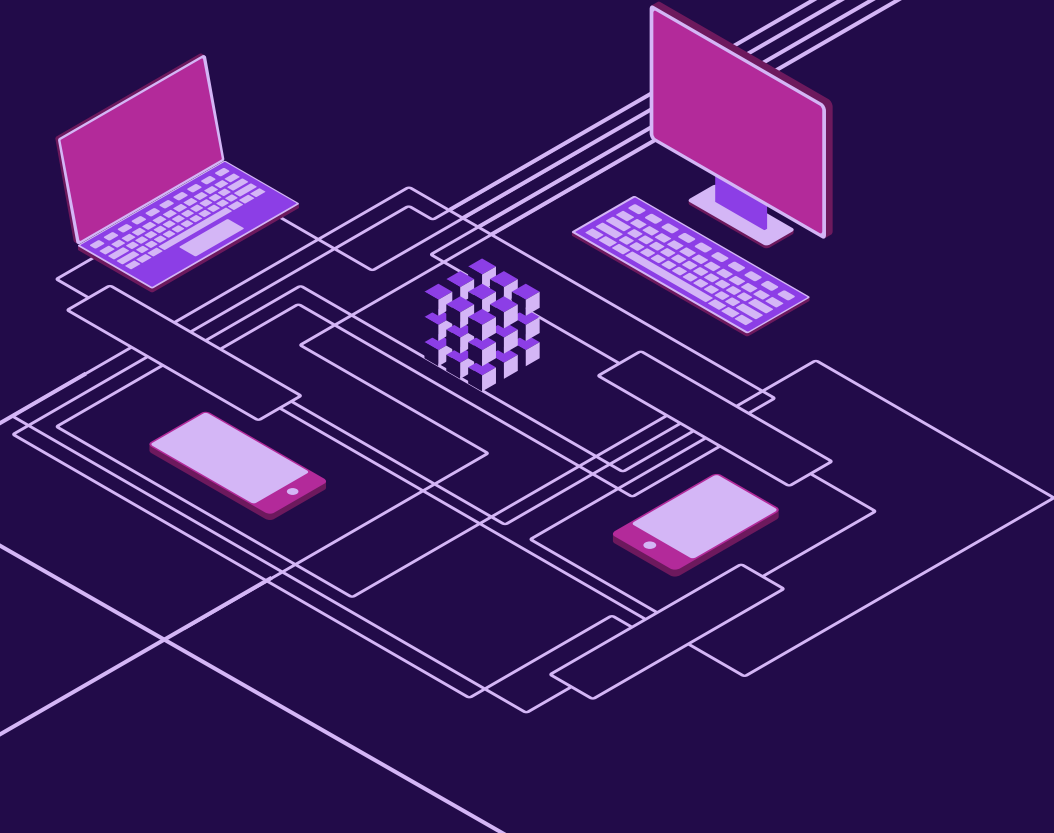


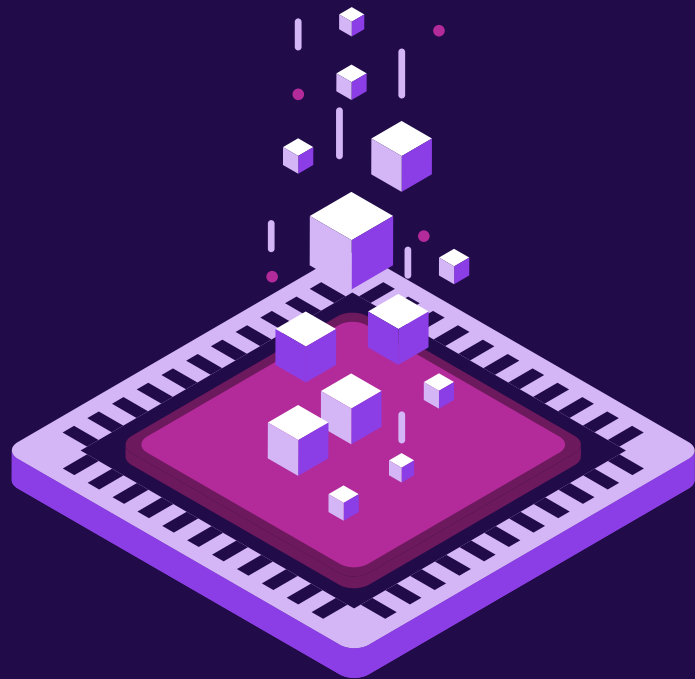
TiCON SYSTEM LTD

Technology, Innovation &
Communication Network



HISTORY OF TiCON

- Established 'TiCON System Co. Ltd , OCT.2007 (Registered in South Korea, Bangladesh & Singapore)
- First Software Development contract from Galaxy Telcom, Canada
- In the Year 2008, Implemented Calling Card system for Korean company RealStream Co. Ltd
- Started Symbian Base MVoIP Solution under brand Name TiVOIZ in the year 2008
- Started Mobile Application Development outsourcing project in Year 2009(1st client Humming Communication)
- Partnership with Any Talk Corporation Korea (Mobile app project - in year 2010)
- Contract with Grace Global Academy of Educational Contents and Apps in year 2011
- Developed iNEAT, standard Languages skill test in Korea, 2011
- Developed iCallRing, video and image ringtone apps :TWMobile, service provider for iCallRing
- Long term outsourcing and software development partnership with HD Telcom, Korea Contract with state own Bangladeshi Mobile Operator Teletalk for App development project
- Contract with Content Matters for developing Rabbitholebd.com and Rabbithole mobile apps, along with backend streaming engine and transcoder
- Developed BlessBit (Buffer less Bit Delivery) streaming engine which was 1st Runner-up at BASIS National ICT Award 2019
