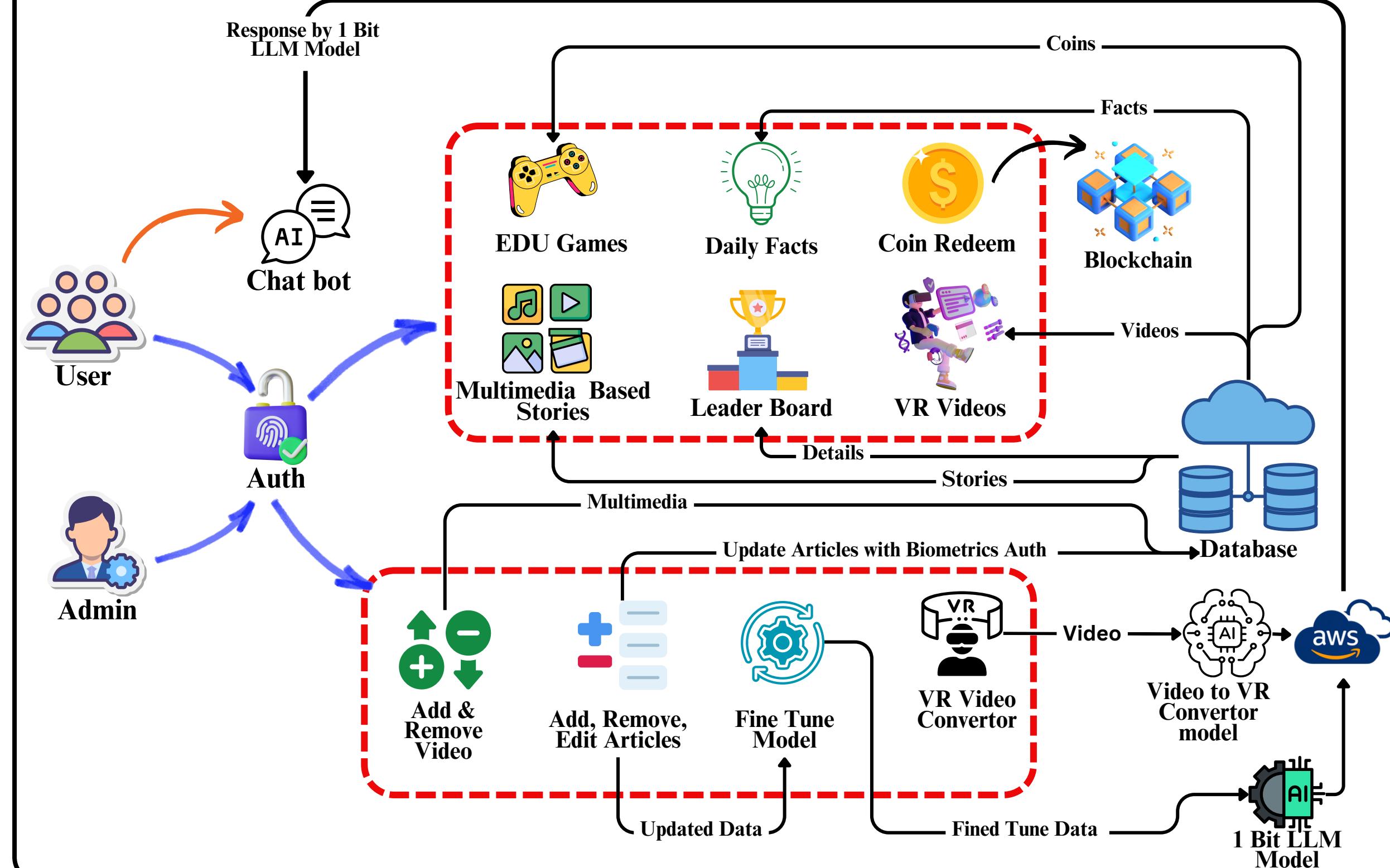
### AI Integration

**Hugging Face**

**Gemini**



## Methodology



# FEASIBILITY AND VIABILITY

## Feasibility



**Technological Feasibility:** The project leverages **open-source** technologies like Next.js, Gemini, & Llama LLM for, ensuring **cost-effective** and **scalable** development.

**Economic Feasibility:** Development costs remain low with open-source tools, while **ONDC redeemable coins** enhance **user engagement** and revenue.



**Operational Feasibility:** The tech stack is easy to **integrate** & maintain, with **diverse game** formats ensuring high user engagement & smooth operation.



