



Project for
Scientific Computing Using Python
IIIT-Bh MUMS Mailer

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Introduction

About M-UMS

M-UMS is the Mandaar University Management System which is used by IIIT Bhubaneswar. It is the official platform used by the college administration for communication of notices, fees, grades, student and faculty details, and other similar information to the students. It can be accessed at the following link: **<https://hib.iiit-bh.ac.in>**

Problem with M-UMS

M-UMS does not contain any kind of notification system like Email, SMS, or push notifications. This requires us students to actively check it regularly for new notices. We often miss important notices or see them too late.

The solution:

IIIT-Bh MUMS Mailer

About this project

This project runs continuously on a cloud virtual machine and monitors M-UMS for new notices. Whenever a new notice is sent on M-UMS, it fetches all its details like date, who posted the notice, for whom is the notice posted for, any attachments if present, title, and content. It then sends this notice through E-Mail to the college E-Mail groups like `cse2021@iiit-bh.ac.in`

Source code

<https://github.com/roshan1337d/mums-mailer>

Screenshots

[Notice] Class Rooms changed...

Inbox



advaita2k23.iiitbh@gmail... 5:10 PM
to me ▾



Date

2023-03-15

Posted by

Academics Office !

For

B.Tech Batch 2020-24 and 2021-25 Students

Class Rooms changed for B.Tech 2020-24 and 2021-25 from 20th March to 31st March'23

Class Rooms changed for B.Tech 2020-24 and 2021-25 from 20th March to 31st March'23 as per details give below for end semester examinations of B.Tech Batch 2022-26.

Theory Class Room of

1. **6th Semester - EEE 2020 admission will be conducted in CG03 (in place of C202** as given in the time table) from 20th March to 31st March'23 and the detail for all other rooms are mentioned below.

2. **4th Semester - ETC 2021 admission will be conducted in CG06 (in place of C115** as given in the time table) from 20th March to 31st March'23

3. **4th Semester - EEE 2021 admission will be conducted in CG05 (in place of C215** as given in the time table) from 20th March to 31st March'23

All other theory class rooms will remain same as given in the time table except the below mentioned five rooms.

[Notice] Semester fee payment...

Inbox



advaita2k23.iiitbh@gmail... 5:13 PM
to me ▾



Date

2023-03-13

Posted by

Academics Office !

For

EVERYONE

Download Attachment

Semester fee payment date extended upto 20th March'23 (Monday)

Please find the attached notice regarding Semester Dues payment by B.Tech, M.Tech & Ph.D students for the Even Semester 2022-23 with extended date.

Tools Used

Programming language:



Code editor:



Python libraries:



BeautifulSoup

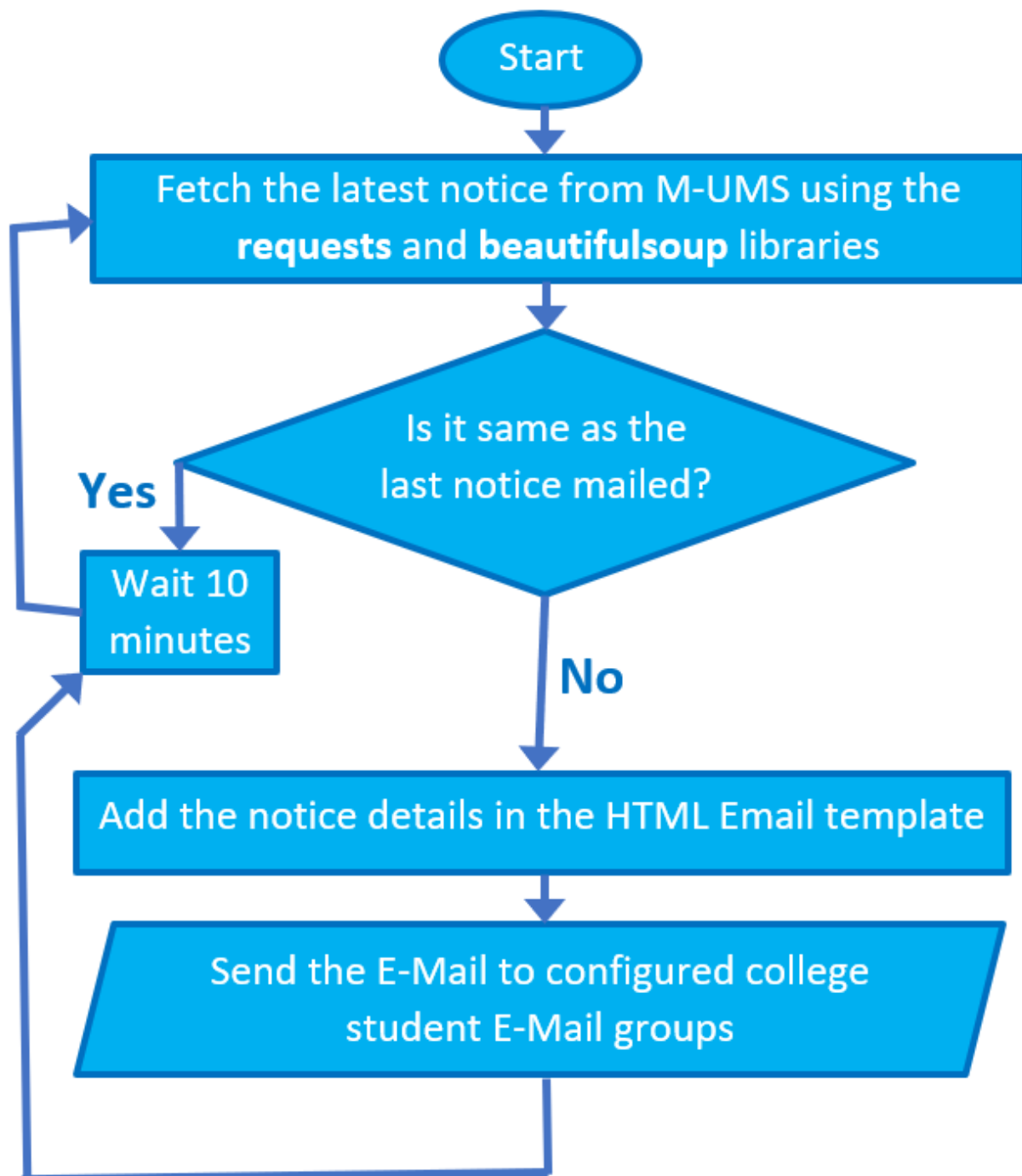


How does this work?

The various API endpoints used by M-UMS were found using the Network monitoring feature of the Google Chrome developer tools. This project uses session of the Python's request library to call upon these endpoints to simulate a real user's actions: logging in, then opening the notice list page, heading to the detailed information page of a notice, opening the attachments etc. Beautiful soup library is used to scrape data from these various pages.

If it detects a new notice is sent on M-UMS, the scraped data of this new notice is put together in a HTML E-Mail template and mailed to the configured E-Mail addresses using the smtplib library.

Process flowchart



M-UMS API Endpoints

Login

<https://hib.iiit-bh.ac.in/m-ums-2.0/start/login/auth.php?client=iiit>

Method: POST

Data: **uid** (MUMS login id as string), **pwd** (MUMS login password as string), **txtInput** (Any random integer number for captcha as it is not verified on the backend server)

Notice list

<https://hib.iiit-bh.ac.in/m-ums-2.0/app.misc/nb/docList.php>

Method: GET

Returns: HTML document containing minimal details of 50 latest notices. We get the detailed notice page URL and notice title from here.

Notice details

`https://hib.iiit-bh.ac.in/m-ums-2.0/app.misc/nb/{notice id from the notice list}`

Method: GET

Returns: HTML document containing the detailed information of a particular notice.

Attachment direct link

`https://hib.iiit-bh.ac.in/m-ums-2.0/app.misc/nb/{attachment id from the notice details}`

Method: GET

Returns: HTML document containing an iframe with the attachment. We get the direct attachment link from here which can be accessed publicly.

Setup process

Creating config.json

A **config.json** file needs to be created in the same place as the **main.py** file. As this file contains login credentials, it is added in the **.gitignore** file to exclude it from being pushed to GitHub. The file content is as follows:

```
{
  "latestSentNotice": "",
  "loginId": "mums_id",
  "loginPass": "mums_password",
  "emailId": "email_id_of_sender",
  "emailPass": "password_of_sender",
  "toEmail": ["group1@iiit-bh.ac.in", "group2@iiit-bh.ac.in"]
}
```

Installing venv and required libraries

- `python -m venv venv`
- `pip install -r requirements.txt`

Both these commands are run at the root directory of the project. The first command creates a virtual environment to avoid dependencies intermixing with other projects. The second command installs all the required libraries.

Running

- `python main.py`

This command is run at the root directory of the project to start the main python script.

Keeping it running

To make it work as desired i.e. to send E-Mails whenever a new notice comes out on M-UMS, this project needs to be left running continuously 24x7. To do this we can use a cloud virtual machine like that from Microsoft Azure, Google Cloud, AWS, or some PAAS provider like Heroku.

What's next?

If the college administration permits and provides a custom iiit-bh.ac.in domain email account for this project, it can be hosted on the cloud to improve the experience for both the students and administration. Students will receive all notices directly to their college email account and be notified by Gmail about the same. Administration would not need to send the same notice both on M-UMS and college email manually as is done for some important notices currently.

The background is a light gray color with various abstract, organic shapes in a slightly darker gray. These shapes are scattered across the page, some overlapping. There are also several small, dashed lines of varying lengths and orientations scattered throughout the background, adding to the abstract feel.

**Thank
you**