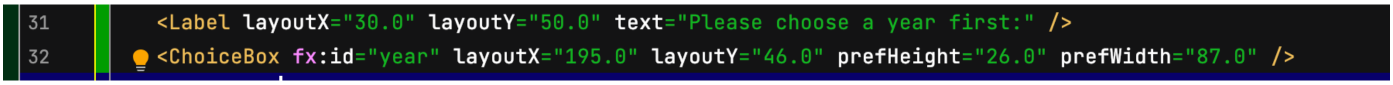
Cover page details:

- **Input API**: https://developer.riotgames.com/
- **Output API**: https://www.twilio.com/
- **Extension**: Ask the user when the application opens to select a year from 1900 to 2021. Any time they select a summoner, parse the revisionDate to see when they last updated. If it is before the chosen year the UI should prominently display "Stale"" for that summoner. If the user requests a report on a stale summoner the report should start with an asterisk (*)"
- **Feature Set**: Distinction

Code Modifications Made:

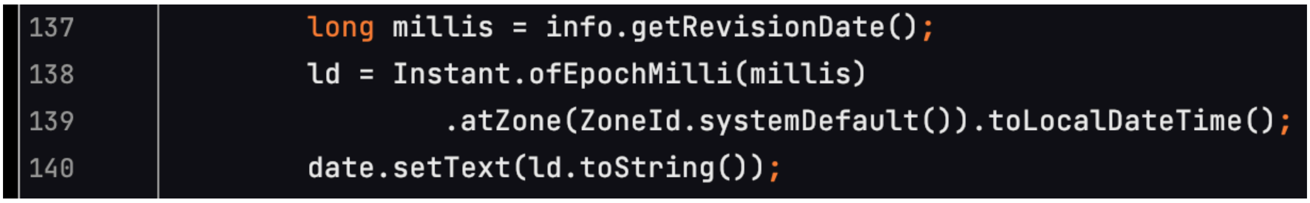
- **<SummonerInfo.fxml>**



```
    <Label layoutX="30.0" layoutY="50.0" text="Please choose a year first:" />
    <ChoiceBox fx:id="year" layoutX="195.0" layoutY="46.0" prefHeight="26.0" prefWidth="87.0" />
```

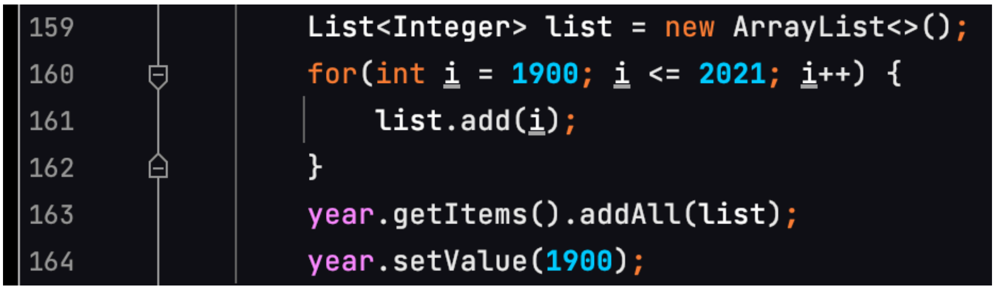
These two lines are added to display a choice box and a label. The choice box is used to display years between 1900 and 2021 and the label is a description of the choice box.

- **<SummonerInfoController.java>**

1. 

