Call Center for Government Agency

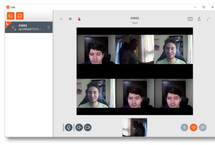
You may not realize the importance of accessibility and community. Services like patient care and customer call centers are often inaccessible to the Deaf community. Thanks to new direct video calling possibilities, people who are deaf (more than 1M in the US alone) can communicate and create content on YouTube, TikTok, and many other platforms using American Sign Language.

The diversity of customer interactions is exploding. Customer experiences that once required dedicated devices can now run on any device. WebRTC.ventures assisted in the development of unique call center features for users who are deaf and hard of hearing. With this new direct video calling platform, we are not only enabling new and better customer experiences but we are also making customer interactions more inclusive and accessible.

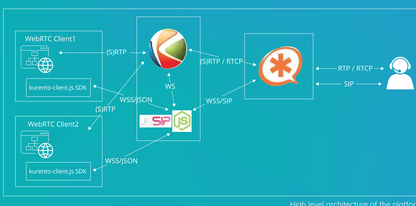
This open source platform allows government organizations and private companies to easily communicate with deaf, hard of hearing, deaf-blind and speech disabled customers using American Sign Language.

The Needs

A not-for-profit company that operates multiple federally funded research and development centers (FFRDCs), working with a government agency, reached out to us with a challenge: Enhance their direct video calling platform to provide additional features, such as multi-party calling, integration with legacy SIP devices, and video messaging.



6 multiparty conference with an SIP client and 5 web clients.



High level architecture of the platform

How We Helped

Here is how our team at WebRTC.Ventures helped

Our team at WebRTC.Ventures worked to help architect system enhancements capable of supporting different video and audio codecs, MCU video conferencing, and recording and mixing video and audio.

In addition, we supported development of a demo web application and an open-source SDK that allows developers to build different customizable video conference applications on top of it. This SDK connects all web clients to a signaling server that manages the video call traffic, exchanges messages using WebSockets and SIP, and controls the Kurento Media Server.

We worked as a contractor to develop a signaling server, configure and deploy Kurento and Asterisk in AWS, and incorporate all of the necessary infrastructure, databases, and other dependencies.

Interoperability ICE tests in Chrome and Firefox using KITE

Finally, we built a "KITE" based interoperability testing app and a monitoring system to store call logs before completely securing the application.

Approaching the Challenge

The effort was designed to be completed in multiple phases. WebRTC.ventures focused on designing the architecture for the solution to improve what the client was already using.

From the design, our goal was to build an MVP that replicated the existing solution with the new infrastructure and create an SDK that made it easier to develop the direct video calling software.

The next step involved building the additional features that added value to the solution: transcoding, video mixing, recording, and monitoring.

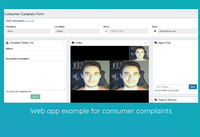
Finally, we focused on polishing the solution, documenting, troubleshooting, and fixing issues in different scenarios.

The Solution

A call center SDK and upgraded version of the platform that provided more control and flexibility over the video calls. This included advanced call center functionalities like recording, blind and attended transfers, and multiparty calling.

We used the following frameworks and technologies:

- Asterisk PBX
- WebRTC
- JsSIP
- Kurento Media Server
- Node.js
- Angular.js
- Linux/MySQL Server Stacks
- Real Time Text Messaging
- Web Sockets
- Docker



Web app example for consumer complaints

How long did it take?

It took 10 working months in total divided in multiple phases:

- **Phase 1:** An alpha version with the new desired features.
- **Phase 2:** A beta version that introduced new elements to the existing application, added necessary features, and integrated with different devices.
- **Phase 3:** A production version where we focused on testing and fixing interoperability bugs and included changes to improve how some features work.

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Customer Satisfaction

From 1 to 3, with 3 being the best:

3 — How would you **RATE YOUR EXPERIENCE** with WebRTC.ventures?

3 — How **KNOWLEDGEABLE** was WebRTC.ventures in solving your pain points?

We have an experienced team ready and happy to help you out.

Contact Us!

At WebRTC.ventures, we can build interactive live streaming, customizable video and audio applications with features such as recordings, transcriptions, and more.