**Social and Ethical Feasibility:** The platform fosters inclusivity through **language translation**, supports **government initiatives**.



## Potential Challenges



**Content Simplification:** Simplifying complex constitutional language.



**Language & Inclusivity:** Supporting diverse languages and dialects.



**User Engagement & Adoption:** Including citizens of all age group.



**Technical Challenges:** Adapting platform for diverse devices of user.



**Regulatory & Ethical Considerations:** Retaining impartiality, accuracy, and transparency.



## Strategies to Overcome



Transforming the articles into **story** format with **scenario** based examples



Use **AI tools**, **Google Translate API**, and **Indic-BERT** model for gradual multilingual support.



Develop difficulty **levels**, **personalized** content, and **VR** multimedia to enhance engagement & **reward** system.



Make **responsive website**, use **scalable cloud**, flexible design development.



Conduct **regular audits**, ensure **transparency**, and gather **user feedback**.

# IMPACT AND BENEFITS



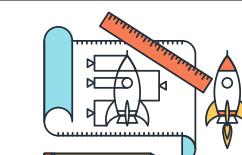
## Impact

- 1 Behavioural Changes:**  
70% of women in India experience harassment without taking action, a mindset shaped by both victims and perpetrators. This can be transformed through **subconscious-level awareness** and **education**.
- 2 Improvement in Awareness:**  
35% of respondents were aware of their **fundamental rights**, while only 20% could accurately recall key elements of the **Preamble** to the Constitution.
- 3 The Ultimate Outcome:**  
It would **prevent at least one crime**, one silenced voice, and one **discriminatory act**, all through increased awareness.
- 4 Language Independent Learning:**  
Covers up 70% of the **Non-English speakers** of India (**110 crores**), which allows all **Indians** to use our platform.
- 5 Improved Retention of facts and incidents:**  
VR increases learning retention by up to **75%** (**PwC and Stanford University**).

## Benefit

- **Crime Prevention:**  
Reduces crime rates by addressing real issues.
- **Fights Against Social Evils:**  
Encourages inclusivity and equality, addressing discriminatory practices
- **Change at subconscious level:**  
It changes the mindset of citizen in a positive ways regarding looking towards the basic events.
- **Increased Constitutional Literacy:**  
It aims to boost constitutional knowledge among youth, addressing the fact that only 19% of Indians have read the Constitution.
- **Critical Thinking Enhancement:**  
Develops analytical skills for evaluating policies and societal issues through a constitutional lens..

**PRODUCT STATUS :** 75% product built completed and further build is on progress to make Platform Personalized.



# RESEARCH AND REFERENCES



1 <https://www.lokniti.org/content/Lokniti-CSDS-Survey>

A 2023 survey revealed low constitutional awareness, with only 35% knowing their rights and significant gaps in gender, rural, and constitutional knowledge.

2 <https://github.com/civictech-India/constitution-of-india>

GitHub Repository: CivicTech India. (2019). Constitution of India Articles and Amendments Data [JSON file]. (Modified and updated to reflect the latest amendments for the project, 2024).

3 <https://www.thehindu.com/news/national/karnataka/people-lack-awareness-on-constitution-even-73-years-after-its-adoption/article67645351.ece>

At a Kalaburagi conference, Appagere Somashekhar stressed the widespread constitutional illiteracy in India and the need to defend B.R. Ambedkar's legacy against attacks.

4 [https://arxiv.org/abs/2402.17764 \( The Era of 1-bit LLMs \)](https://arxiv.org/abs/2402.17764)

The article discusses the potential benefits of 1-bit LLMs, which are smaller, faster, and more energy-efficient than traditional LLMs

5 <https://legislative.gov.in/constitution-of-india/>

The chatbot was trained on a dataset of 20+ PDF files containing the full text of the Indian Constitution, obtained from SIH.

6 <https://docs.google.com/document/d/1eoodObz34A6BetC97sc0eNYxMd6WXOve1alqBNM1FU4/edit?usp=sharing>

Google Docs Document: Team WebWeavers. (2024). Research on Constitution of India [Google Docs document] made by Us

## Business & Revenue Generation Models



**Premium Learning Modules:** Charge for advanced learning modules on constitutional topics, including case studies and expert lectures.



**Virtual Coin Purchases (ONDC Integration):** Allow users to purchase or earn coins to redeem rewards or buy products via ONDC.



**Certification Programs:** Paid certifications for users who complete specific learning paths, recognized by schools and employers.



**In-App Advertising:** Revenue through ads with pay-per-click and impression models.