CCMN

Can catch me now

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Summary: *This project aims to give the opportunity to create a software product with real hardware. This subject was made in collaboration with* *Cisco.*

CISCO

Chapter I

Forewords

Have you ever known about the Bowl of Yaroslav?

The Bowl of Yaroslav is not a simple decoration of a table. If you read what is written on its surface and then look into, you can see your future and the future of your country. At that time, Yaroslav the Wise reigned on those hills, often glancing in the bowl. Therefore, he reigned wisely.

`He had three daughters - Anastasia, Elizaveta, and Anna.` The time has come and the grooms from all countries have begun to ask in marriage. Kyiv saw many candidates, but the Bowl pointed to the true ones: Anastasia married the Duke of Hungary, Yelizaveta got married to the Norwegian prince, and younger Anna gave her hand to the French king (Henry I). It was Anna for whom Yaroslav kept that bowl as her dowry. Anna began to get ready for a trip to France, but at that time, Polovtsian Khan Isferig arrived in Kyiv. He got to learn about the magic bowl and wanted to take hold of it.
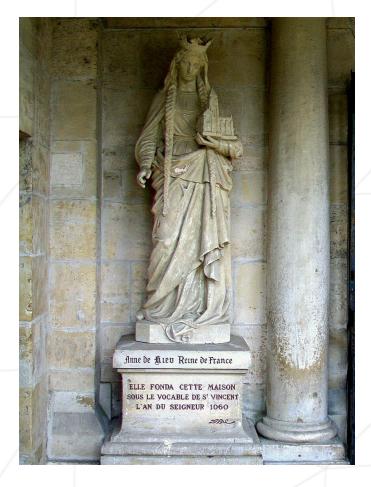
(Isferig) "Listen, Prince, sell me your magic bowl"

(Yaroslav the Wise) "No Isferig, the bowl already belonged to Anne the Queen of France. You'd better come to celebrate tomorrow.

And they were celebrating no worse than in the Byzantine Empire, but only Isfereg was sad: he conceived to obtain the bowl by deception. And the Prince whispered to Annie, "Do not go with the guards, ride the other way". Why this thought occurred to the Prince is unknown. Maybe it was a prompt of the bowl or, maybe, a parent's heart. The princes said goodbye and left Kyiv; they dressed a maid as if it was Anna. And they were ambushed by Isfereg who possessed the bowl but could not read the magic words because he was illiterate. And the bowl turned him into a marmot. In France, happy King Henry I met Anna. And since then nobody had mentioned the magic bowl. They say the magic bowl is travelling around the world and one really wants to get it in good hands.

Everyone has its own destiny and its wide path.

Monument to Anna Yaroslavna, in Sanlis, Saint Vincent Abbey "Anna Kyivska, the Queen of France" (opened in the XVII century).

Chapter II

Introduction

`Cisco` is the worldwide leader in IT and networking. Cisco helps companies of all sizes and people to connect, communicate, and collaborate. Many companies have provided public APIs as a means for others to access their infrastructure. During the realization of this project, you can practice with API and make your own app or program. You must develop solutions that will use real-time intelligence gathered from the UNIT Factory Wi-Fi network to enable people and their devices to interact more effectively through real-time contextual information related to such parameters as locations, availability of users, or mobile device assets.

In this project, you need to use the Mobility Services Engine (MSE) APIs to enhance and personalize your applications by leveraging the capabilities of the different components of the Cisco Connected Mobile Experiences (CMX) solution. Business uses CMX and MSE to send targeted messages, this technology increases customers satisfaction and sales by offering new revenue models through notification messages and promotional campaigns focused on people passing by. Also, CMX can help to build heatmap, collect statistics about your visitors.

Chapter III

Goals

This project aims to make you familiar with:

- Network/ Mobility/ Wireless Programmability

- Product mindset

- Creating useful program or app

- Cisco RESTful API

Chapter IV

General instructions

- This project will be evaluated only by humans

- This project must use the Cisco Mobility Services Engine REST API version 10.3

- The app/program must detect your own device (mobile phone, computer, tablet) that can be connected to the UNIT Factory WI-FI network

> You can also register on Cisco DevNet site developer.cisco.com and try to find some useful information

Chapter V

The project

V.1 Mandatory part

Imagine that you must create a special software for clients who use the Cisco Mobility Services solution. Your client wants to know more about customers, for example, how many of them returned, how much time they spend in some zones, floors or buildings. Your potential client can be an owner of a conference hall, clothing store, business center, shopping mall.

Here's what you must do:

- Turn-key vertical-focused application, program or web service

- User-friendly interface

- Your program or app must display and visualize next information:

  1. How many devices connected to the wi-fi network;

  2. Floor map with designated location searching by the WiFi MAC address and xlogin, if available;

  3. Analytics and Presence (Sum of Connected Visitor, number of repeat visitors over all available ranges, dwell time);

  4. Forecasting number of visitors;

  5. Construct correlations between session duration and the day of the week; number of connections and the day of the week; and some other correlations at your choice;

  6. Floor congestion

- You need to encode requests. You must handle errors (btw, you need to do the error-handling of your code all the time) and write it in some files or tables

- Program or app must work in all 3 clusters and be detected in each floor (zone) you are located

- Display a message when you find some devices. Your program should adapt messages depending on where you (connected devices) are.
  For example: "Hi, @xlogin or mac: 00:00:2a:01:00:06 now is on the first floor."

You can use programming languages, frameworks and libraries that you need. It will be better for you if you write this project using object-oriented modeling.

> ⚠️ Don't hardcode data and information, for example, floor images, siteID etc. You program/app must take all actual information from RESTful API

> 💡 Need new ideas or want testing outside UNIT Factory network? Visit this site https://cmxlocationsandbox.cisco.com/ login/password learning/learning and this one https://ld5luw.cmxcisco.com/ login/password learning@cisco.com/learning

V.2   Bonus

- Write Spark bot that can catch you now and display current location on the floor map

Enter your xlogin as a Bot Username

> Have some question or found some bugs, go to
> https://web.ciscospark.com/ and then enter your email here
> https://eurl.io/#BkOcM9LGf to join "Cisco Spark Edu helper"

Chapter VI

Turn-in and peer-evaluation

Turn-in and peer-evaluation. Turn your work and author file in using your GiT repository, as usual. Only work present on your repository will be graded in defense.