

U-Pass Manager - User Manual

Introduction

This U-PASS manager is an application that aims to automate the process of U-PASS administration. U-PASS Manager guarantees the correctness of student data, replaces manual data update process with simply uploading the excel file, allows administrators to send notifications (email) to students, allows distributors to hand over the U-Pass to qualified students through NFC scanning.

Features and Guides - Administrators

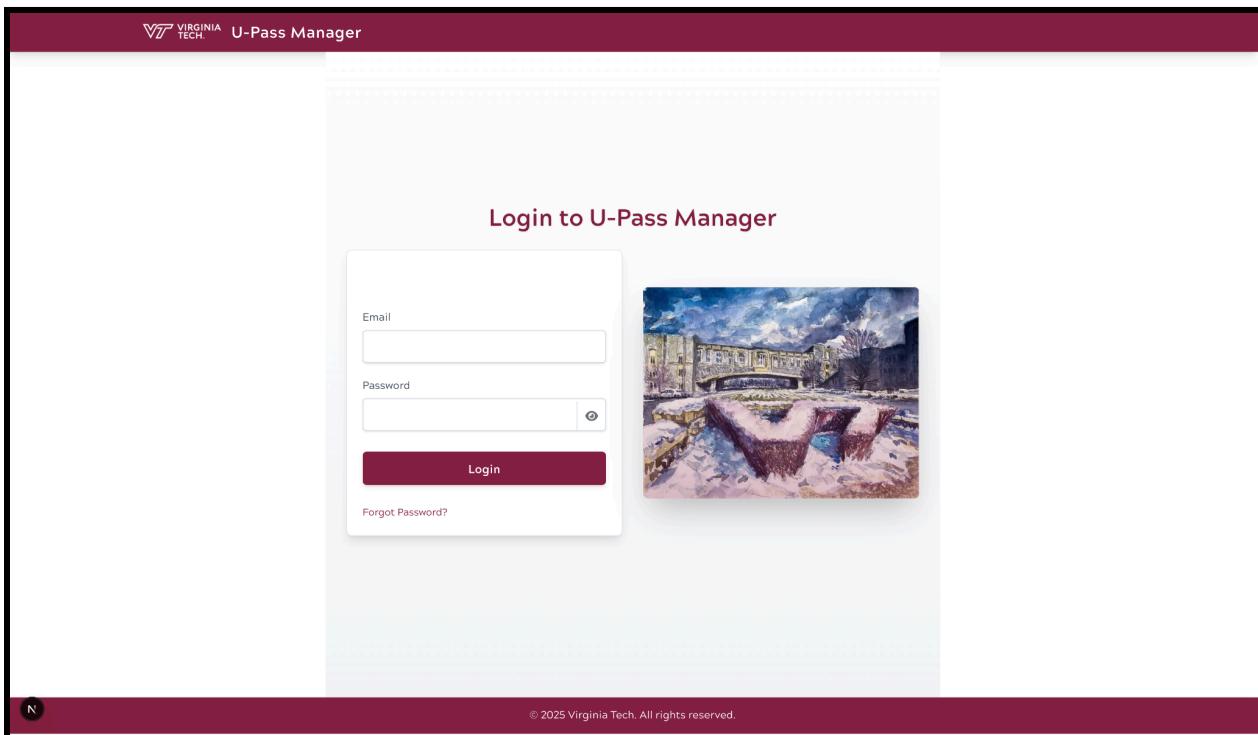
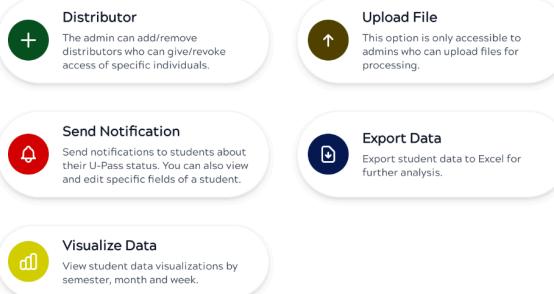


Fig 1. Login page

Login

After navigating to the web application, the user is directed to the login page as shown in (Fig 1). Once a user enters the email and password, the server will direct the administrator to the Administrator page (Fig 2). As the figure shows, the Administrator can add/remove distributors, upload excel files for updating student information, send notifications (via email), export data (in the form of excel file), and visualize the data (data analysis dashboards).



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Fig 2. Administrator logged in page

Add Distributor

When an administrator wishes to add a new distributor, (Fig 3) appears after clicking the add distributor button. On adding the distributor, a mail will be sent to the new distributor for confirmation (Fig 4) and password setup (Fig 5). Upon successful creation, the distributor is added as shown in (Fig 6).

A modal dialog box titled 'Add Distributor'. It has a text input field labeled 'Email Address' with placeholder text 'Enter distributor's email'. Below the input field is a note: 'The distributor will receive an invitation email with login instructions.' At the bottom are two buttons: 'Cancel' and 'Add Distributor'.

Fig3. Add distributor

Set Up Your Password - U-Pass Portal

gettingaround@vt.edu
To: Kulkarni, Rashmi Dattatraya
Sat 5/3/2025 8:30 PM

[You don't often get email from gettingaround@vt.edu. Learn why this is important at <https://aka.ms/LearnAboutSenderIdentification>]

Hi rashmidk1234,

Welcome to the U-Pass Portal!

Please set your password using the link below:

<http://localhost:3001/set-password?email=rashmidk1234%40vt.edu>

If you have any questions, feel free to reach out.

Thanks,
U-Pass Management

[Reply](#) [Forward](#)

Fig 4. New distributor confirmation letter

VIRGINIA TECH. U-Pass Manager [Logout](#)

Set Up Your Account

Email

First Name

Last Name

Password ⓘ
Must be at least 8 characters with uppercase, lowercase, and numbers

Confirm Password ⓘ

[Create Account](#)

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Fig 5. New distributor password setup

rashmidk1234@vt.edu

distributor

Remove

Fig 6. New distributor successfully added

Remove Distributor

When an administrator wishes to remove the existing distributor, the process can be done by clicking the button next to the distributor information. An alert box will appear after this action for last confirmation (Fig 7). The result of successfully removing the existing distributor is shown in (Fig 8).

