

Makenai Solutions, Innovation & Creative Ideas

Projects



DEVELOPMENT AREAS / ÁREAS DE DESARROLLO

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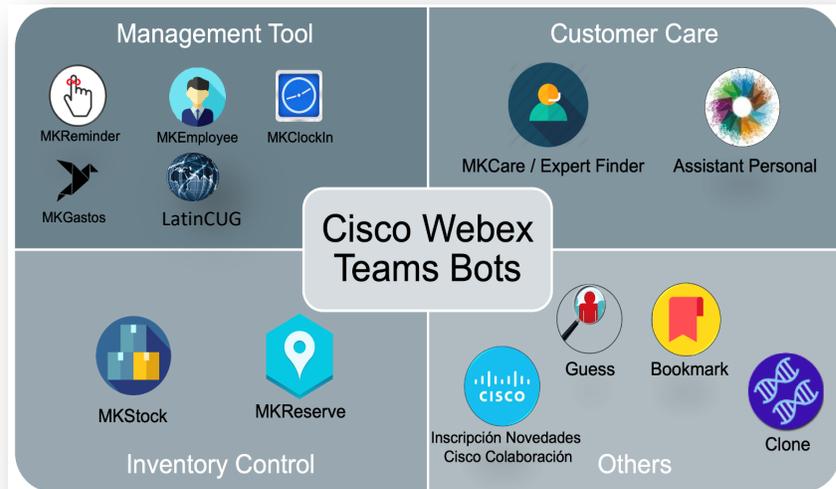
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1. COLABORACION Y INTEGRACION

1. CISCO WEBEX BOTS (<https://www.youtube.com/watch?v=Q3RH35snRHc>)

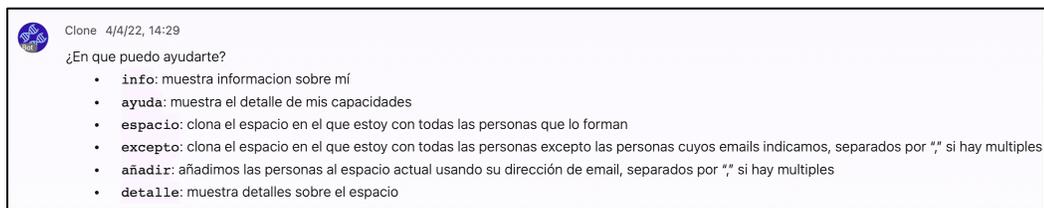
Cisco Webex bots help automate tasks and make access to resources easier and fast.



Some examples of these kinds of bot include:

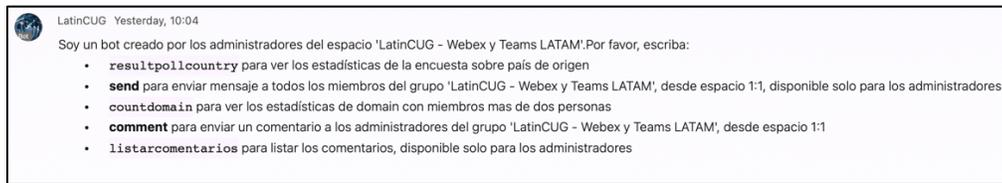
1. **CLONE BOT** -> used to clone spaces along with the members in order to create spaces in webex with a lot of people in under some minutes which would take some hours if done manually depending on the number of people to add.

This bot is made for public who are using webex and would need to copy spaces.

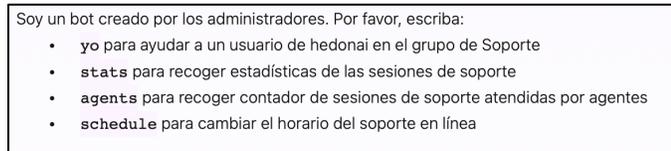


2. **MK CARE BOT** -> used to find an expert from a pool of experts and connect them with customers who require help, used under customer care scenario. This Bot is created for multiple clients, integrated with their web applications in order to provide customer care.
3. **MK REMINDER BOT** -> remembering birthdays, anniversaries or other important dates is almost impossible when there are large number of employees in a company, in order to provide a personal touch and make employees feel welcomed it is important to wish them on their important days. This is achieved with this reminder bot, it sends an automated message in the specified space, so that no one feels excluded. This bot is used internally for the company and is integrated with the company's management tool.

4. **MKEMPLOYEE BOT** -> used to make access to resource information easier and fast. One message to this bot with an email address and you can get information about that employee. This bot is used internally for the company and is integrated with the company's management tool.
5. **MKGASTOS BOT** -> used to provide notifications whenever there is a new expense added that requires manager's attention. This bot is used internally for the company and is integrated with the company's management tool.
6. **LATINCUG** -> is created with multiple features in order to manage a community. These features include sending poll question, getting results of poll, sending message 1-1 to all the members of the community, let members add comments for the management and management can see the list of the comments. This bot is made for a specific client to help them manage their community.



7. **EXPERT SUPPORT BOT** -> is created to provide support with experts via WebEx teams widget integrated on the word press website. Instant help can be provided with this bot where it asks the experts available at the time support is requested by the client. The bot then adds the expert in the client space where the support can be provided via text or call.



Current Hour Limit: **9:00 a 12:00**

Current days range: **Lunes, Martes, Miércoles, Jueves, Viernes,**

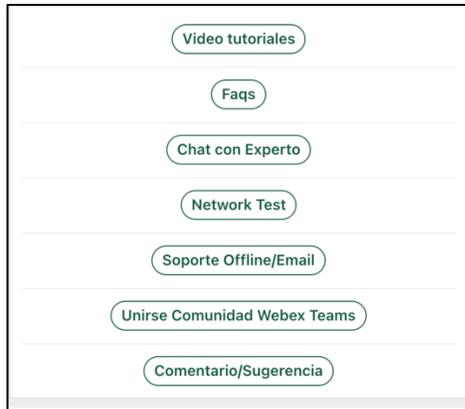
Puede actualizar el rango de horas y días aquí. La hora debe estar en horario UTC para evitar posibles problemas con la zona horaria.