- Selected as Amazon Web Services (AWS) Technology Partner in 2019
- Contract with CEMS Global for Mobile App Development
- Development of Smart Consular System for Bangladesh Embassy in Korea
- ERP & HR Management development for Intra Group



MISSION STATEMENT

TiCON System Ltd. provides
you right business solution
that adds real business
value, improves customer
experiences and drives
revenue.

PRODUCTS & CLIENTS

01

eMeeting

Two-way & conference style
secured communication

04

ERP & ManagR

Supply chain management and
HR Management module

02

BlessBit

Full featured OTT/media
content delivery Solution

05

Consular Management

Unique Consular Management
System for Bangladesh
Embassy in Korea

03

AI (THEIA & Willy)

Interactive ML based chatbot
using own dataset

06

GPS Tracking Solution

Full featured GPS Tracking
Solution including driving
feature



01

eMeeting

SECURED COMMUNICATION SOLUTION

Technology We Used

01

Core Technology

WebRTC, SIP

02

WebRTC Networking

P2P, MCU

03

Database

MySQL (inside EC2)

04

Frontend

HTML, CSS, JS, Codeigniter framework

05

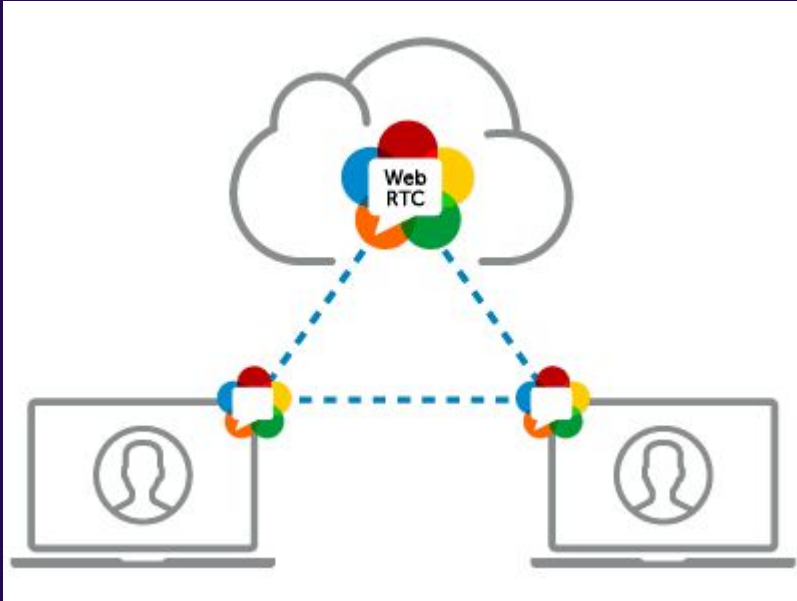
Backend

Codeigniter framework, jquery, vanilla javascript , php

06

The WebRTC API

RTCPeerConnection, MediaStream, RTCDataChannel (Session Management)