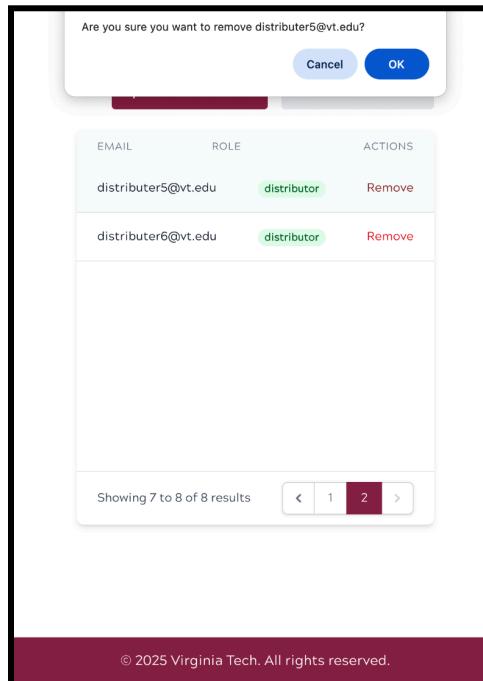


Fig 7. Last confirmation alert box pop out once administrator click remove exist distributor

The screenshot shows the U-Pass Manager interface. At the top, there is a dark header bar with the Virginia Tech logo and the text "U-Pass Manager". On the right side of the header is a "Logout" button. Below the header, there is a main content area. At the top of this area are two buttons: "+ Add Distributor" and "Back to Dashboard". The main content is a table titled "Distributors" with columns "EMAIL", "ROLE", and "ACTIONS". There are two rows in the table:

EMAIL	ROLE	ACTIONS
admin3@vt.edu	admin	
distributer6@vt.edu	distributor	Remove

At the bottom of the table, it says "Showing 7 to 8 of 8 results" and has navigation arrows. The footer of the page contains the copyright notice "© 2025 Virginia Tech. All rights reserved."

Fig 8. Successfully removed the existing distributor

Send Notification

When an administrator wishes to send the notification (email) to students, they can simply select the students (Fig 9) they wish to send it to and click the send notification button. Some templates are developed as initial templates (Fig 10) so they can be applied and modified through simple click. Administrators can also search for students through filters (Fig 11) and student information (Fig 12). The notification received by the student that was sent from the administrator is shown in (Fig 13).

Send Notifications

Show Filters | Back to Dashboard | Show/Hide Columns

SELECT	ACTIONS	STUDENT_ID	FIRST NAME	LAST NAME	EMAIL	ACTIVE U-PASS	REPLACED U-PASS	DISCLAIMER	METRO ACCOUNT	D D
<input type="checkbox"/>		10619****	Daniel	Allen	student0028@vt.edu	579546681	270731194	Signed	4987	20
<input type="checkbox"/>		11467****	Jonathan	Marks	student0148@vt.edu	825167677	646918365	Not Signed	8560	20
<input type="checkbox"/>		12206****	Savannah	Wood	student0060@vt.edu	350814705	575584232	Not Signed	1606	20
<input type="checkbox"/>		12345****	Nidhi	Kamath	nidhikamath@vt.edu	01670970991790603529	01670970991790603522	Signed	5071	20
<input type="checkbox"/>		12345****	Kunal	Mahato	kunalmahato@vt.edu	Not Allocated	None	Not Signed	5072	20
<input type="checkbox"/>		12345****	Rajat	Nagar	rajatnagar@vt.edu	Not Allocated	None	Not Signed	5073	20
<input type="checkbox"/>		12345****	Rashmi	Kulkarni	rashmi.kulkarni@vt.edu	Not Allocated	None	Not Signed	5074	20
<input type="checkbox"/>		12345****	Manim	Tirkey	mtirkey@vt.edu	Not Allocated	None	Not Signed	5075	20
<input type="checkbox"/>		12345****	Cheng-Chen	Huang	jjooeeyh@vt.edu	Not Allocated	None	Not Signed	5076	20
<input type="checkbox"/>		13006****	William	Cherry	student0035@vt.edu	580404538	295995197	Not Signed	4446	20

Showing 10 of 166 results | Previous | **1** | Next

Fig 9. All student information shows here, for selecting and sending notifications

Message Templates

- new test template** Added by Nidhi Use Template
- t4** c4 nidhi Use Template
- title1** content1 Use Template
- Request to Sign Disclaimer** Please DocuSign this disclaimer as soon as possible. It will need to be signed prior to picking up your U-Pass card. Use Template
- U-Pass Card Distribution** Good Morning, Thank you for your patience while we have been getting everything prepared. U-Pass cards are now ready to be picked up! Information ... Use Template

Compose Notification

Subject
Enter notification subject...

Message
Enter your notification message here...

0 recipients selected | Send Notification

Fig 10. Some templates can be selected and modified through simple click

Send Notifications

Show Filters | Back to Dashboard | Hide Columns

Show/Hide Columns

<input checked="" type="checkbox"/> Student_ID	<input checked="" type="checkbox"/> First Name	<input checked="" type="checkbox"/> Last Name	<input checked="" type="checkbox"/> Email
<input checked="" type="checkbox"/> Active U-Pass	<input checked="" type="checkbox"/> Replaced U-Pass	<input checked="" type="checkbox"/> Disclaimer	<input checked="" type="checkbox"/> Metro Account
<input checked="" type="checkbox"/> Distribution Date	<input checked="" type="checkbox"/> Picked Up By	<input checked="" type="checkbox"/> Notes	<input checked="" type="checkbox"/> U-Pass ID

Fig 11. Administrator can search for student through student information

The screenshot shows a search interface with various filter options. At the top left is a 'Hide Filters' button. On the right is a 'Show/Hide Columns' button. Below these are four input fields: 'First Name' (labeled 'Filter by first name'), 'Last Name' (labeled 'Filter by last name'), 'Email' (labeled 'Filter by email'), and 'U-Pass ID' (labeled 'Filter by U-Pass ID'). To the right of the U-Pass ID field is a dropdown menu set to 'All'. At the bottom right are two buttons: 'Reset Filters' and 'Apply Filters'.