9 :00 a 12 :00

Lunes
 Martes
 Miércoles
 Jueves
 Viernes
 Sabado
 Domingo

Update

8. **WEBEX SUPPORT BOT** -> is created to provide support with respect to use of WebEx with video tutorials, expert support, FAQs and other features to make the use of WebEx easy and accessible.



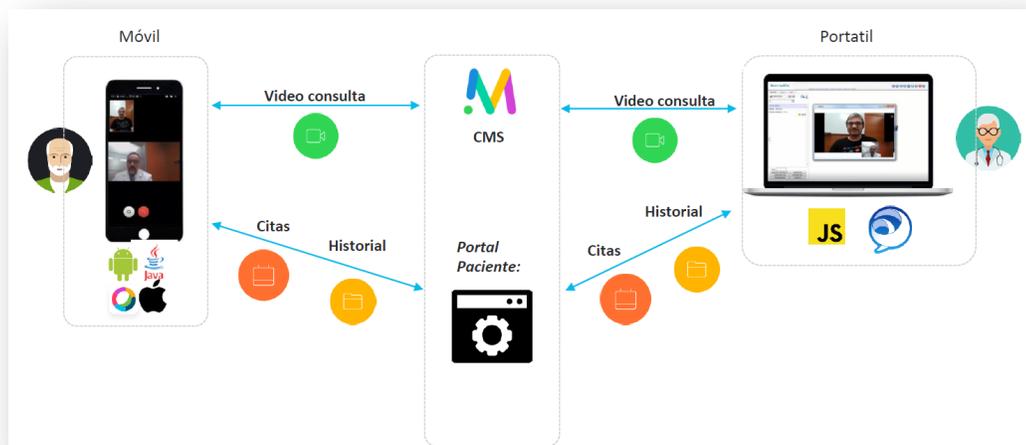
All the bots are made in **NodeJs** using **cisco webex sdk** and **botkit sdk**.

2. CISCO WEBEX INTEGRATION

1. DOCTOR PATIENT VIDEO CONFERENCING

A real use case of Webex integration which is currently being used is the doctor patient videoconferencing tool. The Webex SDKs are used in different platforms in order to provide an easy access to consultations with a doctor for the patients. These platforms include web application, android application and IOS application. The spaces used for the video conferencing are created in on-premises CMS (Cisco Meeting Server)

Technologies used in this project are: **Cisco Meeting Server APIs, Cisco Webex SDKs, Jabber APIs, Jabber SDK, Android, IOS, Oracle Database, Java and JavaScript.** The project also included integration with their legacy software already in use for history of the patients i.e. patient portal and doctor portal.



2. PROFEVIRTUAL ([HTTPS://WWW.PROFEVIRTUAL.ES/](https://www.profevirtual.es/))

This tool was made in order to provide access to webex licenses in an easy way for education sector in order to facilitate the education sector with online classes under the pandemic situation we had.

It included many features in order to provide painless management for the license and courses:

1. Registration for license just by filling in the name, email etc
2. Easy access to an expert to ask any questions (using Expert Bot)
 - a. Audio/Video Call
 - b. Text Message Instant Chat
3. Contact experts through email
4. Manuals for cisco webex

5. ProfeVirtual Classroom
 - a. Create Courses
 - b. Schedule Meetings
 - c. Professor and Student separate access
 - d. Availability to the Recording of the classes

Technology used: **VueJS, NodeJS, HTML, Javascript, Cisco Webex Meeting XML APIs, Cisco Webex RestAPIs, MySQL, BotKit, Cisco Webex SDK**

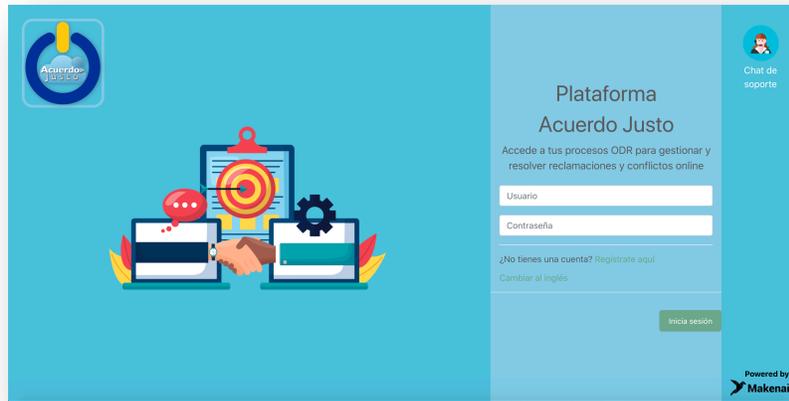


3. MEDIAR ONLINE (<https://platform.peacebuilder.io/login>)

A product integrated with Cisco Webex Meetings in order to facilitate the communication for conflict resolution in legal terms. The parties involved in a conflict along with the legal representative are able to use video conferencing to come to an agreement using this tool. Some features of this product are:

- Scheduling of a meeting (Calendar)
- Video Conferencing
- Digital Signing of documents
- User Management
- Access to Expert over chat
- Availability to the recordings of the sessions
- Availability to the statistics of the sessions

Technology used: **VueJS, NodeJS, Cisco Webex Meeting XML APIs, Cisco Webex RestAPIs, MySQL, BotKit, Cisco Webex SDK**



4. GOFAMILY

This product was also created under the period of pandemic in order to provide video conferencing for families of patients in a hospital who weren't able to connect to their families. This product was integrated with Cisco Webex Meetings.

It was deployed for multiple clients with the features of email notifications for the family members and starting the video conference from the web page. Additionally, it provided customer care with access to experts.

