Oregon State University
Ecampus

CS361: Assignment 6: Sprint 2 Plan (for Microservice)

Overview

Plan your microservice. That includes defining how others will **request** and **receive data** from your microservice.

Instructions

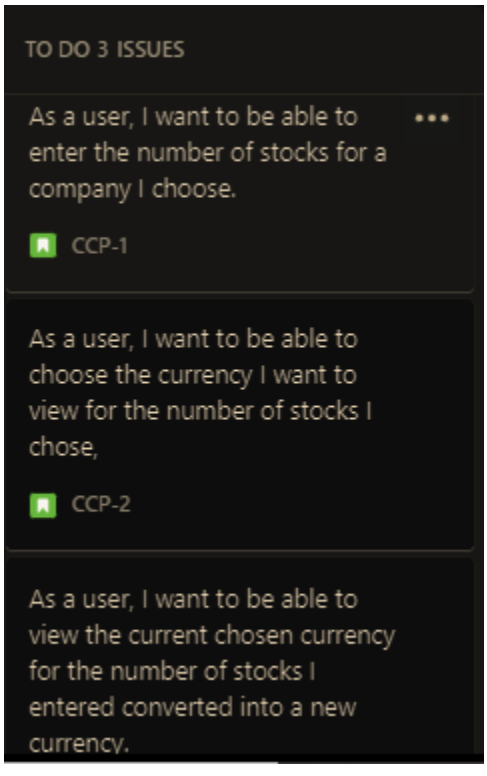
Complete each item below by replacing the highlighted text (**Usability note**: double-click the text to select it).

1) What is your **Sprint Goal**? (e.g., fully implement the spell-checker microservice)

Fully implement my Currency Converter program and provide microservices to my partner's project.

2) Define at least **2 user stories** for this Sprint and put them in your **Sprint Backlog** in your task management system. If your microservice is separate from your individual project, these are NEW user stories (otherwise, they might be from your Product Backlog).

   Take a **screenshot** of your microservice user stories in your **task management system**. The screenshot should show the **"As a" format** for each story.



Optionally, define acceptance criteria for your user stories (in a real-world project, you *should* do this, but I'm giving you a break from it this Sprint).

3) Since the Sprint Goal might not fully communicate it, describe **what your microservice will do**. (2+ sentences)

My partner is implementing a Stock Currency Converter program. I will implement a microservice that will help users with currency exchange rates based on the stock type and value. For example, my partner's stock program will allow users to select a company name and quantity for the stock. The base currency will always be in USD. I will use the given JSON file information to convert from USD to the user's chosen currency, multiply by the quantity value, and return the converted stock value back for the user to view the converted value, which will be displayed on the Stock Currency Converter webpage.

4) What kind of **communication pipe** will your microservice use? (e.g., text files, REST API)

I plan to use ZeroMQ and JSON files as my communication pipeline for implementing the microservices.

5) How will others **request data** from your microservice? If possible, give an example call.

The user will request information by sending a JSON file of with object types of "Stock Name", "Price" of Stock, and "Quantity" for the number of stocks via ZeroMQ communication pipeline. The user will basically fix a price which will be in USD as well as mention the number of quantities he wants via the JSON file. The user requests data to be converted to the specific currency he is looking for, which is also mentioned in the JSON file. Example JSON file:

{ "name": "Facebook", "price": 182.15, "quantity": 5, "from_currency": "USD", "to_currency": "EURO" },

Example Call:

```
var zmq = require("zeromq"),
  sock = zmq.socket("push");


sock.bindSync("tcp://127.0.0.1:3000");
console.log("Client connecting to port 3000");


setInterval(function() {
  console.log("Sending data");
  sock.send("data.json");
}, 500);
```

6) How will others **receive data** from your microservice?

The user will request information by sending a JSON file of with object types of "Stock

Name", "Price" of Stock, and "Quantity" for the number of stocks via ZeroMQ communication pipeline. The user requests data to be converted to the specific currency he is looking for, which is also mentioned in the JSON file. I parse through the JSON file, obtain the price, convert it into the desired currency, multiply that by the number of stock quantities, and return that converted the value via a JSON through the communication pipeline to the user. Example JSON file:

{ "name": "Facebook", "price": 182.15, "quantity": 5, "from_currency": "USD", "to_currency": "EURO", "converted_value: "904.55"},

Example Send:

```
var zmq = require("zeromq"),
  sock = zmq.socket("pull");

sock.connect("tcp://127.0.0.1:3000");
console.log("Connecting to port 3000");

setInterval(function() {
  console.log("Sending data");
  sock.send("results.json");
}, 500);
```

7) What is your **partner's individual project**?

My partner's individual project is a Stock Currency Converter program. It's a simple web-based Javascript application where the user can enter, add, delete, and view stock values for major companies. Based on the number of company names and stock value, the user will view convert currency information from USD to another currency of his choice.

8) How will your microservice **fit into your partner's individual project**? (1+ sentence)

My partner needs a way to convert currencies from USD to other currencies based on the stock value of a company. Since my program is already a simple currency converter program, he will request and receive data about currencies converted. For example, if the user has 5 stocks of Microsoft that he wishes to convert from USD to EURO, I would obtain the JSON, parse, and return the converted data as a JSON file back to my partner, which he will then use to display the converted value in his webpage.

9) What microservice is your **partner implementing**?

My partner is implementing a "Currency Information" microservice. I will send the JSON file which contains two currency names such as USD and EURO. My partner will use an API to gather general information about the two currencies and return back the data via a JSON file back to me to have it displayed on my webpage.

10) How will the microservice your partner is making **fit into your individual project**? (1+

sentence)

My individual project has a section for listing general currency information based on the currency types that the user selects. The microservice my partner implements by scraping information online will help me publish the user-selected currency information in the webpage for users to learn more about the two selected currencies.

Submission

PDF or Word format via Canvas.

Grading

You are responsible for satisfying all criteria listed in the Canvas rubric for this assignment. You will be able to revise this assignment if you miss points.

Questions?

Please ask via Ed so that others can benefit from the answer.