Fig 12. Administrator can search for student through filters

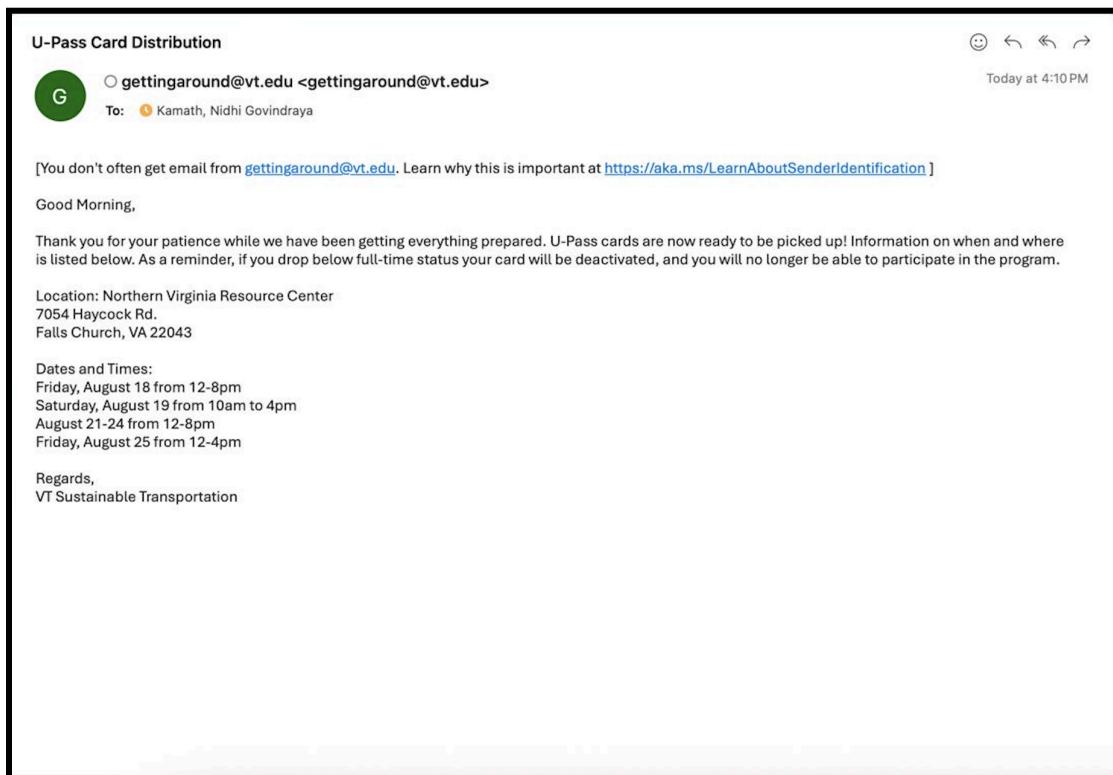


Fig 13. Student successfully received the notification sent by administrator

Update Student Information

Administrators can simply update student information through uploading excel files. This process can simply be accomplished by clicking the upload button. A pop-up for upload appears after the administrator clicks the upload button (Fig 14). After uploading the excel file, an alert box will pop Fig 15. to show if the database has been updated according to the excel file.

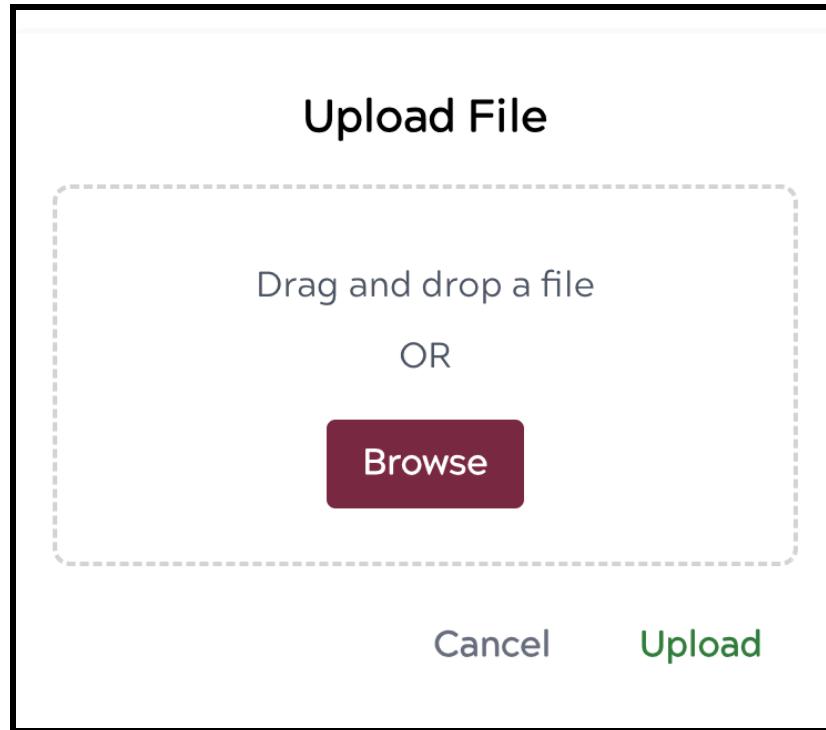


Fig 14. Upload file space pop after administrator click the upload button

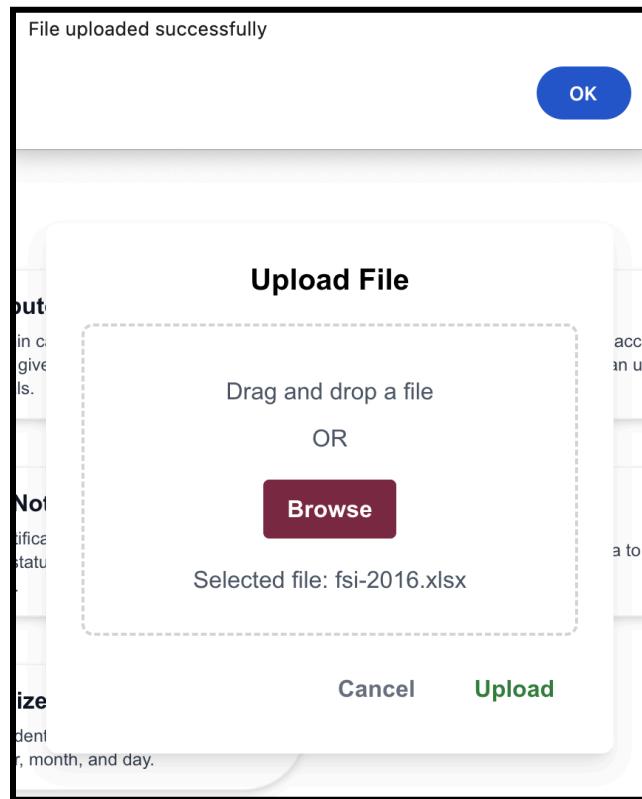


Fig 15. The alert box pops to show the database has been successfully updated accordingly

Data Analytics Dashboard

Our application allows administrators to generate a data analytics dashboard for administrators to better understand the data. Administrators can select the dashboard (Fig 16) after clicking the

visualize data button. For a detailed visualization, the administrator can easily generate different dashboards based on months, semesters and chart styles Fig [17-22]. The ‘Detailed Visualization’ option will show student statistics about collection and allocation trends of U-Passes. Meanwhile, ‘U-Pass Collection Statistics’ shows previous semester trends of U-Pass collection.