Technology used: **VueJS, NodeJS, Cisco Webex Meeting XML APIs, Cisco Webex RestAPIs, MySQL, BotKit, Cisco Webex SDK**





5. *WITHIU* ([HTTPS://WITHIU.ES/](https://withiu.es/))

WithIU is a similar product in order to provide easy access to cisco webex licenses for testing for clients with access to expert for any questions related to Cisco. It focuses on providing a ground with an easy reach if you want to test the Cisco Webex service to organize remote sessions with your customers or colleagues.

Tecnologies used: HTML, JS, NodeJS, RestAPIs of Cisco Webex, MySQL, BotKit, Cisco Webex SDK



6. *MKGREEN ROUTE* ([HTTPS://WWW.YOUTUBE.COM/WATCH?V=2JKWJPYIXDA](https://www.youtube.com/watch?v=2JKWJPYIXDA))

This product is created to solve the issue of adoption of alternative sustainable fuel for vehicles for sustainable future and specially one of the most important challenges of decarbonisation, how to approximate generation to consumption and adjust supply and demand with a real-time

solution. This is a platform comprising of two applications one for stations admins: A web application accessible with security; the second an Android auto application for users.

Some of the features we are proposing include: Registering of stations under a subscription model, appointments for fuel recharge by users from Android Auto App, and support calls between station representatives and the users, notifications via a call, in order to make it easier for users, provide green routes to users, alert the user when the energy of the vehicle is down and direct them to the nearest station.

Framework: VueJS, NodeJs, Android, AndroidAuto

Programming Language: Javascript, Java, XML, Python

Database: MySql

Cloud Technology: Google Cloud Compute Engine, VPC Network

External integrations: MapBox, Webex, Meraki. IMIWebex

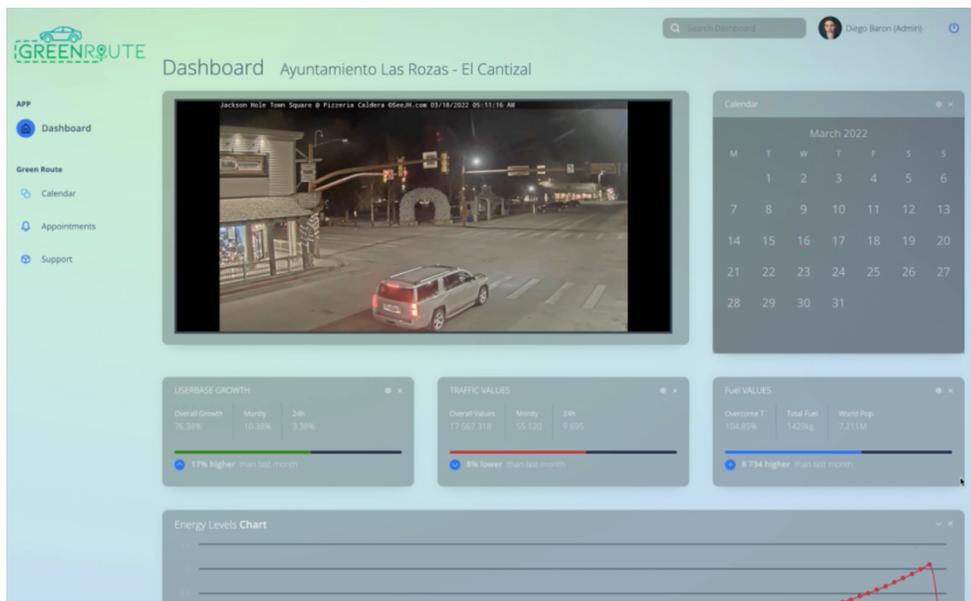


Figure 1: MKGreen Route Dashboard



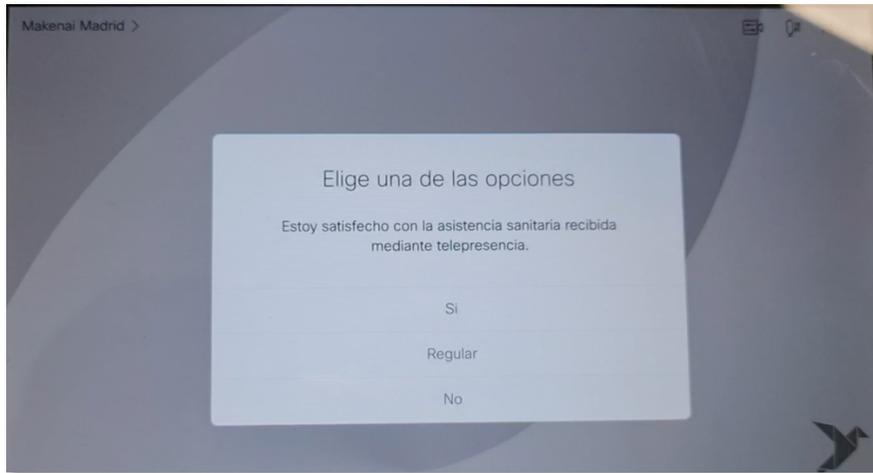
Figure 2: MKGreen Route Android Auto App

3. CISCO ROOMKIT DEVICES DEVELOPMENTS

1. *MKENCUESTAS*

This is a solution created with a centralized server to record feedback for the calls on room devices.

Technology used: **NodeJS, Cisco RoomKit Device XAPis, Oracle**



2. *MKVOLUMECONTROL*

The solution provides an easy control for microphones for the room devices.

