AutoEye

Team Name : Hyper Innovates 2.0

Team Lead : vimalraj

Team Member : Fedric

Experience : 4 years

Mobile number : 9952578333

Email id : vimal.rajendhiran@tcs.com

Use case/ Abstract:

In our today's environment whenever a we are facing some issues in Hardware/ Software we always depend upon some technician who even charges more for their work done in solving some basic issues. If the solving methodology is known to the user many issues can be self-fixed by the user itself. Also, experts were required to drive long distances frequently to fix problem then there are high production losses due to lengthy problems resolution time. So, for this problem we provide an application that provides Remote Assistance for the users who are located Remotely so that the user can self-analyze and solve any issues.

Introduction:

This application provides industrial asset manufacturers and asset owners with an enterprise-grade, multi-source field service knowledge software platform that uses augmented reality to meet the challenges facing field service technicians as they service expensive, complex equipment in hostile environments where any amount of downtime is hugely expensive. It provides an advanced AR engine on mobile devices and smart glasses like,

- Marker less AR based on image recognition
- SLAM (Simultaneous Localization and Mapping) technology (iOS)
- Integration of AR with live video

- Online creation of AR content
- Offline AR on mobile and smart glasses.

Knowledge Base

The knowledge feature of the application provides many useful advantages to the users where some of the features are,

- Shareable libraries to store knowledge items: Snippets, AR, videos with annotations, images and documents.
- Offline access to knowledge on mobile devices.
- Distribution of knowledge libraries to mobile users.
- Control access to knowledge items through sub-organizations and user groups.
- Self-service access or provided by an expert.

Real Time Data Analytics:

The application has a feature of Real time Data Analytics for the user can understand the effect of changes for the issues they have been fixing. By doing so the real time data for the work can be seen and the user can come to the conclusion that his/ her fixing with issues is a success based on the real time values.

Cosmic:

IT is nothing but the set of APIs for seamlessly integrating the application with enterprise back office systems, such as ERP (e.g. salesforce), AMS, FMS and industrial IoT. Also, any ticketing tool can be integrated with the application as the ticket management in the application is reduced.

Technology   Stack:
Hardware (System):

- Windows 10
- i7 Processor
- 8 GB RAM
- 500 GB Memory

Hardware (Smartphone):

- Android Pie/ iOS
- Qualcomm processor
- 8 GB RAM
- 128 GB Memory

Software:

- Web Browser
- Android Studio
- Visual Studio Code
- Tokbox SDK
- Wikitude SDK
- Chat API's

Working Methodology:

- The user who requires service will be raising a ticket to the remote expert user using the mobile application.
- The expert technician using the web application will be accepting the ticket on the other end for resolving the ticket.
- Both users will be communicating using a video chat session. This make sure to reduce the visual gab between the users.
- If there is no proper internet connection the user will be taking a snap of the picture where the issue occurs and send it to expert technician.
- The expert technician adds the AR annotation for that image and will be sending the solution image as an Augmented Reality.
- Once the remote user opens the AR image, the user can able to see the solution for issue in AR. So that the user itself can self-troubleshoot based in the instructions.
- Once the issue is fixed the solution can be added as a knowledge base for later use. The knowledge base works even in offline mode.

Workflow Architecture:
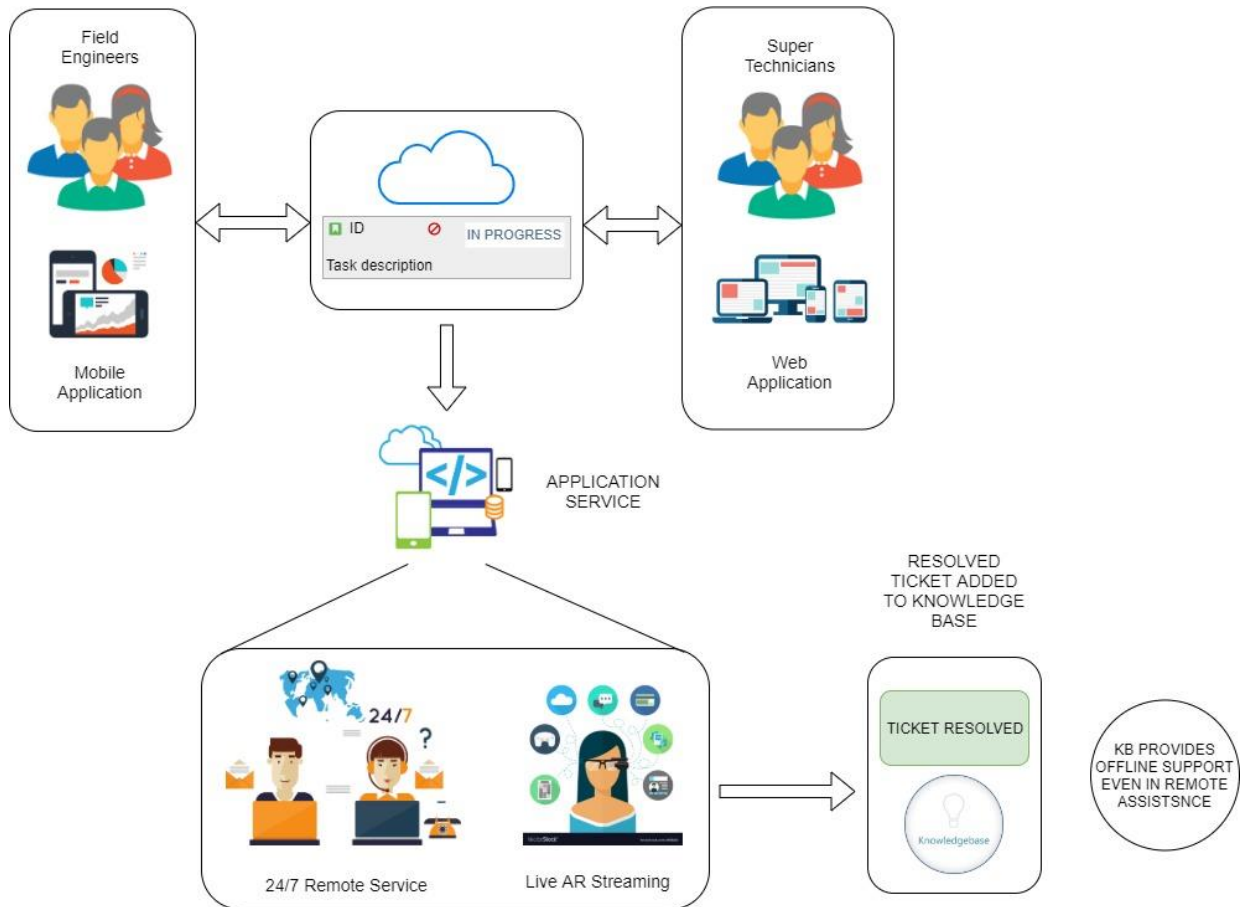
Conclusion:

Thus the, application provides an enterprise collaboration platform for digitizing field services. This solution enables on-the-job knowledge capturing and visual hands-free collaboration between field service personnel, experts, management and end-users by harnessing augmented reality, live video, smart glasses and cloud computing. As a result, decrease production losses (deferment) by 25% due to increase of equipment uptime and Significant reduction of experts' travel time

Youtube LINK:

https://youtu.be/pCaEbQA_3xE