

URI eCampus Schedule Creator

CSC305

Summer '20 Team 1

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Project Description

Our project was to create a utility tool for all URI students that would help them with creating their course schedule.

We created a stand alone desktop application that reads course information directly from URI's Enrollment Services open course catalog. We accessed this data by scraping it from the URI web pages using Python's Selenium library.

We also provide information to the students in regarding different scheduling scenarios and the completion stages of their degree program.



Communication Tools

Our team primarily worked through Microsoft Teams.

We found that we couldn't run voice chats through the main general chat page, so we worked together using the voice chat feature through private messages.



Work Division


We actively assigned tasks to each other during our Wednesday meetings based on experience in certain areas and prior work completed:

Baheem worked with the URI API (which was eventually cut from the project) and the sorting of the classes.

Brian worked on the Major/Course relationship of the project as well as the documentation.

Paul worked on the Selenium web scraping part of the project.

Sean worked on the GUI and User/Login portions of the project, as well as contributing to the web scraping part.



Source Code Management

We used GitHub as the home for our project. We spent a significant amount of time making sure the master branch was up-to-date by following specific rules:

- 1) Committed and pushed code often to keep everyone up-to-date on all improvements and additions to the codebase
- 2) Created multiple branches to avoid breaking other sections of the code
- 3) We made sure to fully implement new code before merging into our master branch.



Things That Worked Really Well

Our team had several things that worked really well:

- 1) The open availability course catalog from URI's Enrollment Services really helped us as it made web scraping more straight forward.
- 2) Team Communication was vital and really helped us focus on certain aspects of the program. Being exclusively online was a challenge, but we made the best of the situation.



Problems with Interesting Solutions

The main problem we had was collecting class information. Originally we used the URI API, but it didn't give us vital information such as individual class times, locations, and professors.


Instead, we found an open availability course catalog provided by URI's Enrollment Services that works identical to eCampus. This allowed us to collect all the information we needed by scraping it from the page.



Things We'll Want to Avoid in the Future

The major thing we'll want to avoid in the future is the continuance of web scraping. Depending on URI's terms and conditions, we most likely will not be able to use a program that scrape information illegally.

If we were to release our work as a full-fledged open program, we would absolutely have to get permission from URI to use the information scraped from their web pages as it most likely violates their terms and conditions. Or we would have to actively work with the API team to include the class information we need as valid API calls/requests.