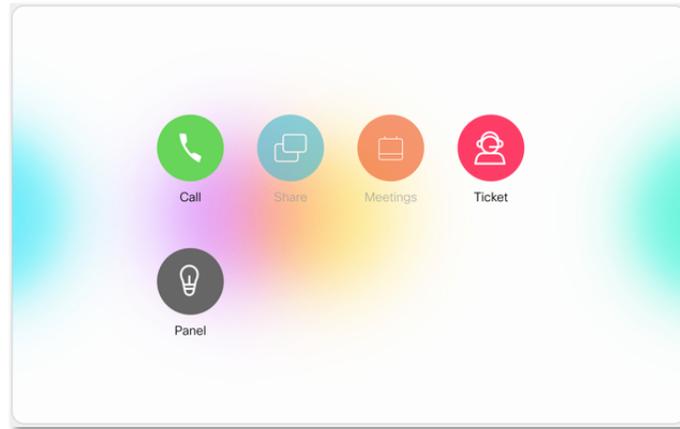
Technology used: **Cisco RoomDevice Macros**



3. *MKTICKETINGSYSTEM*

This solution provides multiple functionalities for the room devices including ticket system to send via email to administrators, feedback after call, web portal to see engagement, calls and configure devices.

Technology used: **VueJS, NodeJS, Cisco RoomKit Device XAPis, MongoDB**



4. CISCO MERAKI INTEGRATIONS

1. CAPTIVE PORTAL

Multiple splash pages were created integrated with Meraki Access Points for captive portal.

Tecnologies used: HTML, VueJS, NodeJS, BootStrap, Mews API



Figure 3: Captive portal

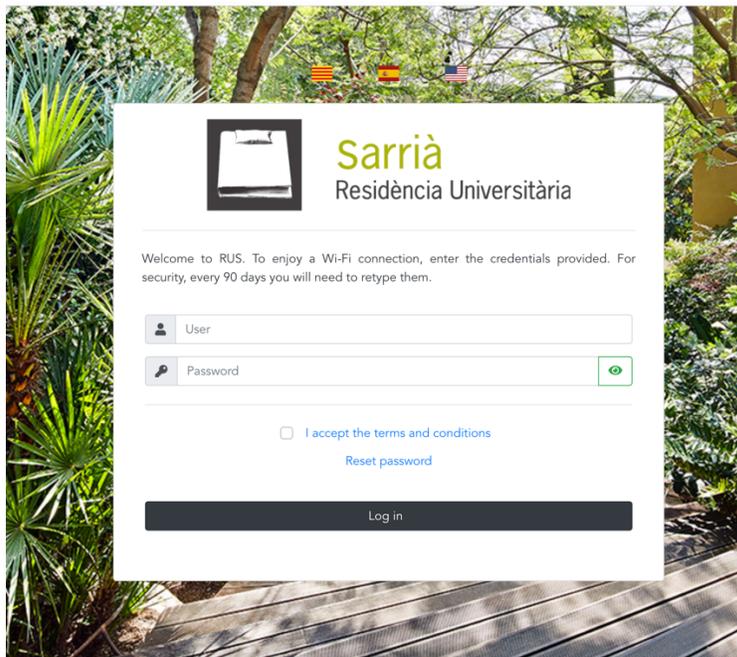


Figure 4: Captive portal

2. MASKUP

The product is created to detect people wearing masks or not in the área where masks are compulsory. During these trying times of coronavirus (2020) we have build this product to avoid its spread. This product comprises of a web dashboard where all the meraki cameras feed is integrated for the real time view of the store. The camera video is first passed through a deep neural networks to detect people with and without masks. Upon detection it also sends a webex notification to the concerned parties intgrtion over the dashboard.

