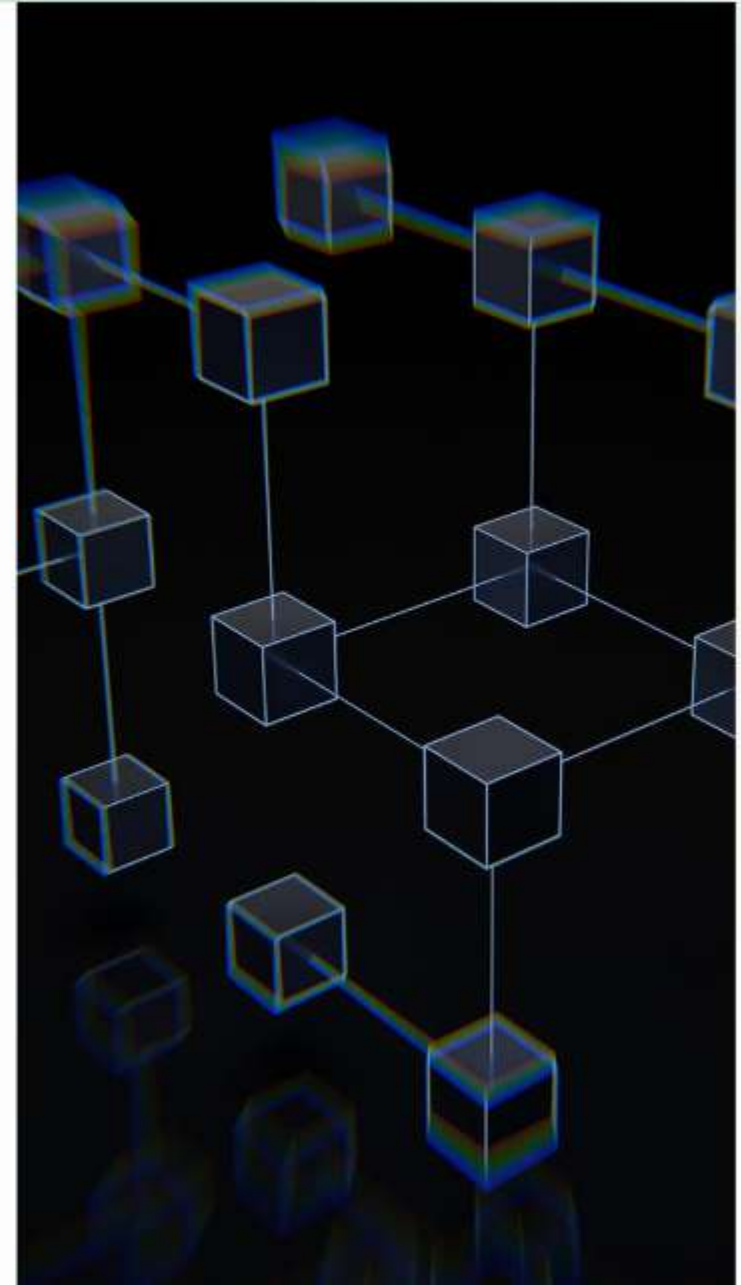


GramSwarajChain: Revolutionizing Anonymous Complaint Handling with Blockchain

Introducing GramSwarajChain, an innovative solution leveraging blockchain technology to create an anonymous complaint redressal system, integrated with AI for efficient authority routing. This presentation explores the problem statement, proposed solutions, features, architecture, technologies utilized, and the significant potential impact of the project.

Agilisium Warriors

Presenter



Challenges in Filing Complaints in Rural Areas

Understanding the barriers to complaint filing and trust in systems



Low **trust** in systems is prevalent.

Particularly common in rural regions.

Fear of **retaliation** hinders complaints.

Many avoid filing due to possible backlash.



Current systems demand **personal data**.

This requirement deters potential complainants.

Inefficient **complaint routing** processes exist.

Complaints are not effectively directed.



Leveraging Ethereum for Anonymous Complaints Management

A technical exploration of using blockchain and AI to enhance complaint handling processes

Anonymous complaints via **Ethereum**.



Empower users to submit complaints without revealing their identity using the **Volta Testnet**.

Identity managed through **MetaMask** wallet.



No login needed; users maintain control over their identity and data through **MetaMask**.

Immutable complaint storage with **Solidity**.



Utilize **Solidity Smart Contracts** to ensure that all complaints are securely stored and tamper-proof.

AI Agent for complaint analysis.



An **AI Agent** will intelligently analyze and route complaints to the appropriate channels for resolution.

Escalation via **Twitter API**.



Integrate with the **Twitter API** to escalate urgent issues effectively and reach a wider audience.