Program Demonstration

Design Concept

Create A User Page

Choose a username

Choose a password

Enter your major

Log-in Page

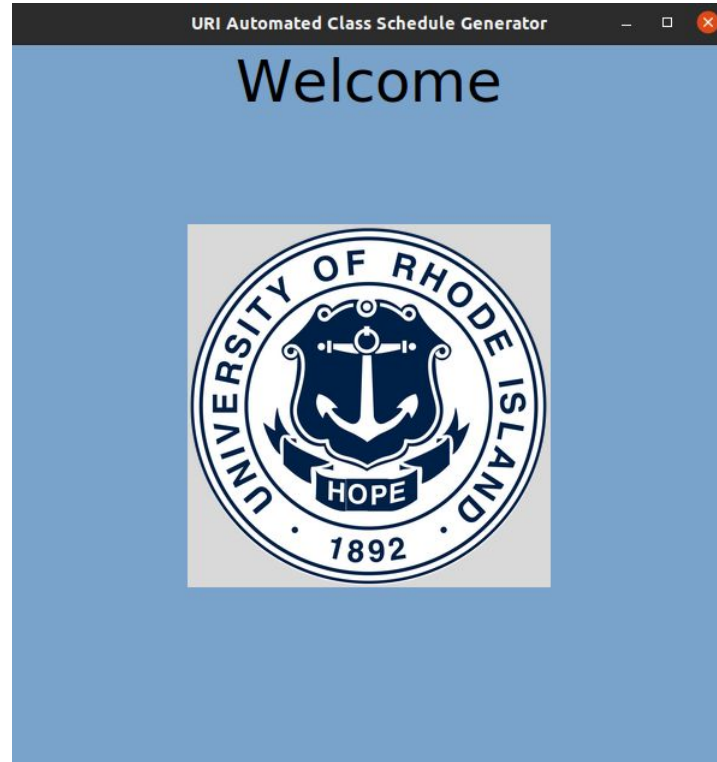
Username

Password

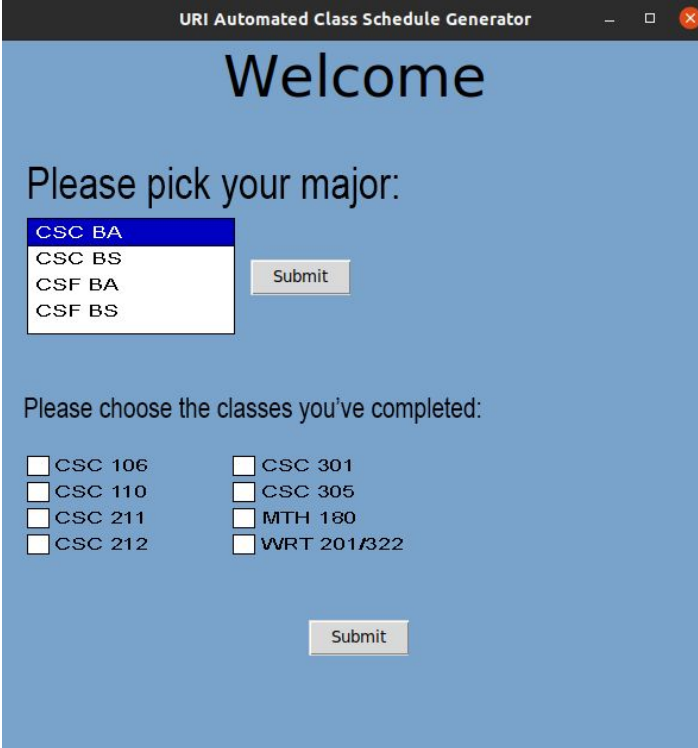
Login

Create an account

Welcome Page



Choosing Your Major



URI Automated Class Schedule Generator

Welcome

Please pick your major:

- ☒ CSC BA
- ☐ CSC BS
- ☐ CSF BA
- ☐ CSF BS

Please choose the classes you've completed:

<input type="checkbox"/> CSC 106	<input type="checkbox"/> CSC 301
<input type="checkbox"/> CSC 110	<input type="checkbox"/> CSC 305
<input type="checkbox"/> CSC 211	<input type="checkbox"/> MTH 180
<input type="checkbox"/> CSC 212	<input type="checkbox"/> WRT 201/322

*Design Prototype

Information From Web Scraped Page

Class Search

← → ↺

appcsprod.uri.edu:9516/psc/sa_crse_cat/EMPLOYEE/SA/c/COMMUNITY_ACCESS.CLASS_SEARCH

Search for Classes

Search Results

University of Rhode Island | Fall 2020

The following classes match your search criteria Course Subject: Computer Science, Course Number is exactly '305', Course Career: Undergraduate, Show Open Classes Only: Yes

☒ Open ☐ Closed

New Search

Modify Search

4 class section(s) found

▼ CSC 305 - Software Engineering

Class	Section	Days & Times	Room	Instructor	Meeting Dates	Status
1222	0001-LEC Regular	TuTh 2:00PM - 3:15PM	ONLINE	David Brown	09/09/2020 - 12/14/2020	<input checked="" type="radio"/>
6732	0002-LEC Regular	TuTh 3:30PM - 4:45PM	ONLINE	David Brown	09/09/2020 - 12/14/2020	<input checked="" type="radio"/>
4430	P02-PRO Regular	Mo 2:00PM - 3:45PM	Woodward Hall 341	David Brown	09/09/2020 - 12/14/2020	<input checked="" type="radio"/>
5723	P03-PRO Regular	Mo 10:00AM - 11:45AM	Swan Hall Room 211	David Brown	09/09/2020 - 12/14/2020	<input checked="" type="radio"/>

New Search

Modify Search

```
DevTools listening on ws://127.0.0.1:62343/devtool
0 TuTh 2:00PM - 3:15PM David Brown Open
1 TuTh 3:30PM - 4:45PM David Brown Open
2 Mo 2:00PM - 3:45PM David Brown Open
3 Mo 10:00AM - 11:45AM David Brown Open
0 TBA Samantha Armenti Open
0 TBA Lubos Thoma Open
1 TBA Lubos Thoma Open
2 TBA Lubos Thoma Open
```

Class Schedule Page

URI Automated Class Schedule Generator

Welcome

Major: CSC

Monday

Course: CSC 106
Professor: Victor Fay-Wolfe
Location: White Hall 205
Time: MWF 3:00 - 3:50

Tuesday

Course: CSC 110
Professor: Lisa DiPippo
Location: White Hall 205
Time: TR 12:30 - 1:45

Wednesday

Course: CSC 106
Professor: Victor Fay-Wolfe
Location: White Hall 205
Time: MWF 3:00 - 3:50

Thursday

Course: CSC 110
Professor: Lisa DiPippo
Location: White Hall 205
Time: TR 12:30 - 1:45

Course: CSC 110 LAB
Professor: Lisa DiPippo

Major Course List:

CSC 106
CSC 110
CSC 211
CSC 212
CSC 301
CSC 305
CSC 411/412
MTH 180
WRT 201/332

Re-shuffle

*Design Prototype

Re-shuffle Classes Page

URI Automated Class Schedule Generator

Welcome

Major: CSC

Reshuffle: 1

Major Course List:

Tuesday

Course: CSC 106

Professor: Victor Fay-Wolfe

Location: White Hall 205

Time: TR 9:00 - 9:50

Course: CSC 110

Professor: Lisa DiPippo

Location: White Hall 205

Time: TR 12:30 - 1:45

Thursday

Course: CSC 106

Professor: Victor Fay-Wolfe

Location: White Hall 205

Time: TR 9:00 - 9:50

Course: CSC 110

Professor: Lisa DiPippo

Location: White Hall 205

Time: TR 12:30 - 1:45

Course: CSC 110 LAB

Professor: Lisa DiPippo

Location: White Hall 205

Time: R 2:00 - 3:30

CSC 106

CSC 110

CSC 211

CSC 212

CSC 301

CSC 305

CSC 411/412

MTH 180

WRT 201/332

Re-shuffle

*Design Prototype