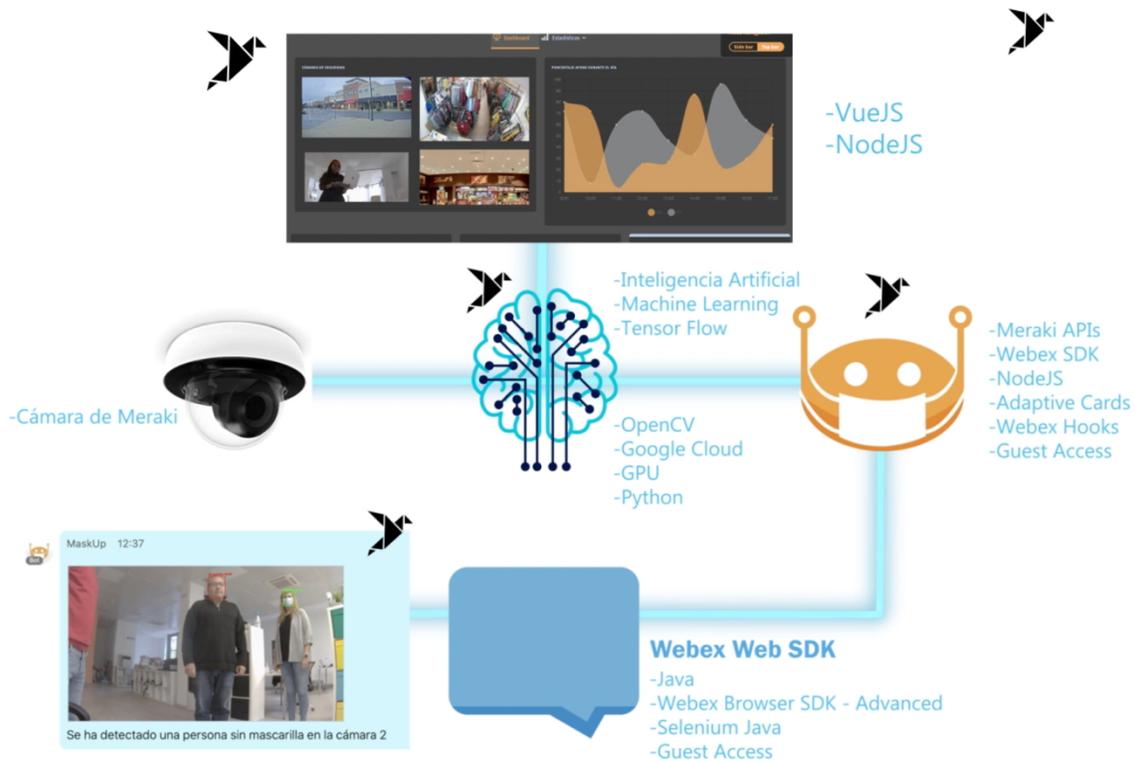


Figure 5: Technologies used

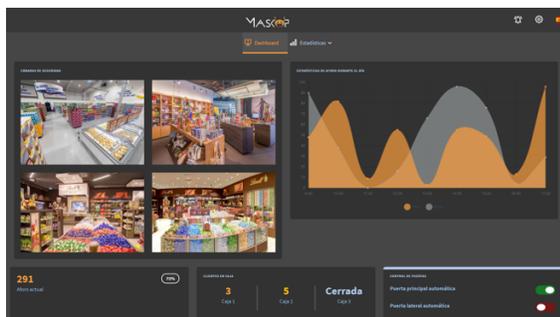


Figure 6: Mask up Dashboard



Figure 7: Mask Detection

5. OTHER CISCO INTEGRATIONS

1. *MKMOODLE CONNECTOR*

This is a plugin for Moodle that adds a block to the course for video conferencing. It connects a course with Cisco Meeting Server (CMS) co-space and let the professor and student connect to the video/audio call for that course using CMS.

This connector also simplifies the scheduling of online classes providing the professor and students the tools to connect/schedule calls from one place within Moodle.

Technology used: **HTML, CSS, PHP, Moodle, NodeJS, MSSQL, Cisco Meeting Server APIs**

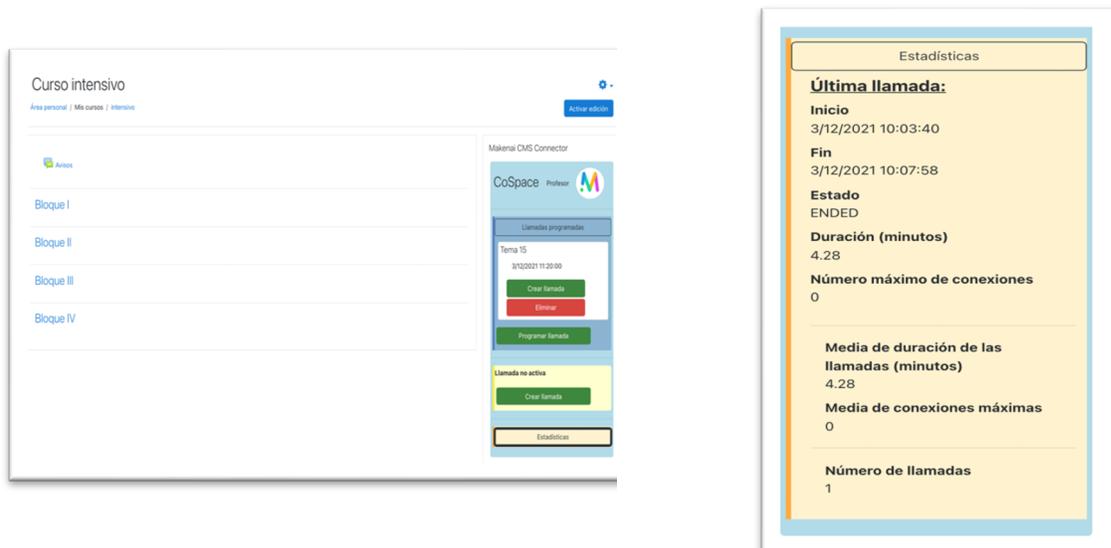


Figure 8: Professor Moodle View

2. *MKCCMADMIN*

The CISCO ccmadmin provides different permissions for the administration of the CUCM at the functionality level; however, the information (extensions, users, phones, ...) is shared by all administrators.

The objective of this application is to have an administration web application that allows the administrators of each province to perform configuration actions only on those elements that belong to their province.

Technology used: **HTML, VueJS, JAVA, BootStrap, MYSQL**

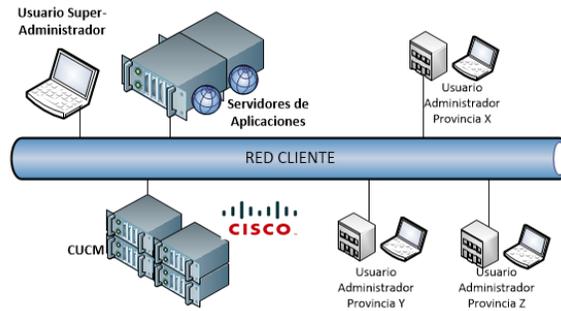
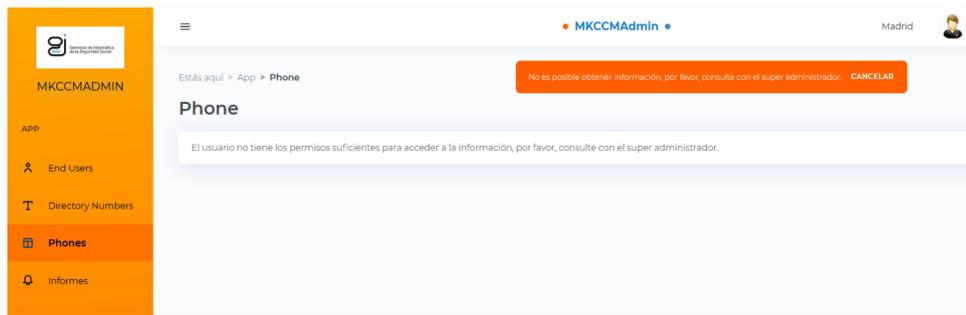


Figure 9: MKCCMAdmin Architecture



3. MKDESIVOS

Currently, when a secretary is going to leave her job and wants to divert calls to her mobile phone or another DDI since she is "on call", she must configure this diversion in the terminal. This is a manual task that must also be performed on-site by that person or remotely by an administrator in case the interested person cannot perform it.

The objective of this project is to improve the user experience by implementing a solution that automates the process and avoids errors.