Overview of GramSwarajChain Features

Explore how GramSwarajChain enhances privacy, engagement, and efficiency in grievance handling.

01 Anonymous & trustless complaints

Users can submit grievances without revealing their identity, ensuring **confidentiality** and **security** throughout the process.

02 No personal data needed for submissions

This feature significantly enhances **user privacy** by eliminating the need for any personal information during complaint submission.

03 Immutable blockchain storage

Complaints are stored on a **blockchain**, ensuring that they cannot be altered or deleted, which reinforces **trust** in the system.

04 AI-powered authority routing

An AI system efficiently directs complaints to the most appropriate authorities, improving the **response time** and effectiveness of resolutions.

05 Engagement via Twitter API

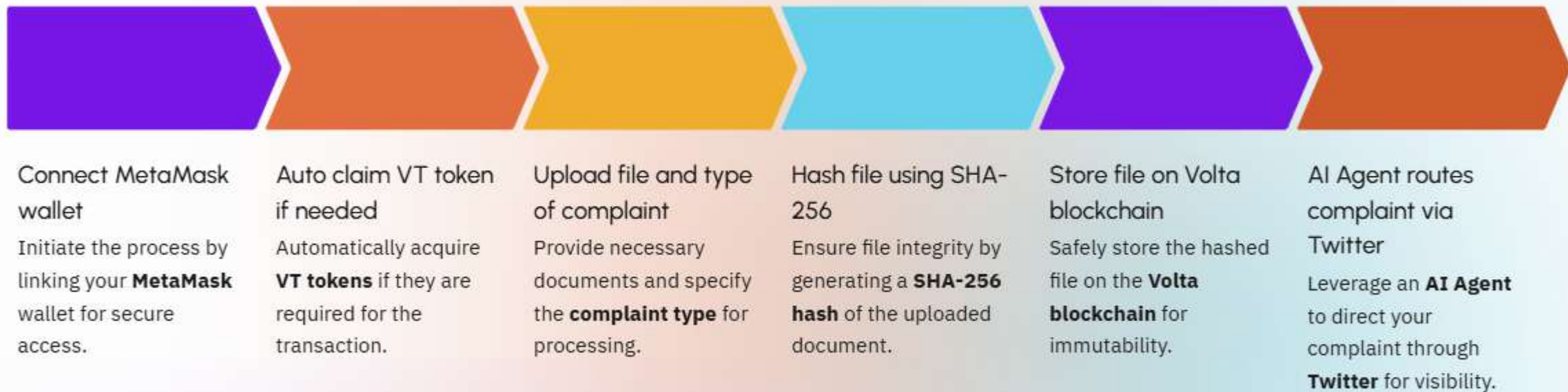
The platform tweets complaints directly to relevant officials through the **Twitter API**, fostering direct engagement and accountability.

06 Public voting dashboard

Users can actively participate in the grievance process via a **public voting dashboard**, enhancing community involvement and transparency.

Streamlined Live Demo Architecture for Complaints

A step-by-step guide to utilizing blockchain and AI for complaint management.



Exploring Smart Contracts: Key Features

Understanding the essential components and functions of smart contracts



Structure of a Case

The **Case** struct includes key information like **complaintText**, **fileHash**, and **voteCount** to manage disputes effectively.



Core Functions Defined

Functions such as **addCase()**, **vote()**, **getCase()**, and **hasVoted()** define the interaction with the smart contract for users.



Voting Mechanism Explained

The **voteCount** tracks the number of votes for each case, allowing for transparent decision-making within the contract.

Innovative Frontend Features for User Engagement

Explore the cutting-edge functionalities designed to enhance user experience and interaction on GramSwarajChain.

HTML & CSS

The frontend is built using **HTML** and **CSS**, providing a strong foundation for creating a responsive and visually appealing user interface. This ensures that users have a seamless experience while navigating through the platform.



Voting Interface

The **live complaint list** and **voting interface** facilitate real-time interaction, empowering users to actively participate in the decision-making process. This fosters a sense of community and engagement among users.



Dark Mode

A **dark mode toggle** allows users to switch between light and dark themes, catering to personal preferences and improving usability in different lighting conditions. This feature enhances user comfort during extended usage.



File Uploads

Users can easily perform **file uploads** and generate a unique **hash** for their files, ensuring secure and efficient data management. This feature is critical for enabling user interaction and data verification.



Overview of Technologies Used

Exploring the tools and technologies powering GramSwarajChain

Blockchain Tech

Ethereum Volta Testnet

Utilizing the **Ethereum** Volta Testnet for testing and deploying **smart contracts** in a secure environment.



Smart Contract Development

Developing **smart contracts** using **Solidity** alongside **Hardhat** for efficient testing and deployment.