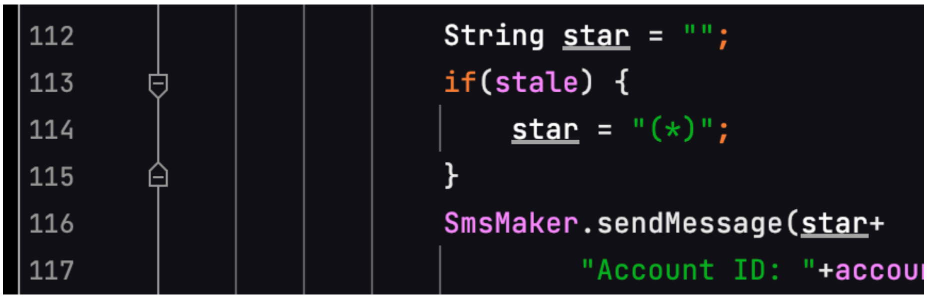
```
        long millis = info.getRevisionDate();
        ld = Instant.ofEpochMilli(millis)
                .atZone(ZoneId.systemDefault()).toLocalDateTime();
        date.setText(ld.toString());
```

   The change is in `setTextField()`. This change is added to convert the epoch milliseconds to local date and display this on the GUI.

2. 

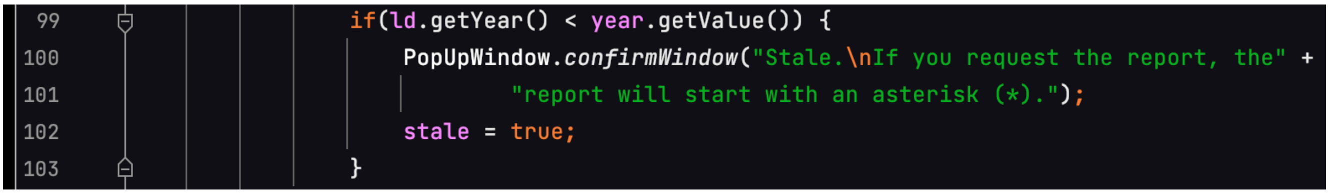
```
        List<Integer> list = new ArrayList<>();
        for(int i = 1900; i <= 2021; i++) {
            list.add(i);
        }
        year.getItems().addAll(list);
        year.setValue(1900);
```

   The change is in `setChoiceBox()`. This change is to fulfil the choice box mentioned in `SummonerInfo.fxml` with integer 1900 to 2021 and set the default value to 1900.

3. 

```
112        String star = "";
113        if(stale) {
114            star = "(*)";
115        }
116        SmsMaker.sendMessage(star+
117                "Account ID: "+accou
```

The change is from line 112-116, and in `setButtonAction()`. This change is used to add the asterisk to the start of the report if the summoner is marked as stale.

4. 

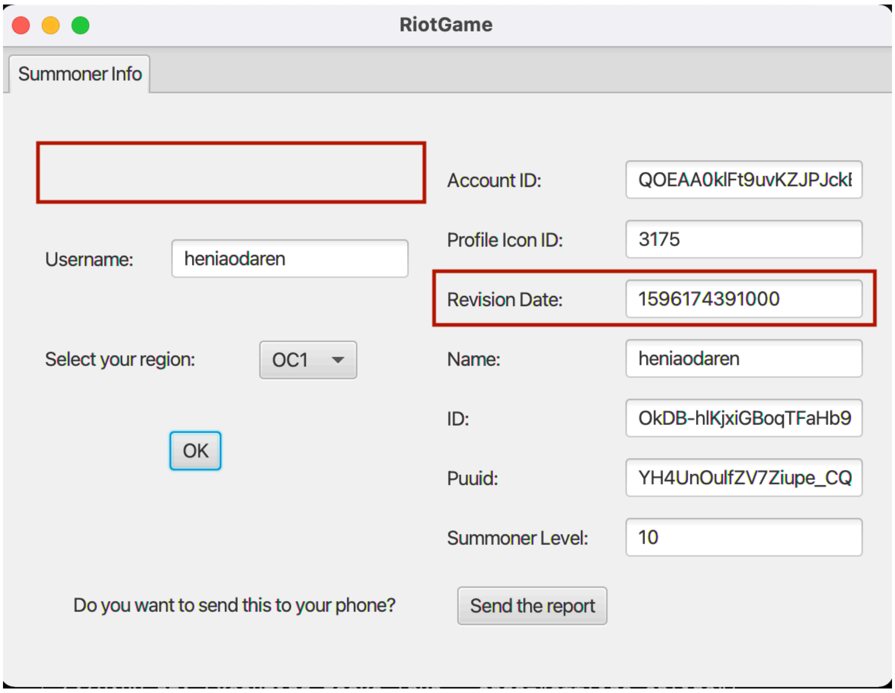
```
        if(ld.getYear() < year.getValue()) {
            PopUpWindow.confirmWindow("Stale.\nIf you request the report, the" +
                    "report will start with an asterisk (*).");
            stale = true;
        }
```