Technology used: HTML, VueJS, JAVA, BootStrap, MYSQL

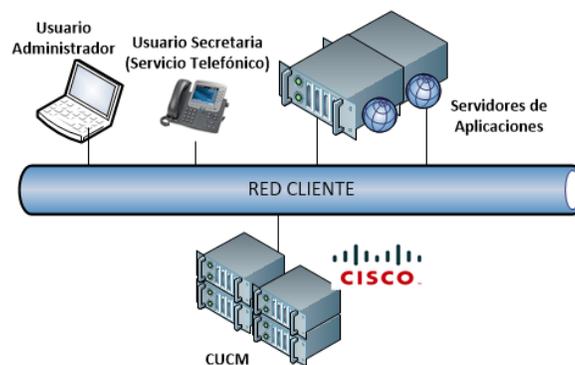


Figure 10: MKDesvios Architecture

Lista de Grupo Desvios Crear Grupo Desvios

	NOMBRE DE GRUPO	EXTENSION JEFE	ESTADO DESVIO	FECHA Y HORA	EXTENSION DESVIO	EXTENSION ULTIMO DESVIO	EXISTE EN JEFESCRET ERIA	ESTADO SERVICIO JS
<input type="checkbox"/>	test	11	Activado		888	8	false	Sin estado
<input type="checkbox"/>	Grupo 2011	2011	Activado	28/9/2021 18:27:58	2011	2011	true	Arrancado
<input type="checkbox"/>	Grupo 2012	2012	Activado	17/9/2021 16:4:12	2010	2010	true	Arrancado

Figure 11: Grupo Desvios

4. MKSINCRO

This is a service that synchronizes with the Exchange Server from a Web service instead of a macro, which is subject to Windows updates and Antivirus rules that can prevent its proper functioning. This allows to force the synchronization process for specific records or according to demand, without having to wait for daily synchronization.

Technology used: HTML, VueJS, JAVA, BootStrap, MYSQL

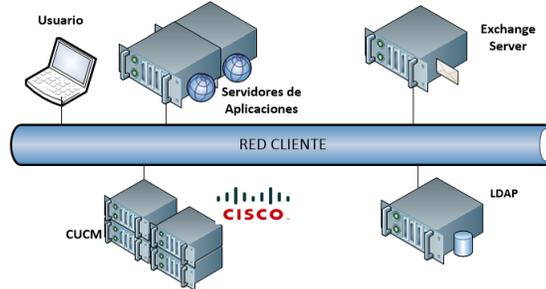


Figure 12: MKSincro Architecture

MKSincro

Estás aquí > App > Inicio

Información actual CUCM Ultimo refresco de información del CUCM: 21 dic - 13:00:43 [Refrescar info CUCM](#)

Filtrar:

ID USUARIO	N° TELÉFONO	MASK	EXTENSION	VÁLIDO PARA SINCRONIZAR	NÚMERO PÚBLICO
141	94444499999	99991	99991	true	94444499999
agent1	944444XXXX	2005	2005	true	9444442005
anang@makenal.es	9155555377	9111XXXX	2021	true	911112021
arehman@makenal.es	9199999366	9422709993	2020	true	9422709993
Bi-inunez2	009998	986768XXXX	2011	false	9867682011
Bi-inunezjefe	80808	986768XXXX	2011	true	9867682011
inunez	9		2077	true	
MA-inunez			1020	true	
tgsl_1	94247000001	986768XXXX	2011	true	9867682011

5. MKDASHBOARD

MKDashboard is a tool that allows *real-time* monitoring of the status of the queues and agents that are part of the CISCO UCCX, allowing a view of the state of the service and complementing the reports provided by CISCO tools. It is integrated from version 7 onwards.

MKDashboard is intended for presentation on a wall monitor in the operators' room. The application can display different fields and values depending on whether it is oriented to agents or supervisors, and both can coexist.

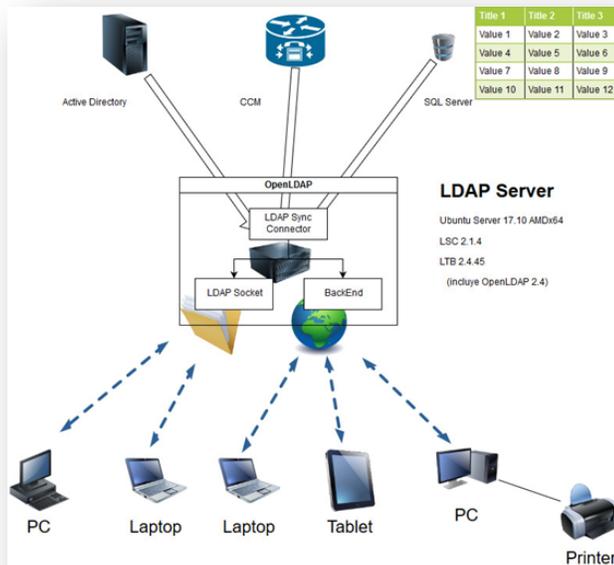
Tecnologías utilizadas: NodeJS, VueJS, IBM Informix



6. MKPHONEBOOK

MKPhoneBook is a development that allows to interconnect several data sources consolidating them in a single point of consultation; with special relevance of the contact data and telephone numbers of the members of an organization

Tecnologías utilizadas: NodeJS, AngularJS, MySQL, LDAP



7. MKMISSEDCALLS

MKMissedCalls is an application that allows you to inform the number called (B) of a missed incoming call by sending an email where you can inform not only of the identity of the number A but you can add all the information you have associated with that number. Suitable for scenarios where, by redirects, the original identity of the A number is lost.