Frontend Technologies

Creating user interfaces with **HTML** and **CSS**, integrating with **Ethers.js** for blockchain interactions.



Wallet and Backend

MetaMask Integration

Employing **MetaMask** for secure user authentication and transaction management on the **Ethereum** blockchain.



Python for Backend Logic

Leveraging **Python** for backend operations, including AI functionalities and interacting with the **Twitter API**.



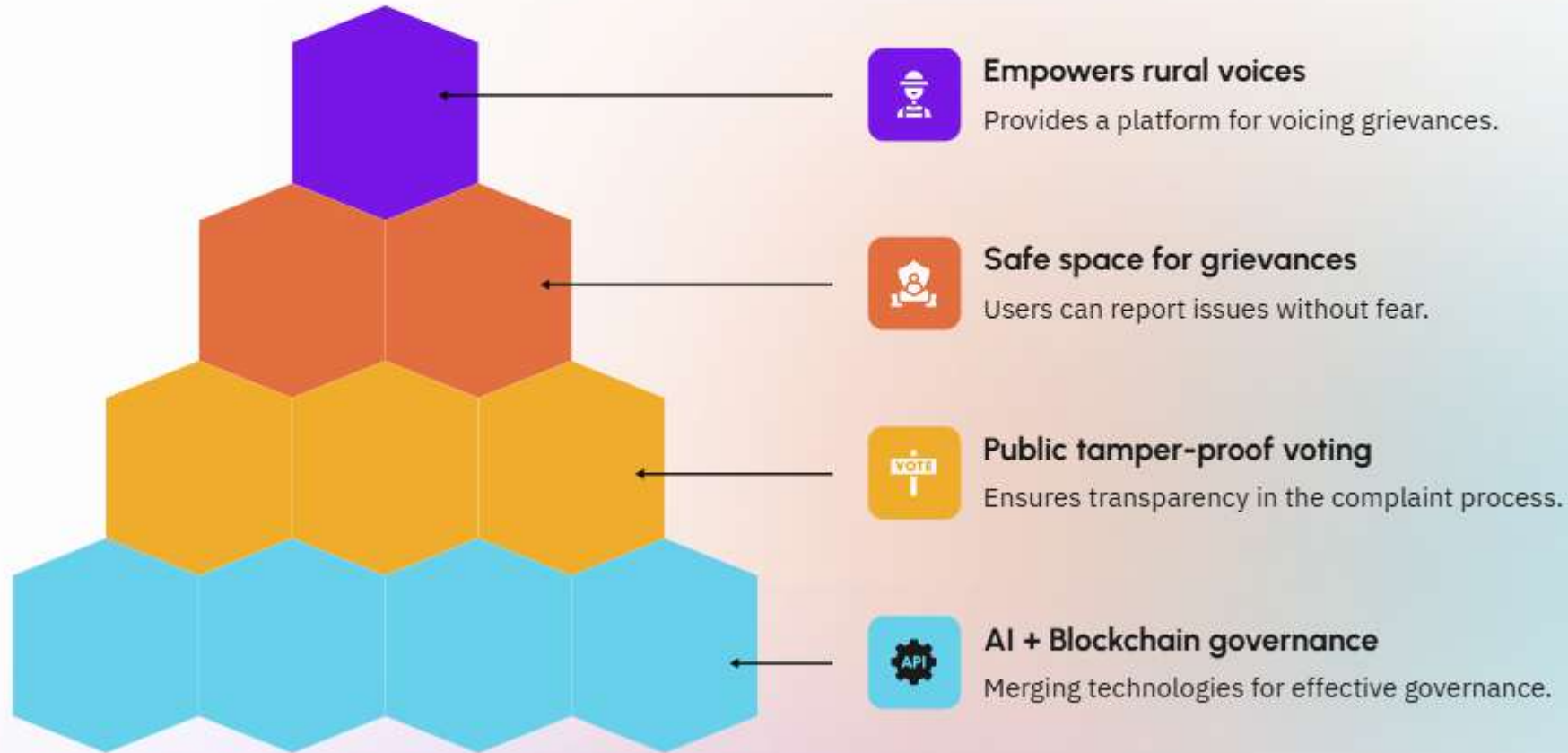
Efficient AI Complaint Routing System

Streamlining complaint handling through designated authorities

Complaint Type	Authority Tag
Theft, Abuse	@LocalPolice
Sanitation	@Municipality
Health	@HealthDept
Power Issues	@TNEBOfficial
Women Safety	@WomensComm

Empowering Rural Voices for Smart Governance

A comprehensive approach to grievance redressal through technology and community engagement.





Let's come together to innovate for India's bright future

Let's collaborate to empower communities in India through innovative solutions. Your ideas and expertise can help us create sustainable change and progress in our society. For further discussions and partnerships, reach out to us