

AI-MEETING ASSISTANT

TEAM: SHINCHAN

SYSTEM ARCHITECTURE - LAYERED APPROACH

01

Frontend Layer

- **User Interface:** Browser-based dashboard for managing meetings, viewing summaries, and configuring integrations (React.js + WebRTC).
- **Calendar Sync:** OAuth2-based integration with Google Calendar/Outlook to auto-join meetings.
- **Real-Time UI:** Displays live transcriptions, highlights, and action items during meetings.

02

Backend Layer

- **Cloudflare Workers:** Serverless functions to process audio streams, authenticate APIs, and trigger automations.
- AI Processing:
 - **Speech-to-Text:** Cloudflare AI's Whisper-like model for real-time transcription.
 - **NLP Engine:** Fine-tuned BERT model for extracting action items, deadlines, and sentiment.
- Database:
 - **Durable Objects (DI):** Stores encrypted meeting transcripts and metadata.
 - **Workers KV:** Caches user preferences (e.g., Slack channel IDs) for low-latency access.

03

Integration Layer

- **APIs:** RESTful connectors for Zoom, Teams, Slack, Trello, and Jira.
- **Webhooks:** Push summaries to Slack and tasks to Trello using Workers-triggered HTTP calls.

04

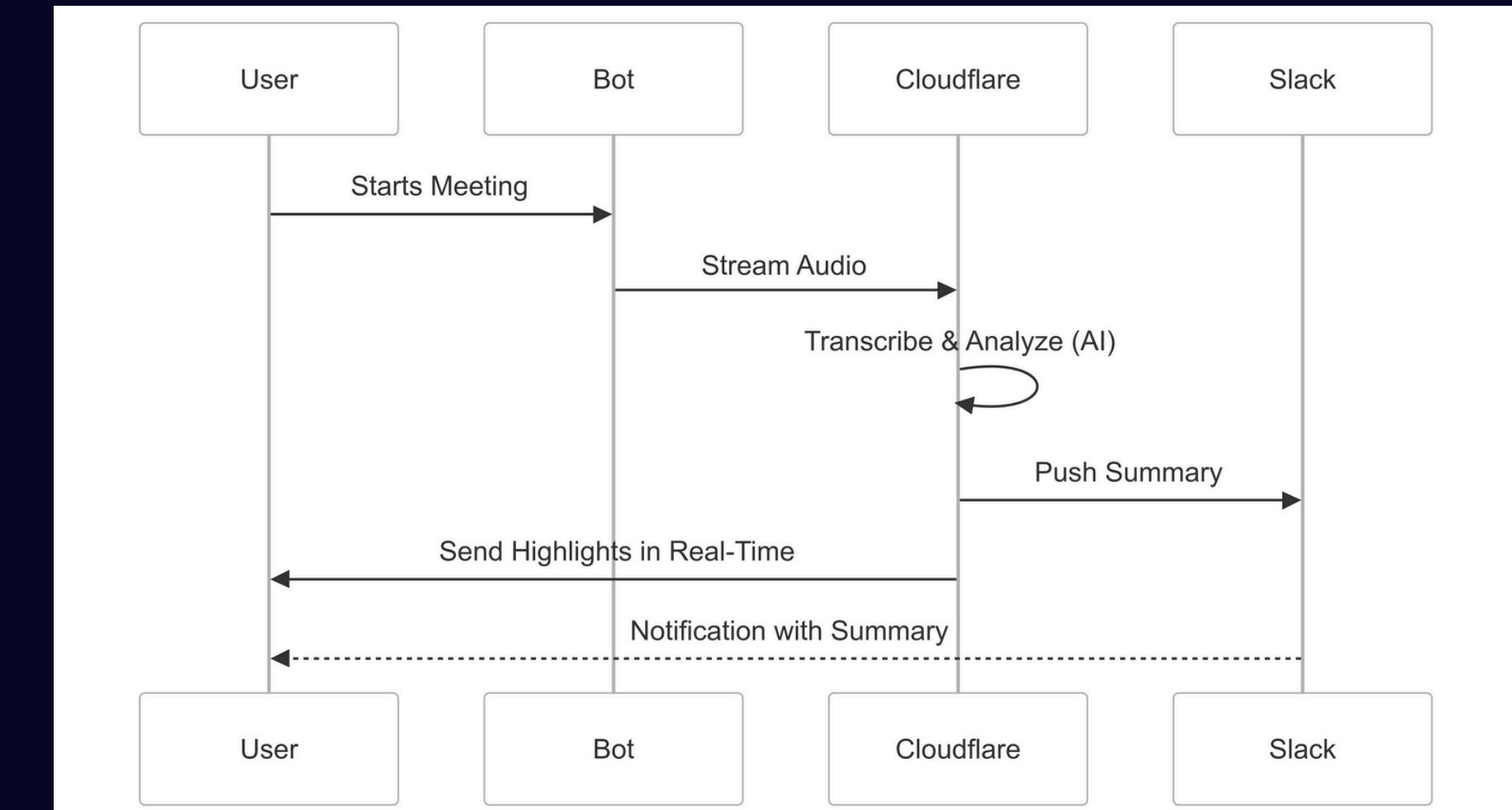
Security Layer

- **Edge Encryption:** TLS 1.3 for data in transit; AES-256 for data at rest.
- **Redaction:** Workers AI scans and redacts sensitive keywords (e.g., passwords, credit cards).

SYSTEM ARCHITECTURE FLOWCHART



FEATURE WORKFLOW



FEATURE DEEP-DIVE

01

Real-Time Transcription

- **Tech:** Cloudflare Workers splits audio into 5-sec chunks, processes them via AI model, and stitches text with speaker diarization.
- **Latency:** <500ms per chunk due to edge computing.

02

Action Item Extraction

- **NLP Pipeline:**
 - a. Tokenization: Split text into sentences.
 - b. Dependency Parsing: Identify verbs (e.g., "complete", "submit").
 - c. Named Entity Recognition (NER): Detect deadlines ("by Friday") and assignees ("@John").
- **Output:** Structured JSON sent to Trello: (json)
 - { "task": "Update dashboard", "assignee": "john@example.com", "deadline": "2024-03-20" }

03

Security

- Bot authentication via JWT tokens refreshed every 10 mins.
- Data isolation: Each customer's data stored in separate Durable Objects namespace.



OUR VISION

01

Auto-Join Meetings

The AI assistant integrates with calendars (Google, Outlook) to auto-join meetings on Zoom, Teams, and Meet using OAuth2. It acts as a participant, eliminating manual invites and ensuring no meeting is missed. Platform-specific APIs make it universally compatible.

03