The change is in `setButtonAction()`. This change is used to let the user know that this summoner is stale by using a confirmation window and mark this summoner as stale.

Feature Modifications Made:

1. **The changes to GUI.**

Before any change:



RiotGame

Summoner Info

Username: heniaodaren

Select your region: OC1

Account ID: QOEAA0klFt9uvKZJPJckI

Profile Icon ID: 3175

Revision Date: 1596174391000

Name: heniaodaren

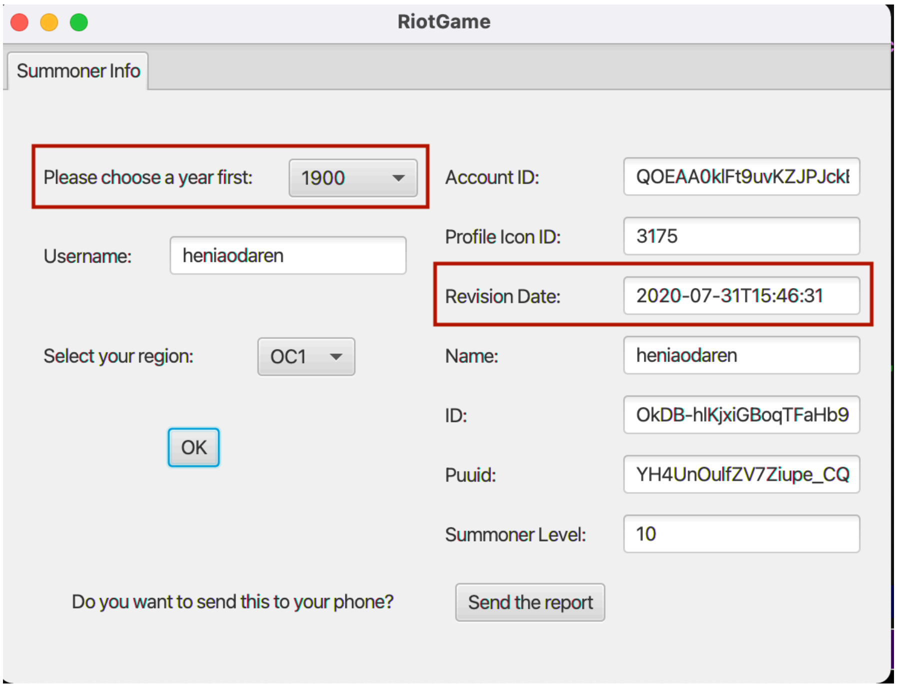
ID: OkDB-hlKjxiGBoqTFaHb9

Puuid: YH4UnOulfZV7Ziupe_CQ

Summoner Level: 10

Do you want to send this to your phone?

After changes:



Please choose a year first: 1900

Username: heniaodaren

Select your region: OC1

Account ID: QOEAA0kIFt9uvKZJPJckI

Profile Icon ID: 3175

Revision Date: 2020-07-31T15:46:31

Name: heniaodaren

ID: OkDB-hlKjxiGBoqTFaHb9

Puuid: YH4UnOulfZV7Ziupe_CQ

Summoner Level: 10

Do you want to send this to your phone?

Notice that the hilights are the changes, a choice box used to let the user choose the year, the `Revision Date` is changed from epoch milliseconds to local date.