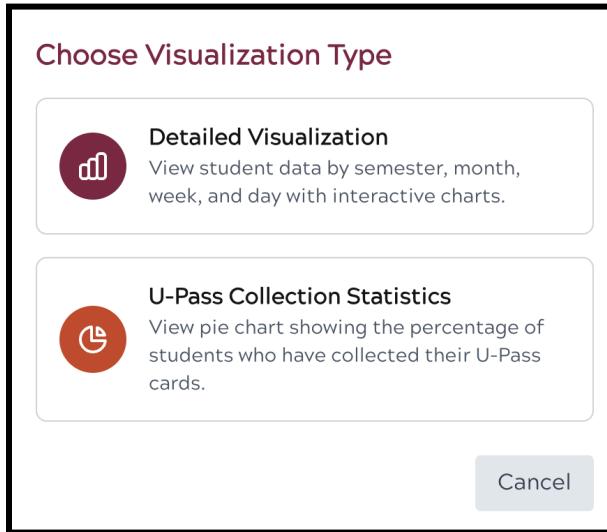


Fig 16. Selections pops after administrator clicks the visualize data button

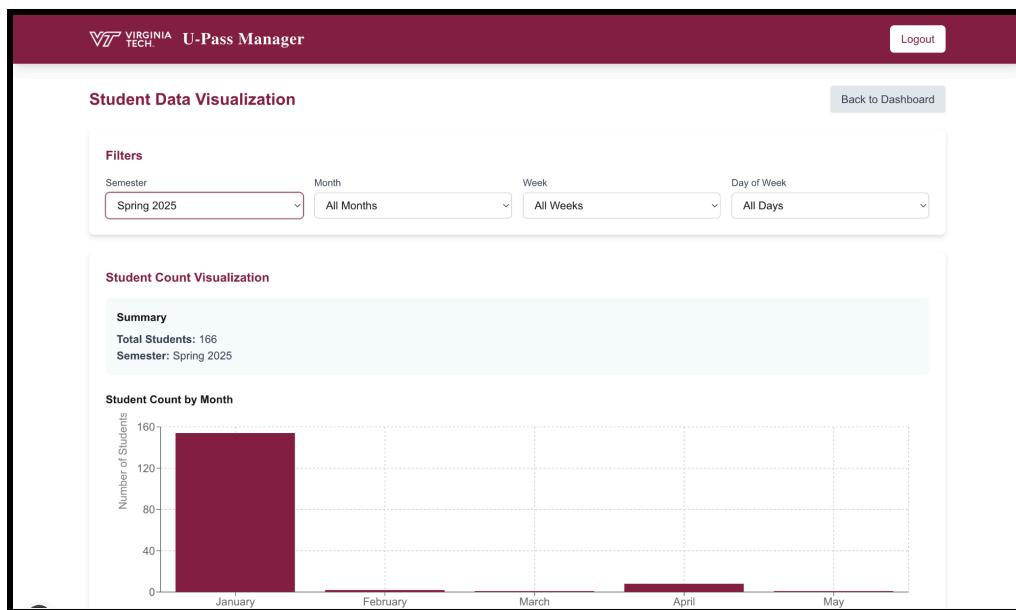


Fig 17. Semester wise bar chart

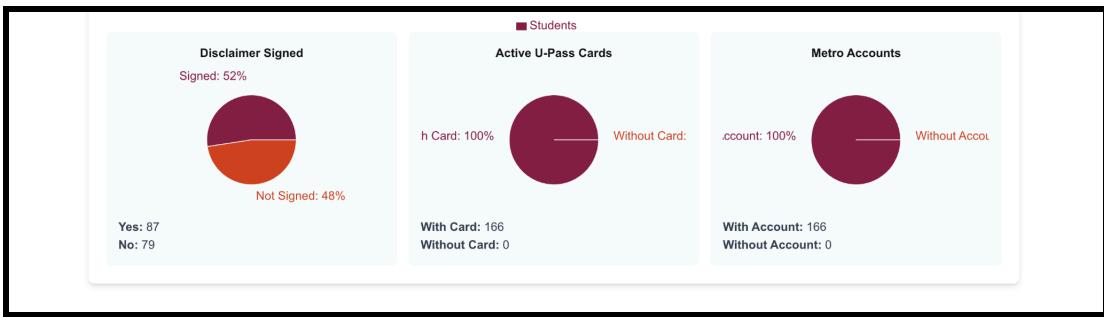


Fig 18. Semester wise pie chart

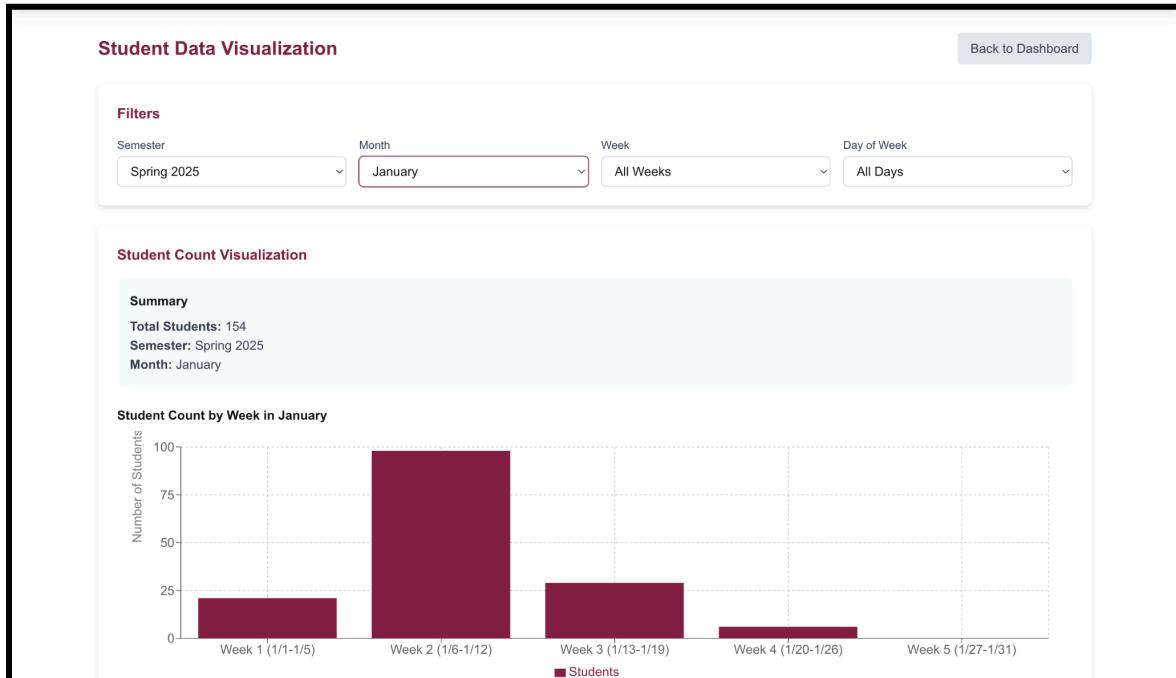


Fig 19. Semester and month wise bar chart



Fig 20. Semester and month wise pie chart



Fig 21. Semester, months, and weeks wise bar chart

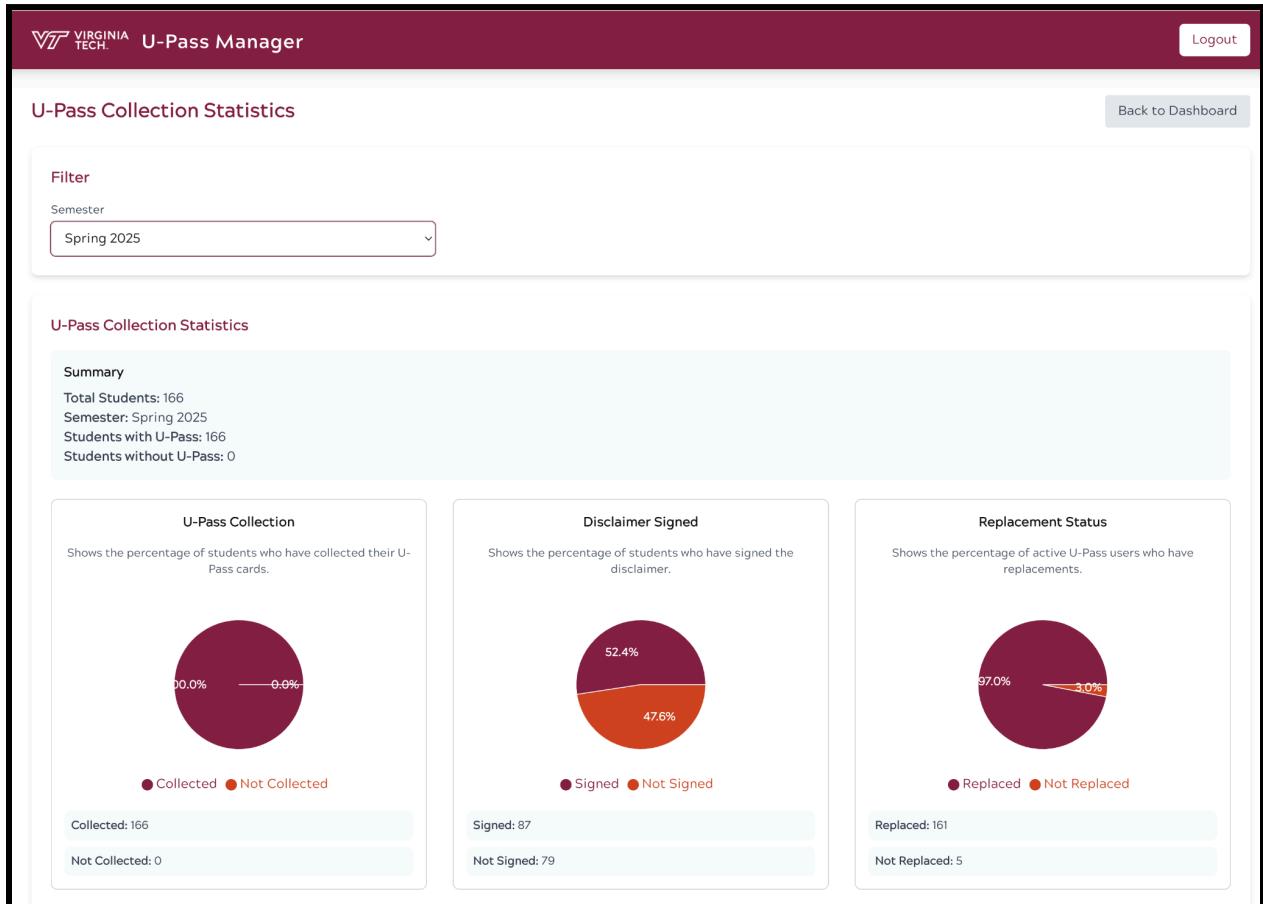


Fig 22. Semester, month, and week wise pie chart

Export Data

Administrators are able to export the data for later sending to WMATA. After clicking the export data button, they can easily export the data through the page (Fig 23) We've also developed the selection button helping administrators to easily select all the columns that should be used in the table for sending to WMATA.

The screenshot shows a table titled "Export Student Data" with 1061 rows of student information. The columns include: SELECT, STUDENT_ID, FIRST NAME, LAST NAME, EMAIL, ACTIVE U-PASS, REPLACED U-PASS, DISCLAIMER, METRO ACCOUNT, DISTRIBUTION DATE, PICKED UP BY, and NOTES. The "Disclaimer" column uses color-coded status indicators: green for "Signed" and red for "Not Signed". The "Picked Up By" column includes options like "Front Desk", "Mail", and "Needs ID". The "Notes" column contains entries such as "None", "No Notes", and "All good". At the bottom of the table, it says "Showing 10 of 166 results" and has navigation buttons for "Previous", "1", and "Next". Below the table, there's a section titled "Export Data" with a note "All records will be exported" and two buttons: "Download Excel" and "Send to WMATA". The top of the page features the Virginia Tech logo and the title "U-Pass Manager".