Audio/Video Codecs

Audio - PCMU (G.711 μ)
Audio - PCMA (G.711a)
Audio - Opus two channel
Video - H.264/AVC (stereo)
Video - VP8 , VP9
Licensed codecs

FEATURES

- Supports Video, Hardware encode/decode, up to 720P
- Supports G.711μ/a, G.722 (HD-audio), G.726-32, GSM, iLBC and Opus codecs
- Native integration with mobile devices including contacts, call history and ringtones.
- Enterprise features including IP PBX integration, BLF, call transfer/pickup, call recording with UCM, LDAP
- Powerful NAT traversal options including automatic NAT discovery, STUN and UPnP
- Automatic provisioning including XML provisioning and 2-D barcode scan
- Fully customizable skins and themes for optional branding needs
- Voice channel switching between Bluetooth, earphone, speakerphone & 3.5mm headset
- Users can view info of Incoming & Outgoing calls and missed calls in call history

FEATURES

- Automatic call forwarding based on time and location rules
- SIP-based softphone
- Can be used over cellular data connection or WiFi
- Strong security features including SIP over TLS and 128/256-bit SRTP
- Supports 6 SIP accounts, up to 6-way audio conference, and 24 virtual BLF keys
- Telephony Features: Hold, mute, transfer, forward (unconditional/no-answer/busy), call park/pickup, paging, Do Not Disturb (DND), call waiting, call history, flexible dial plan, custom ringtones, server redundancy & fail-over

SAMPLE ARCHITECTURE



FEATURES (Conferencing)

- Call conferencing/online meeting
- Permanent meeting room for team meeting
- One time meeting for cross-team/urgent meeting
- Call recording
- Create group with users
- Manage user status inside a group
- Assign an user to multiple group
- Access control permanent meeting rooms
- Access control one time meeting rooms
- Control your camera and mic (turn on and off instantly)
- Real time and on-demand recording

INTEGRATIONS



API COMMUNICATION

eMeeting can be integrated by using API communication directly with any Active Directory style authentication system



MIDDLEWARE

eMeeting can be set to authorize via requesting for authentication from middleware given they support post request



SMART ACCESS

Central login can be enabled (SSO), so users may enjoy hassle free login experience to any eMeeting tools



ACCESS LOG

Reporting of access log is available at the admin interface



IN-TRANSIT SECURITY

All communications are encrypted to protect any kind of misuse/interception. Whole system can also be deployed on local server only.



SECURITY AT REST

All recordings are highly secured by customer provided AES-256 keys. Key is protected by multiple layers of security.

Process

Brief description of how the process works

User Module:

- User registration calls MySQL table via CI
- Create room & one time meeting utilize MySQL table and WebRTC APIs at the same time
- Display rooms calls room list from DB
- Inviting to conference generates text based on meeting room and meeting time and user
- Leave conference puts meeting info on DB but doesn't destroy meeting room

Communication Module:

- Above mentioned WebRTC API handles the following:
 - media capture
 - encoding and decoding audio and video
 - transportation layer
 - session management

Process

Brief description of how the process works

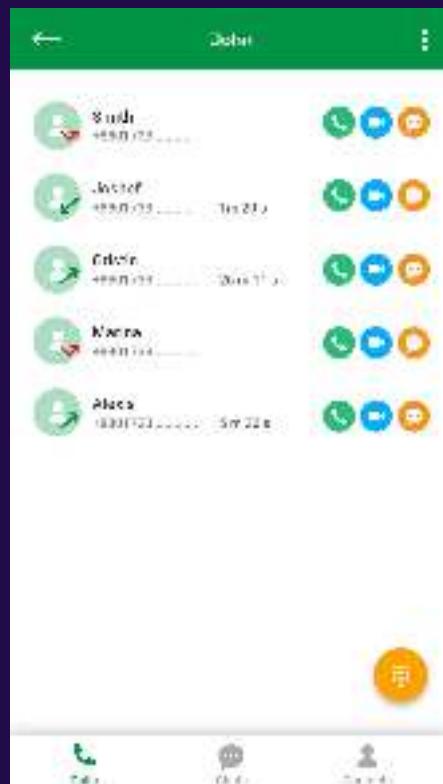
Communication Module:

- After a meeting starts, first step is to take camera and mic permission
- Then we take input through camera and mic, split audio and video and break them into smaller chunks
- Then we compress those chunks using Video & Audio codec
- Then we use signalling server for communication

Communication Module:

- And we use turn and stun server for conferencing
- All media are transferred through turn server
- RTCDatChannel API is being used for session management
- We are using mesh networking right now and working on to implement MCU

SECURED COMMUNICATION



SECURED COMMUNICATION

01812.....