Real-Time Highlights

The assistant flags critical moments (decisions, deadlines) using keyword detection and sentiment analysis. Real-time notifications keep discussions focused and ensure urgent points are addressed immediately.

02

Smart Summaries

Cloudflare AI generates concise summaries by extracting key insights, decisions, and action items using NLP. It clusters topics and shares summaries post-meeting, ensuring alignment and no overlooked details.

04

Task Automation & Encrypted Storage

Tasks are pushed to Trello, Jira, or Slack via REST APIs using Cloudflare Workers. All data is encrypted in transit and at rest, with sensitive information redacted automatically for privacy and compliance.

MOKCUP & VISUALS

The mockup displays a clean, modern interface for an AI meeting assistant. On the left, a sidebar titled "Today's Meetings" shows a "Weekly Team Sync" scheduled for 10:00:00 - 11:00:00, marked as "upcoming". A blue button labeled "Join Meeting" is present. The main area features a "Search transcript..." input field and a "Filter" button. The center panel shows a transcription of a meeting where "John Doe" spoke at 14:13:25, stating, "We need to make a decision about the new feature deadline." Key phrases like "decision" and "deadline" are highlighted in yellow. On the right, a section titled "Action Items" lists "Review new feature specifications" with a priority level of "high". It includes a "Push to Trello" button and a timestamp of "15/03/2024". Below the transcription, there is a summary or post-meeting view.

The mockup showcases a clean, intuitive dashboard for the AI meeting assistant. On the left, a calendar integration displays upcoming meetings, while the center panel features real-time transcription with color-coded speaker labels. Key moments, such as decisions or deadlines, are highlighted in real-time, making it easy for users to track important discussions. On the right, auto-generated action items are listed with options to push them directly to tools like Trello or Slack. The design emphasizes simplicity and efficiency, ensuring users can focus on the meeting without distractions.

The assistant's interface also includes a post-meeting summary view, where users can review transcripts, action items, and key insights. The mockup highlights seamless integration with productivity tools, enabling users to automate follow-ups effortlessly. With a modern, dark-themed design and clear visual hierarchy, the mockup reflects the assistant's ability to streamline meetings and enhance productivity.

THANK YOU