SELECT	STUDENT_ID	FIRST NAME	LAST NAME	EMAIL	ACTIVE U-PASS	REPLACED U-PASS	DISCLAIMER	METRO ACCOUNT	DISTRIBUTION DATE	PICKED UP BY	NOTES
<input type="checkbox"/>	10619****	Daniel	Allen	student0028@vt.edu	579546681	270731194	Signed	4987	01-13-2025	Front Desk	None
<input type="checkbox"/>	11467****	Jonathan	Marks	student0148@vt.edu	825167677	646918365	Not Signed	8560	01-11-2025	Mail	None
<input type="checkbox"/>	12206****	Savannah	Wood	student0060@vt.edu	350814705	575584232	Not Signed	1606	01-09-2025	Mail	Needs ID
<input type="checkbox"/>	12345****	Nidhi	Kamath	nidhikamath@vt.edu	Not Allocated	None	Signed	5071	01-15-2025	Self	No Notes
<input type="checkbox"/>	12345****	Kunal	Mahato	kunalmahato@vt.edu	1463214010	None	Signed	5072	01-15-2025	Mail	No Notes
<input type="checkbox"/>	12345****	Rajat	Nagar	rajatnagar@vt.edu	1463214011	None	Signed	5073	01-15-2025	Self	No Notes
<input type="checkbox"/>	12345****	Rashmi	Kulkarni	rashmi.kulkarni@vt.edu	1463214012	None	Signed	5074	01-15-2025	Front Desk	No Notes
<input type="checkbox"/>	12345****	Manim	Tirkey	mtrkey@vt.edu	1463214013	None	Signed	5075	01-15-2025	Mail	No Notes
<input type="checkbox"/>	12345****	Cheng-Chen	Huang	jiooeeyh@vt.edu	14632140014	None	Signed	5076	01-15-2025	Self	No Notes
<input type="checkbox"/>	13006****	William	Cherry	student0035@vt.edu	580404538	295995197	Not Signed	4446	01-14-2025	Self	All good

Fig 23. After administrator clicked the export data, the page that allowed them to export data

Features and Guides - Distributor View

Login

The Distributor is prompted to log in to the web application. Once the distributor enters the email and password, the server will direct the user to the Distributor page. As (Fig 24) shows, the Distributor can enter and search for students through the student ID.

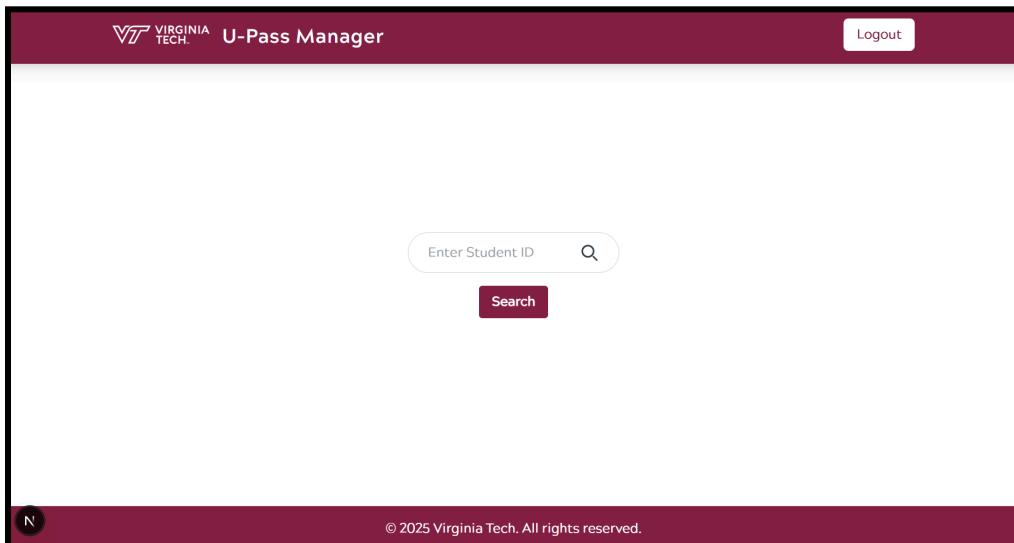


Fig 24. Distributor View

Student Search by Student ID

The distributor can confirm whether a student is eligible to obtain a U-Pass or not. This can be done by entering a 9-digit Student ID, upon which the distributor can see if they are successfully able to search for a student or not. If the student does not have the eligibility to collect the U-Pass, then the student will not show up in the search. In the case of eligible students, the student information will be displayed to the user. (Fig 25)

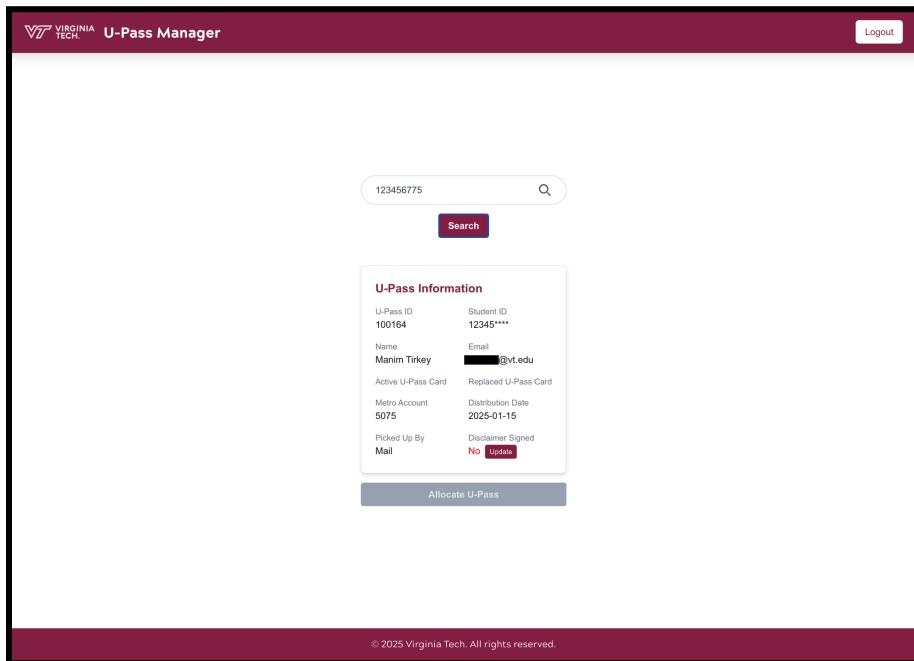


Fig 25. Student Information being displayed to the Distributor

Signing the disclaimer form

The students must have the U-Pass Disclaimer Form signed before obtaining the U-Pass. Once the student information is loaded, the information regarding whether the Disclaimer is being signed or not will be visible. If the student has not signed the disclaimer form, the distributor can ask students to sign the disclaimer form, then allow students to collect the U-Pass, shown in (Fig 26) If the student finished the e-sign in front of the distributor, the distributor can click the button 'Signed, Proceed', which will update the 'Disclaimer Signed' status for the student and a pop-up will appear confirming the change (Fig 27).

Disclaimer Not Signed

The following student has not signed the disclaimer:

Name: Manim Tirkey
Student ID: 12345****
Email: [REDACTED]@vt.edu

Please confirm if the student has signed the disclaimer form.
If they have signed, clicking "Signed, Proceed" will update
their record in the system.