Calling...



Reject

01812.....

Incoming Audio Call



Reject



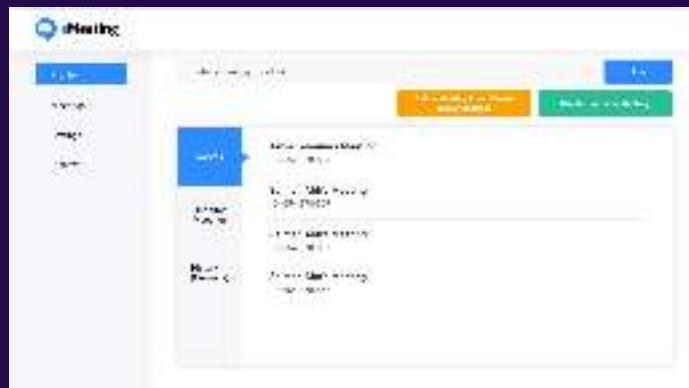
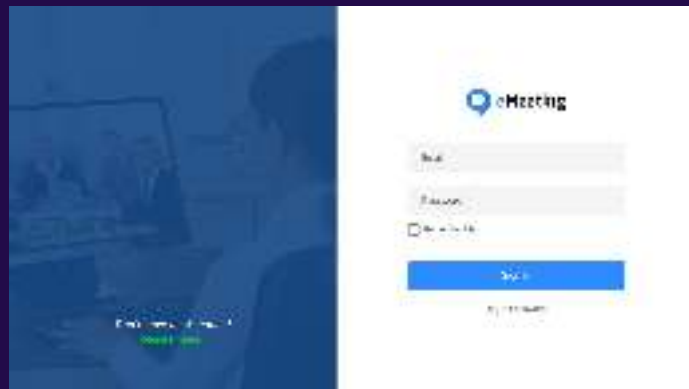
Answer

01812.....

00:00:45



VIDEO CONFERENCING



02

BlessBit
OTT SOLUTION

Technology We Used

01

Core Technology

JAVA (Transcoding,
Authentication & Engine)

02

Backend

Node.JS, PHP (CodeIgniter)

03

Database

MySQL, REDIS

04

Frontend

HTML, CSS, JS, Codeigniter
framework

05

Smartphone

Android (JAVA/Kotlin), iOS
(Objective C)

06

AD Pusher

Python, FFMPEG

FEATURES



HIGHLY SCALABLE

We served ~400k concurrent users at peak during World Cup 2019. Additional capacity was added real time with zero impact on system.



CONTENT SECURITY

We implemented a custom authentication system. A new way to secure your content with one-to-one request and response and almost no overhead.



SMART ACCESS

Provide your user with a unified UI/UX experience over all platform (TV/Web/Smart Devices), using one central credential.



DYNAMIC REPORTING

Using combination of own analytics (plus our in-house developed AI) and third party analytics tool, wide range of reporting is available at your fingertips.