2. **Features that are changed.**

Firstly, the `Revision Date` is changed from epoch milliseconds to local date. Secondly, if the revision date is before the chosen year, then a confirmation window will pop up to let the user know that this summoner is stale. At last, if the summoner is stale, then the report will start with an asterisk.

3. **The changes that the user access the features.**

Firstly, before any change, after the user types in their username and clicks `OK` button, the details of their information will display. After the change, after the user type in his/her username and choose a year, if he/she clicks `OK` button and if the revision date is before the chosen year, then a confirmation window will pop up to let the user know that this summoner is stale.

Secondly, if the user clicks `Send the report` and the summoner is marked as stale then the report will start with an asterisk.

Base Code Discussion:

After applied MVC pattern, the Model(riotapi, twilioapi and others related to these), View(Home.fxml and SummonerInfo.fxml) and Controller(SummonerInfoController.java) are splited so that it is easy to determine which aspects the extension is involved. Model is only responsible to connect the input api and the output api to receive and send information. View is only responsible to set the layout of the GUI, for example put the choice box of year at top left to let the user choose first. Controller is responsible to get the information or the actions done from user and display the information from Model to the View, for example comparing the the year chosen from the user to the revision date of the summoner got from the api based on the username to decide whether the summoner is stale.

The extension asks to let the user choose a year, this is clearly involved View and Controller. And the extension asks to parse the revisionDate which also can be done in Controller since the Model contains the epoch milliseconds and also the extension requires the least modifications, if parse the revisionDate immediately when get the information from api, then it involves many other files. Also, the extension asks to show "Stale" if the revision date is before the chosen year, this is also in Controller since it requires both information from the user and api. Lastly, the extension asks to add an asterisk to the start of the report if the summoner is marked as stale which is also in Controller, since it also requires both information from the user and api. **[process]**

The analysis above clearly decides which aspects are needed to change, this makes things easier since the only aspects that are needed to care are Controller and View. Then anything related to Model can stay as before.

The pattern not used and not helps the extension is Facade which is for riot api and twill api. In `RiotGameApp`, it should let `RiotGameMaker` decide whether it uses the offline version or the online version. Because `RiotGameApp` is not responsible for deciding which version should be used. (I want to apply this pattern but do not know why I did not use it)

Resulting code discussion:

The changes are in `SummonerInfo.fxml` and `SummonerInfoController.java`, they change the display of revision date and add a label and a choice box to let the user choose the year and also add an asterisk to the start of the report if the summoner is marked as stale. These changes are new features based on the code base and does not influence the code base much.

- maintainability
  - Positive: None, since the changes are minor.
  - Negative: parsing epoch milliseconds to local date might be a problem is failed, since it is from riot api and local data base. But if the user does not existed than the GUI will pop up a warning window to let the user know. And if the user existed but the epoch milliseconds still has a problem, then it should be the problem in riot api.
- extensibility
  - Positive: None, since the changes are based on user choice and no changes on he structure.

    - Negative: None, resons as above.
- modularity
    - Positive: None, resons as above.
    - Negative: None, resons as above.

Process discussion:

Firstly read through the extension description. Deciding which aspects are involved, the details are described in **[process]** paragraph in base code discussion. And then firstly implement the choice box of year in `SummonerInfo.fxml`, since it involves the least. Secondly implement the choice box with a integer list contained 1900 to 2021, since `SummonerInfoController.java` controls the choice box and does not require others information. Thirdly, convert the epoch milliseconds to local date, since it needs to compare this to the chosen year, changing the display and creating a confirmation window can help the user know what happens. Finally, add the asterisk to the start of the report based on whether the summoner is stale.

[Optional] Alloy specification:

None.

References:

Riot.(2021).SUMMONER-V4. get summoner by summoner name. https://developer.riotgames.com/apis#summoner-v4/GET_getBySummonerName

Joshua Burridge.(2021).SOFT3202: Your assigned Exam extension.