Not Signed, Cancel

Signed, Proceed

Fig 26. The distributor can help the student finish the disclaimer process

Disclaimer status updated successfully!

Fig 27. This alert pops when distributor help unsigned student finishing the process and collect the U-Pass

Allocation of a new U-Pass

If the student is eligible to get a U-Pass, the ‘Allocate U-Pass’ button will be available for the student. (which is **greyed out** for students who have not cleared the previous criteria)

The screenshot shows the 'U-Pass Manager' application interface. At the top, there is a header bar with the Virginia Tech logo, the title 'U-Pass Manager', and a 'Logout' button. Below the header is a search bar containing the number '123456775' and a magnifying glass icon. A 'Search' button is located just below the search bar. The main content area displays 'U-Pass Information' for a student. The information is presented in a grid format:

U-Pass ID	Student ID
100164	12345****
Name	Email
Manim Tirkey	mtirkey@vt.edu
Active U-Pass Card	Replaced U-Pass Card
Metro Account 5075	Distribution Date 2025-01-15
Picked Up By	Disclaimer Signed
Mail	Yes

Below this information is a large, dark red button labeled 'Allocate U-Pass'. At the bottom of the page, there is a footer bar with the copyright notice '© 2025 Virginia Tech. All rights reserved.'

Fig 28. Eligible Student View for the Distributor

The user will click on the ‘Allocate U-Pass’ button. Which will open the dialogue box where the user will input a 20-digit U-Pass number either manually or using the NFC reader.

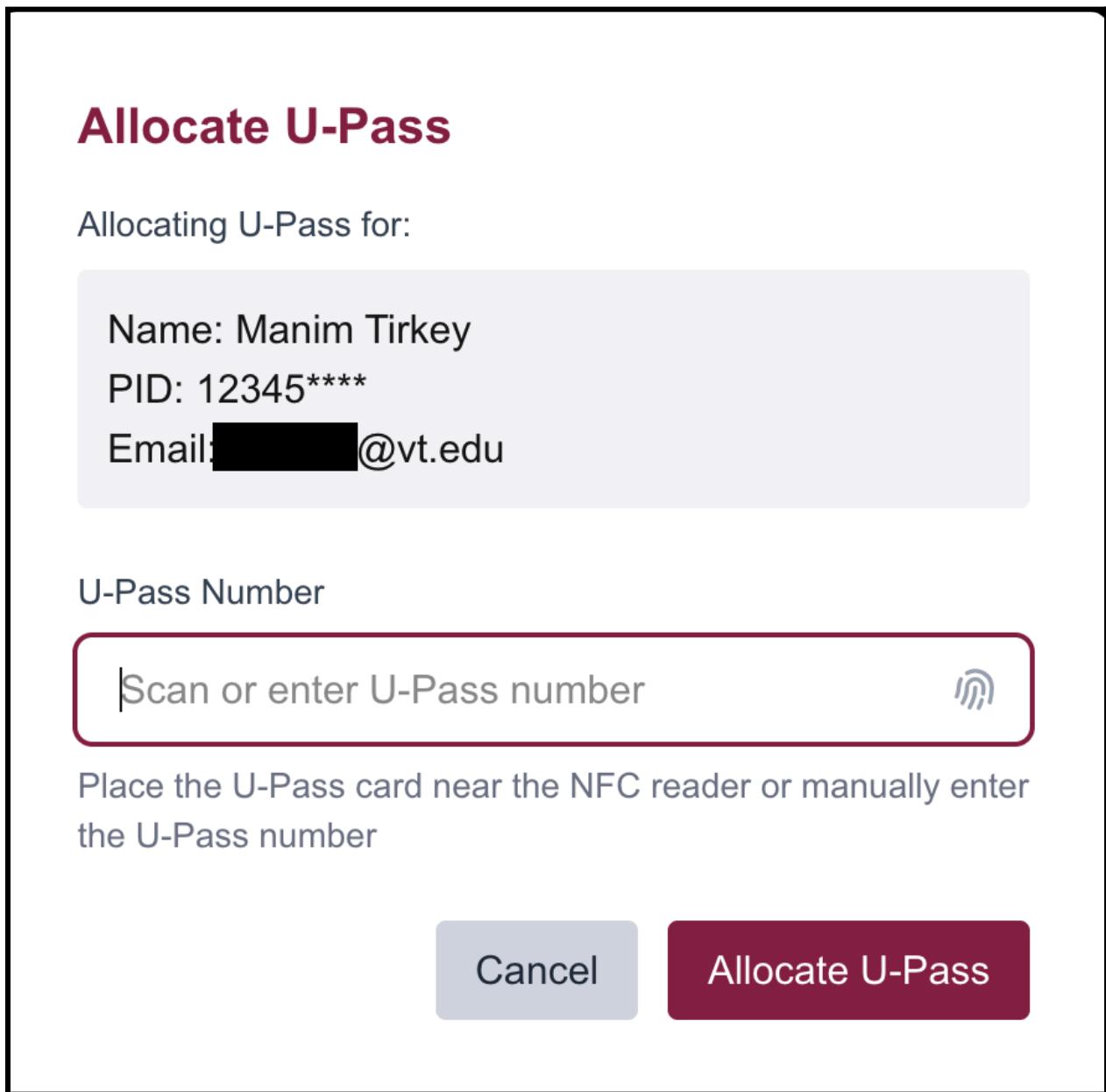


Fig 29. Input box for Distributor to input the 20-digit U-Pass number mentioned in the U-Pass card



Fig 30. Distributor scans the U-Pass ID using an NFC reader

Allocate U-Pass

Allocating U-Pass for:

Name: Manim Tirkey

PID: 12345****

Email: [REDACTED]@vt.edu

U-Pass Number

12345678909876543212



Place the U-Pass card near the NFC reader or manually enter the U-Pass number

Cancel

Allocate U-Pass

Fig 31 . Distributor enters/scans the U-Pass number

Upon entering the U-Pass number the user will then click on the ‘Allocate U-Pass’ button after which the U-Pass will be successfully allocated to the student. This will be confirmed by the dialogue box which appears on the bottom right of the screen. (Fig 32)