TRANSCODER

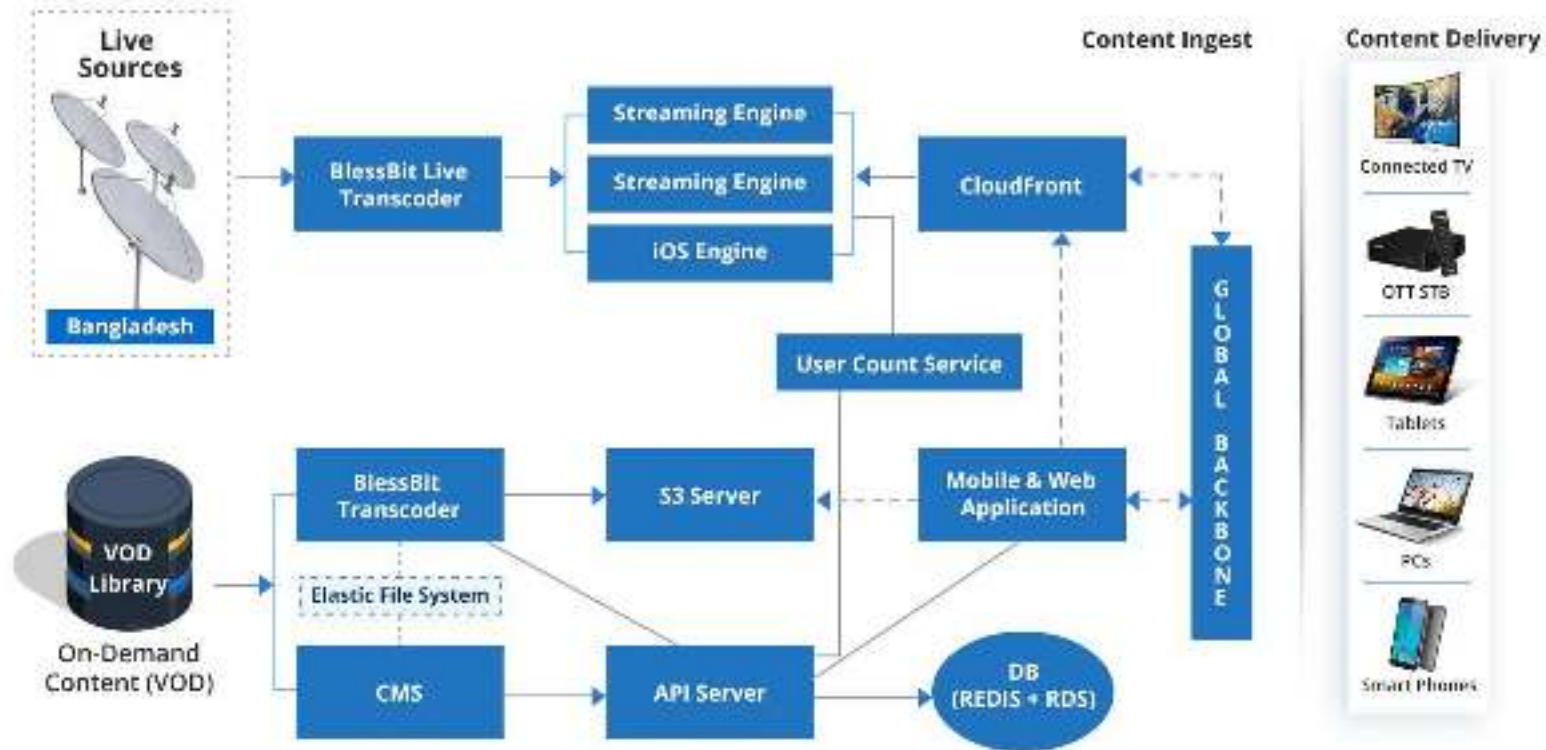
We determine the most suitable ffmpeg profile. You will enjoy not only an eye-pleasing viewing experience but also will be perfectly CPU/GPU optimized at the same time.



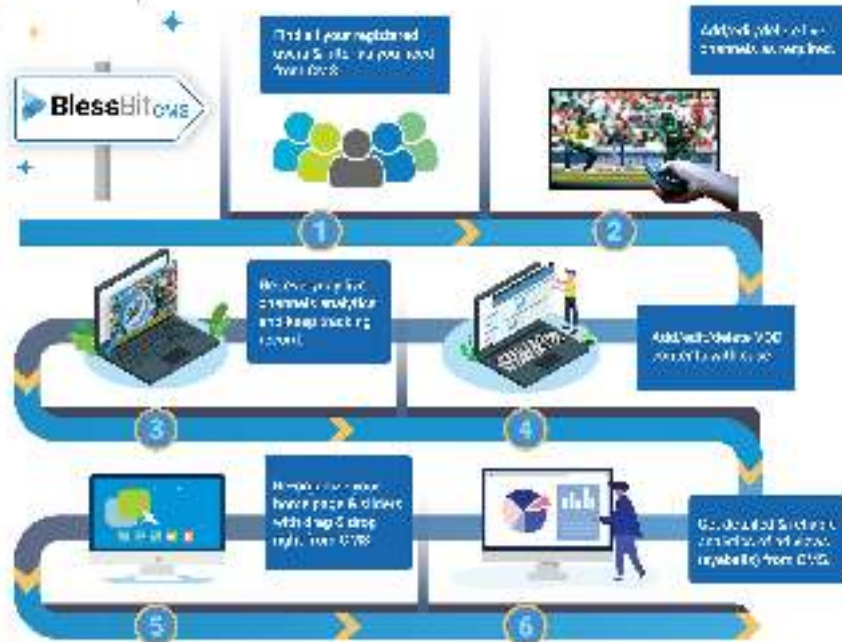
AD PUSHER

Push ads at any time you want, in real time. For on-demand content, you can schedule ads and they will be pushed on that exact time.