Tecnologías utilizadas: Java, Java server faces (JSF), Java server pages (JSP), CDRs (Call Detail Record)

Date	Time	Called group	Calling party	Company	Client	Answered
2017-06-01	09:50:41	Guardia zona 1	611111111	Company 1 name	Person 1	false
2017-06-02	10:00:23	Guardia zona 1	611111111	Company 1 name	Person 1	true
2017-06-02	15:40:54	Operaciones	602020202			true
2017-06-04	09:51:00	Guardia zona 1	611111111	Company 1 name	Person 1	false
2017-06-05	03:30:21	Guardia zona 1	911111111	Company 1 name	Support phone	false
2017-06-05	19:47:40	Guardia zona 2	601010101	Company 2 name	Sales	false
2017-06-05	19:48:02	Guardia zona 2	601010101	Company 2 name	Sales	true
2017-06-06	09:01:34	Guardia zona 1	611111111	Company 1 name	Person 1	false
2017-06-06	15:15:00	Guardia zona 1	917190780			false

2017-6.xlsx

Update

Download

8. MKCANDADO

CISCO IP phones do not have implemented the terminal blocking functionality so the device could be used by anyone to make calls for which it was not authorized. **MKCandado** allows you to lock the terminal preventing calls until the terminal is released again.

Tecnologías utilizadas: Java, Cisco Call Manager APIs, javascript and HTML



9. MKJEFESECRETARIA

CISCO IP phones do not have implemented the monitoring functionality of the bosses' phones by one or more secretaries. **MKJefeSecretaria** allows you to monitor the phones of the bosses and that their calls are managed by one or more secretaries.

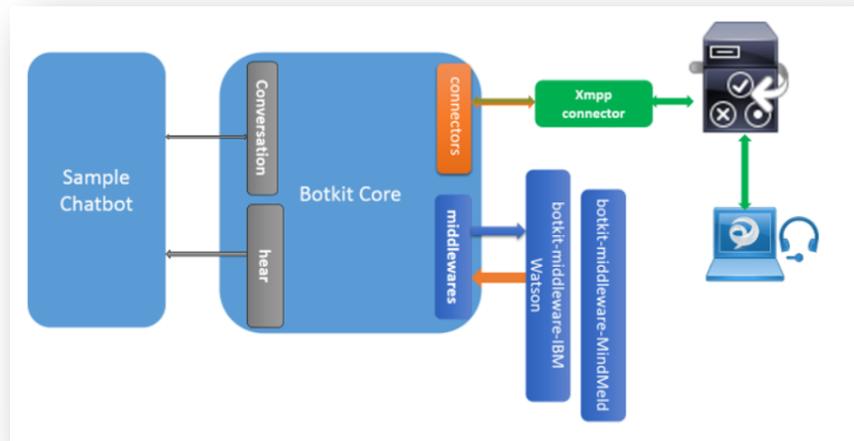
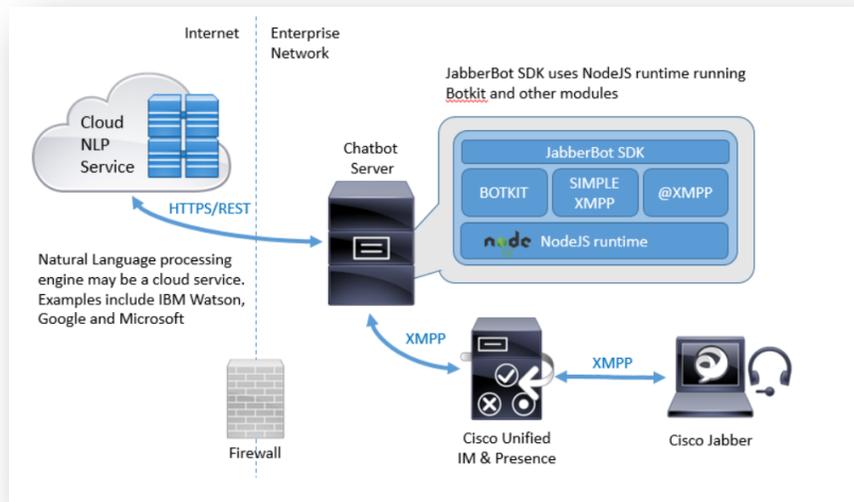
The "**JefeSecretaria**" application will dynamically manage the signage associated with the extension of each Boss, which will be configured remotely (via The Web). Thanks to these functions, the Chiefs will be able to count on their groups of secretaries

Tecnologías utilizadas: Java, HTML, Javascript

10. JABBER BOTS

Jabber bots offer a new and flexible way for businesses to create a new experience for their **Jabber users**. The responses of Jabber bots can be command-driven or conversational, providing information, answering queries, processing orders, updating the latest news, etc.

Tecnologías utilizadas: NodeJS, Jabber SDK, BotKit, XMPP



6. INNOVAPHONE INTEGRATION

The control of the conference rooms offered by Innovaphone does not fully provide access to all the options in one place, which makes difficult for users to operate. Many of a conference's room control options require an administrator access, which causes any lower-level user who has to access data for room management to also be able to modify vital PBX parameters. There is also no function to facilitate the recording of conference rooms.

This product unifies all options regarding conference rooms on a single management website. A user now can create, delete, edit, join and split rooms, configuring their name, maximum number of users and the extension from a single webpage. They can also add users and eject users from rooms anytime. Along with that, the users will only have to choose which room to record and stop when he sees fit and the recording will be automatically saved to the PBX's internal storage

Technology Used: **VueJS, NodeJs, Innovaphone Soap APIs**

The screenshot displays a web application interface for managing conference rooms. The interface is divided into a sidebar and a main content area. The sidebar, located on the left, contains a 'MODULES' section with four items: 'Configuration', 'Monitoring', 'Room control' (which is highlighted in blue), and 'Recordings'. The main content area is titled 'Configuration' and contains two sections: 'Conference' and 'VoiceloopConference'. Each section has a summary row showing the number of rooms and active calls, followed by a table listing room details and a 'Delete room' button.