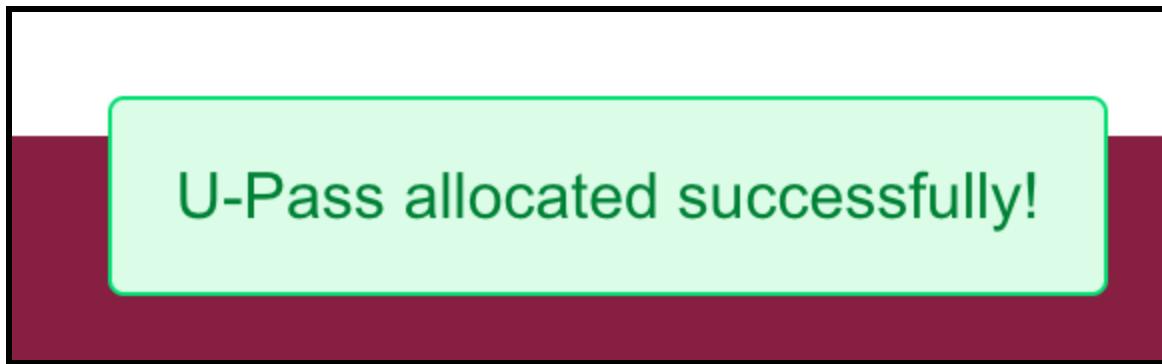


Fig 32. Confirmation for the successful allocation of U-Pass

A screenshot of a mobile application interface showing the "U-Pass Information" tab. At the top, there is a search bar containing the number "123456775" and a magnifying glass icon. Below the search bar is a purple "Search" button. The main content area has a light gray background and displays the following information in a grid format:

U-Pass ID	Student ID
100164	12345****
Name	Email
Manim Tirkey	[REDACTED]@vt.edu
Active U-Pass Card	Replaced U-Pass Card
12345678909876543212	
Metro Account	Distribution Date
5075	2025-01-15
Picked Up By	Disclaimer Signed
Mail	Yes

At the bottom of the card details, there is a purple button labeled "Allocate U-Pass".

Fig 33. U-Pass Information tab showing Active U-Pass Card

Replace a U-Pass feature

There might be a case (lost or damaged U-Passes) in which a Student might request for a new U-Pass. Typically, a student can get one more new U-Pass after which they cannot place a demand for a third one as well (a third U-Pass will only be allocated if the newly issued U-Pass is a damaged one).

The distributor will be able to see if the student already has an allocated U-Pass in the ‘Active U-Pass Card’ field. Upon that confirmation, the distributor will click on the ‘Allocate U-Pass’ button once again for that student. Upon clicking that button, the ‘Replace U-Pass’ modal will appear for the student as shown in (Fig 34).

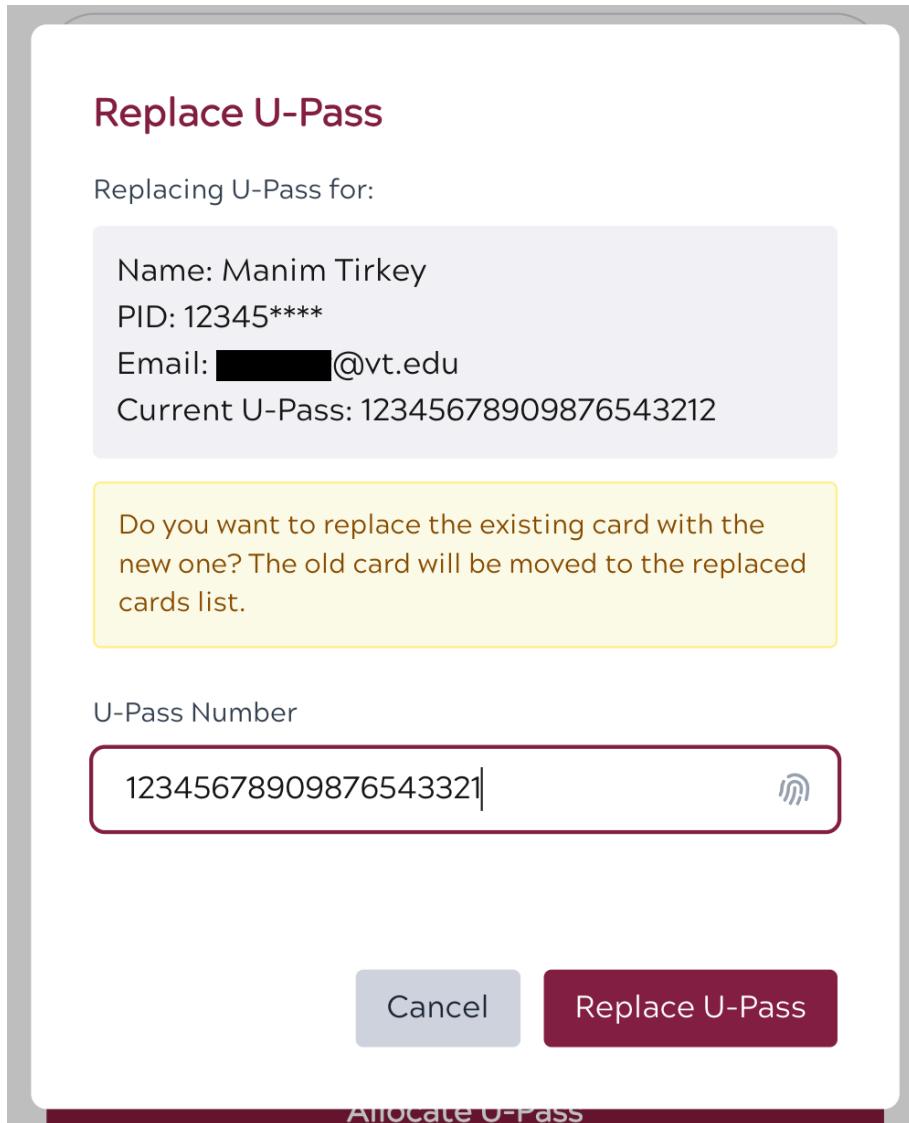


Fig 34. Replace U-Pass Card feature

The distributor will now use the NFC reader or the manual input once again to type in the new U-Pass number and click on the ‘Replace U-Pass’ button to allocate the new U-Pass to the student. This can be confirmed by checking the ‘Replaced U-Pass Card’ field.

Search

U-Pass Information

U-Pass ID 100164	Student ID 12345****
Name Manim Tirkey	Email ████████@vt.edu
Active U-Pass Card 12345678909876543321	Replaced U-Pass Card 12345678909876543212
Metro Account 5075	Distribution Date 2025-01-15
Picked Up By Mail	Disclaimer Signed Yes

Allocate U-Pass

Fig 35. U-Pass Information tab showing Replaced U-Pass Card