BLESSBIT FLOWCHART



CMS & AD PUSHER





03

AI (THEIA & WILLY)

TECHNOLOGY WE USE



STT & TTS

Speech to Text and Text to
Speech



NLP

Natural Language
Processing



ML

Machine Learning

FEATURES



DAY-TO-DAY TASK

We can now schedule alarm, schedule/reminder, ask our bot to search anything for us, call to any contact or any number, Open any other app etc.



CONVERSATION

When making small talk with THEIA, bot can communicate with you with some real nice response. It is enjoyable and very informative at the same time.



MULTILINGUAL

THEIA is multilingual. Currently it works on Bengali, English, Japanese & Korean. And have the ability to expand to any other language.



FIRST 3D MODEL

THEIA is first bot integrated with hardware based 3D model in Bangladesh & one of the few in the world. We are using Android box for hosting the 3D model.



BIG DATA

We recently started taking public input while making a conversation, as our plan to work with Big Data & NLP. The more data we have, the better THEIA will be.



NLP & ML

We implemented Natural Language Processing and Machine Learning unsupervised model for conversations.

THEIA FLOWCHART





04

ERP & ManagR

TECHNOLOGY WE USE



BACKEND

PHP (CodeIgniter Framework), JS



FRONTEND

HTML/CSS/JS/Bootstrap



DATABASE

MySQL

FEATURES

SSO

Single Sign On from Job application to interview, eventually employee login, which then can be integrated with access control

Job Posting

Post jobs, share them and find some perfect candidate for the interview

Pre-employment test

Take a pre-employment test online to eliminate some candidates, reduce your on-premise hassle

Video Interview

Even arrange a video interview so candidates can attend from anytime anywhere

Notifications

Send notifications, emails & SMS of the interview process to inform candidates accordingly on time.

Top Performance

A data analytics driven approach to automatically measure top performing candidates.

FEATURES

Attendance

Automatically track attendance with third party integration or manual attendance entry by employee

Time Tracking

Track entry-exit time with manual input or integrate with access machine server. Easily calculate attendance at end of cycle

Leave Management

Leave application, approval, reporting and personal leave statistics available for every employee

Assets Management

Assign assets to employee. Employee can check all their asset and employer can track all assets the team/company owns.

Benefit Management

Only available for employee. Track your salary breakdown and you salary/other benefit disbursement history of every month.

Analytics & Reporting

Detailed analytics & reporting is available from attendance to payroll or performance evaluation

FEATURES

Funding

Track where the fund is coming from: sales, loan, investment, other cash-ins etc.

Expense

Track all kinds of expense: payroll, assets, operational expense, any other kind of expense etc.

Assets

Manage all your asset.. Input them when entering expense on asset, assign to employee if applicable and keep track.

Disbursement

Manage all salary & other benefit disbursement to all employees and even 3rd party contractors or freelancers.

Salary

Breakdown of salary accounts (permanent/contractual employee), process current month salary & other benefits including bonus etc.

Analytics & Reporting

Detailed analytics & reporting is available from attendance to payroll or performance evaluation

FEATURES

Project Management

Create a new project and assign employee to that project.

Create Entry

All employee keeps tab of how many hours they worked today on which project.

Calculate Working Hour

Automatically get report of every employee of how many hour they worked on every project for last any specified period.

Invoicing

Send invoice to client automatically based on finalized work-hour entry of one or multiple projects. Modify the invoice if needed.

Client Management

Create new clients and manage them from one place.

Analytics & Reporting

Detailed analytics & reporting is available from attendance to payroll or performance evaluation



05

**SMART CONSULAR
MANAGEMENT**

TECHNOLOGY WE USE



BACKEND

PHP (CodeIgniter Framework), JS



FRONTEND

HTML/CSS/JS/Bootstrap



DATABASE

MySQL

FEATURES

Dashboard

Settings

2.a: Conversion Rate

2.b: Backdate Entry

Admin.