Conference

3 NUMBER OF ROOMS | 0 ACTIVE CALLS

Number	Room	Max number of users	Active calls	Actions
03	TestJoin3	5	0	Delete room
01	01	4	0	Delete room
02	02	6	0	Delete room

VoiceloopConference

1 NUMBER OF ROOMS | 0 ACTIVE CALLS

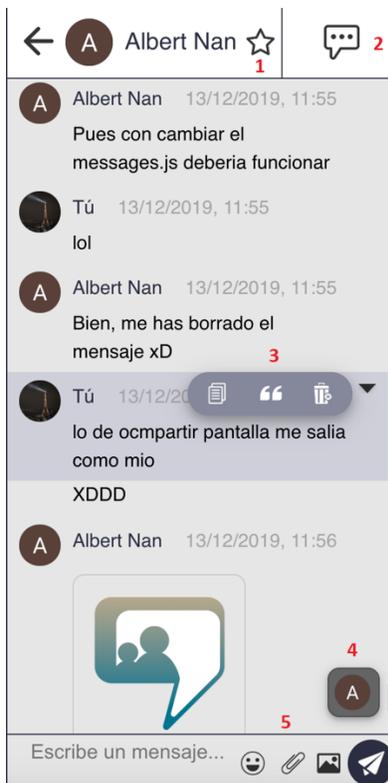
Number	Room	Max number of users	Active calls	Actions
34	4	4	0	Delete room

2. DESARROLLO DE PRODUCTOS

1. COLLABORATION TOOL

This collaboration tool was solving the problem of communication in a company, which was integrated with the company's management portal in order to provide easy access. This tool provided: 1-1 chat; group creation and group chat; audio and video calling; file share, emoticons and screen share.

Technology used: **WebRTC, Firebase, Nodejs, PolymerJS, FCM (Firebase Cloud Messaging)**



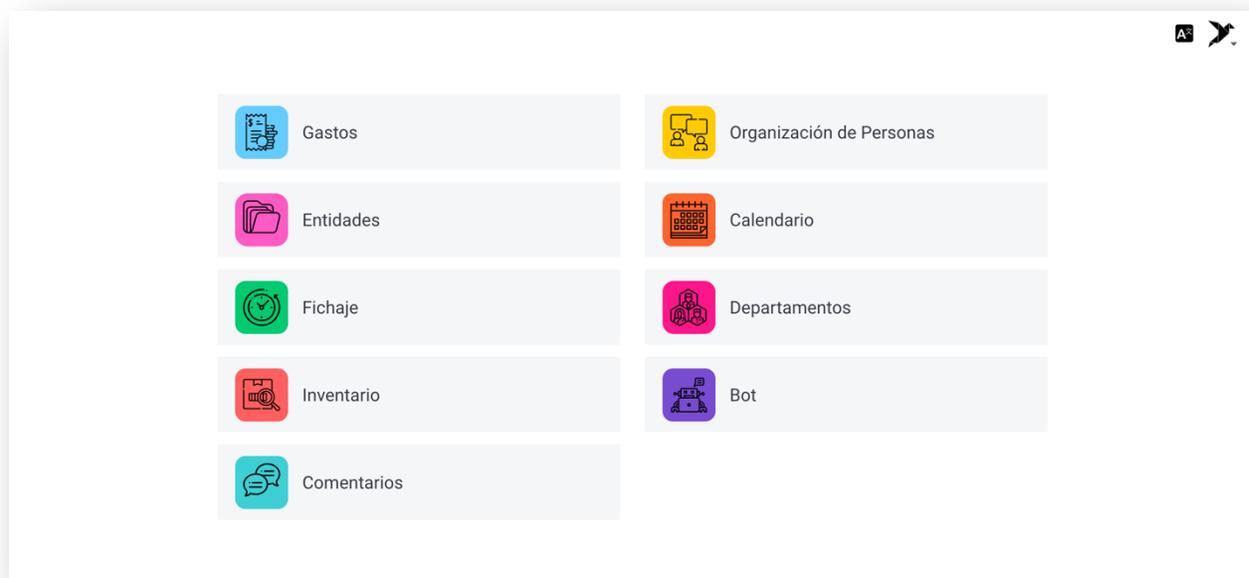
2. MKEASY (INTERNAL)

MKEasy is a management portal made for internal usage and is continuously growing based on the needs of the company. It is made over a micro-services architecture because of the modules and continuous growth it requires. Currently there are 9 modules in the production and others are in pipeline or development phases. These modules include:

- Expense management

- Calendar (Events Management)
- People and Organization
- Comment Management
- Expense Management
- Entities Management
- Inventory Management
- Department Management
- Bots Management

Technologies used: **Spring Boot MicroServices, Java, MySQL, Mongo, Kafka, VueJS, Cisco Webex SDK, BotKit, Cisco Webex APIs, Cisco Call Manage Axl APIs, JWT, NodeJs**



3. MKEASY (UNA CLIENTE DE LOGISTICS)

A logistics company had some issues with managing their fuel usages so in order to solve this management issue, this tool was created. It provided access to the employees a android application on their mobile phone from which they can input the date time and fuel usage on the go. The product also provided a web portal for administrators to review the fuel usage, when required. The product also provided notifications anytime a fuel usage input was made with a notification bot.

Tecnologías utilizadas: **Spring Boot MicroServices, Java, MySQL, Mongo, Kafka, VueJS, Cisco Webex SDK, BotKit, Cisco Webex API, JWT, NodeJs, Android**

3. SOLUCIONES DE INTERNET OF THINGS

1. MÉTODO DE CONTEO

Often in production chains there are quality control elements that are able to discard a product because it does not meet the quality standards of the factory. This event must be recorded correctly, in order to have the account of products that meet the quality standards and differentiate them from those that do not comply with them.

In addition, it is possible to detect at what stage of the production process the discard occurred. This information is part of a continuous system of quality improvement and allows to focus only on those areas that need to be improved.

The solution encompasses product detection using photoelectric sensors and sending counting data by MQTT to a central server and in turn to the OPC Server platform where such counting data will be used.

Technologies used in this Project include: MQTT and HTTP protocols for data transmission, C/C++ programming language And Apache for file server HTTP (IoT node ESP32)