3.a: Add New Admin

3.b: Admin List [Edit/Delete]

Operator.

4.a: Add New Operator

4.b: Operator List [Edit/Delete]

Services.

5.a: Add New Service

5.b: Service List [Edit/Delete]

5.c: Register

Reports

6.a: Defaults

6.b: Date Filter

6.c: User Filter

6.d: Service Filter

Summary

7.a: Daily Summary

7.b: Weekly Summary

7.c: Monthly Summary

7.d: Yearly Summary

7.e: User Summary

User Levels:

Super Admin

Admin

Operator

SMART CONSULAR



The form is titled 'KRW To USD Conversion Rate' with a subtitle '(Please Refer to the Consular System)'. It contains two input fields: 'Current Rate (KRW)' and 'New Rate (USD)'. Below these fields are 'Cancel' and 'Save' buttons. The sidebar on the left includes a search bar and a list of navigation items: Dashboard, Admin, Reports, Settings, and Logout.



The form is titled 'Create New Admin'. It includes a 'First Name' field, a 'Last Name' field, a 'Email' field, a 'Password' field, and a 'Confirm Password' field. Below these fields are 'Cancel' and 'Save' buttons. The sidebar on the left includes a search bar and a list of navigation items: Dashboard, Admin, Reports, Settings, and Logout.

A stylized graphic of an antenna or tower. It features a dark purple background with a lighter purple triangular shape at the top. A white outline of a tower structure is centered, with a square box in the middle containing the number '06' in pink. Below this is a wider rectangular box containing the text 'GPS TRACKING SOLUTION' in white. A thin white horizontal line runs across the middle of the image, passing behind the lower box.

06

**GPS TRACKING
SOLUTION**

Technology We Used

01

Core Technology

Android (JAVA & KOTLIN)

02

Backend

Node.JS, PHP (CodeIgniter)

03

Database

MySQL, REDIS

04

API

Node.JS, PHP (CodeIgniter)

05

Maps

Google Map API,
OpenStreetMap

06

Push Notification

Firebase

Process

Brief description of how the process works

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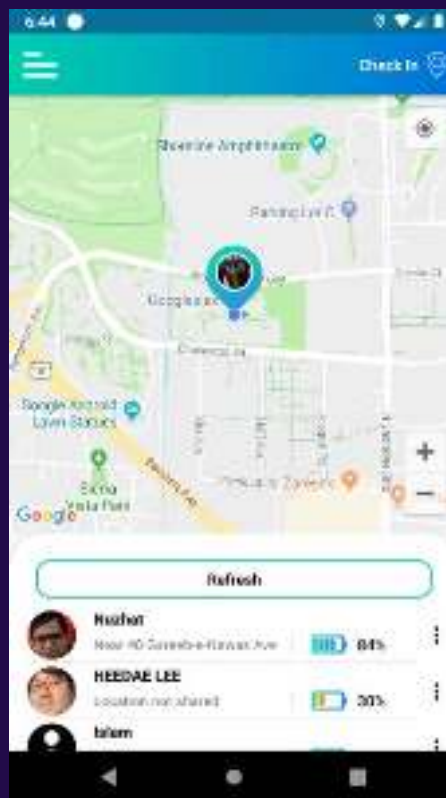
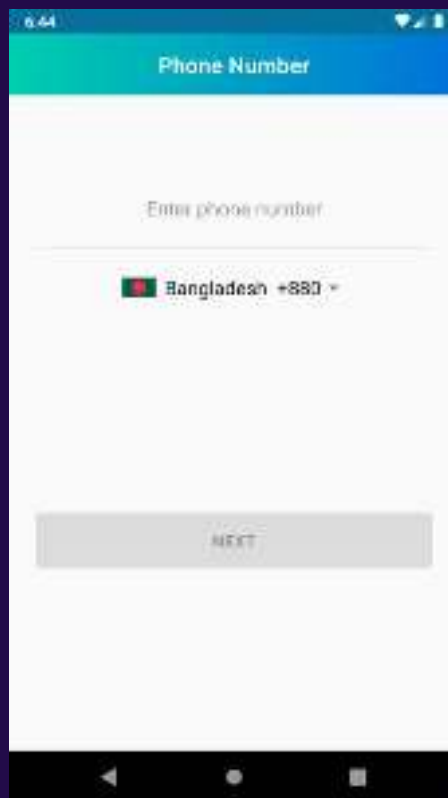
FEATURES

- Install the android app
- Allow location/GPS access along with other required access
- Register and login to use the GPS Tracking App
- Facebook account kit for login
- Start using app
- App will send GPS coordinates to server continuously fixed interval (30 sec/1 min)
- Store all coordinate data on server (database)
- User will be able to add friends (friend request)
- See where friends are (only if access is given by that user)
- Chat/message with other users/friends/group chat
- Call other users/friends

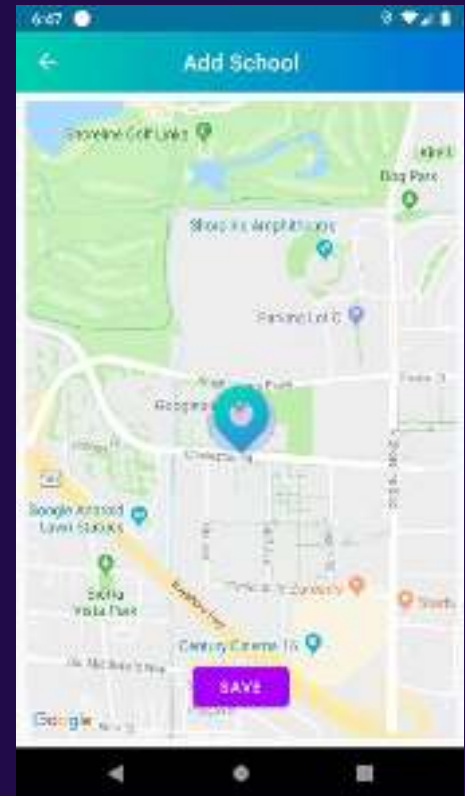
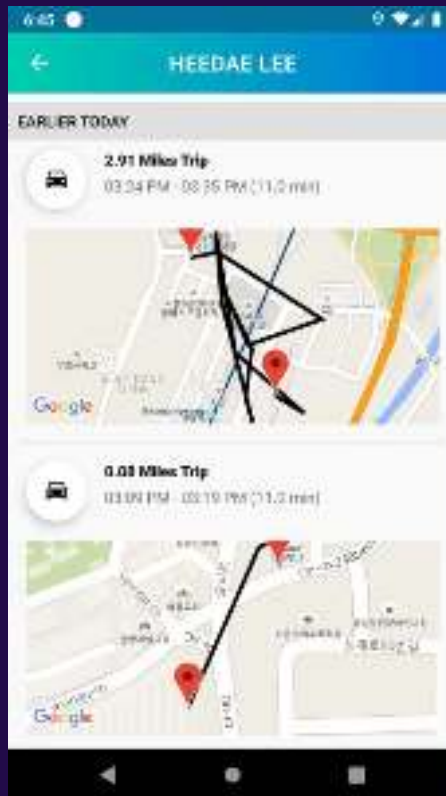
FEATURES

- Create friend group & family group and set separate access for them (can set family group to have your location access all time)
- Share location with selected friends when driving
- Check-in notification (e.g. home/work/ restaurant etc.)
- Cell phone battery status of all friends and family members (group members)
- Create alert group, ask for help with a single tap (send SMS to close friends/family)
- Detailed settings pages for (Map, Emergency contact/alert, Groups, Driving data sharing and receiving settings)
- Add emergency contacts
- School Circle:
 - Admin (parents) create school circle
 - Add child's devices to the circle by invitation code
 - Set school and home location for each child on map
 - If child device is 1KM away from either home or school, admin (parents) device will receive notifications

GPS TRACKER



GPS TRACKER





ACHIEVEMENTS

1st Runner-up at BASIS
National ICT Award 2019 for
OTT/Media Delivery
solution BlessBit

TOP CLIENTS



RABBITHOLE PRIME
by WJCS Ltd



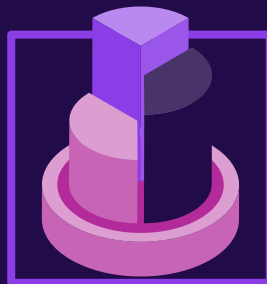
KICONBAY
by WJCS Ltd



CHVOD
by WJCS Ltd



J VISION
by WJCS Ltd



CLIENTS

FOTOBOSS



MEMBERSHIPS



PARTNER



THANKS!

Do you have any questions?

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