

Institiúid Teicneolaíochta Cheatharlach



At the Heart of South Leinster

Online Voting System

Administrative Manual

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1. Introduction

This manual documents the steps to take, in order to deploy the voting web application on PythonAnywhere. A user guide for the election administrator is also provided in this manual.

2. Deployment guide

The best way to get your code onto PythonAnywhere is with a code sharing site like GitHub. You can just clone it from a Bash Console on PythonAnywhere.

Go to the Consoles tab and click on “Bash”, fig 2.1.



Fig. 2.1 Click on “Bash”

Clone the repository from GitHub.

```
git clone https://github.com/PythonAnywhere/PythonAnywhere
```

Create a virtual environment with Python version 2.7.

```
python2.7 -m venv venv
```

Change to the project directory.

```
cd ..
cd ..
```

Instal the requirements.

```
pip install -r requirements.txt
```

Go to the Web tab, and click Add a new web app, Fig 2.2.

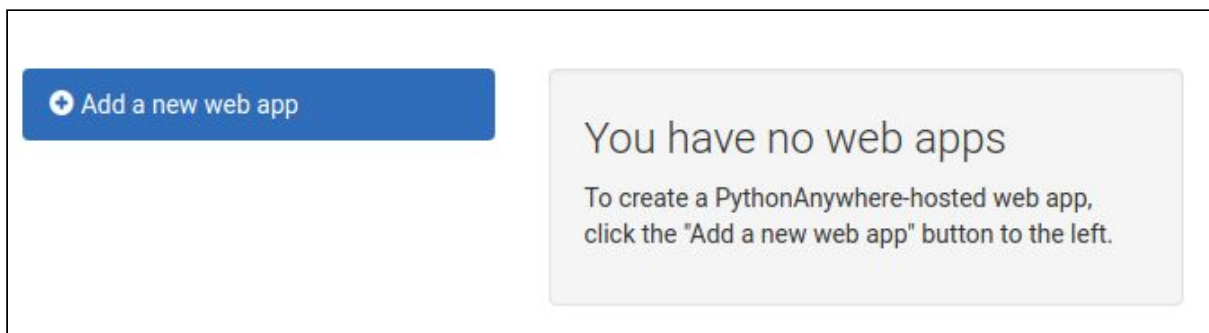


Fig. 2.2 Add a new web app

Click “Next”, then select the “Manual Configuration” option, Fig 2.3.

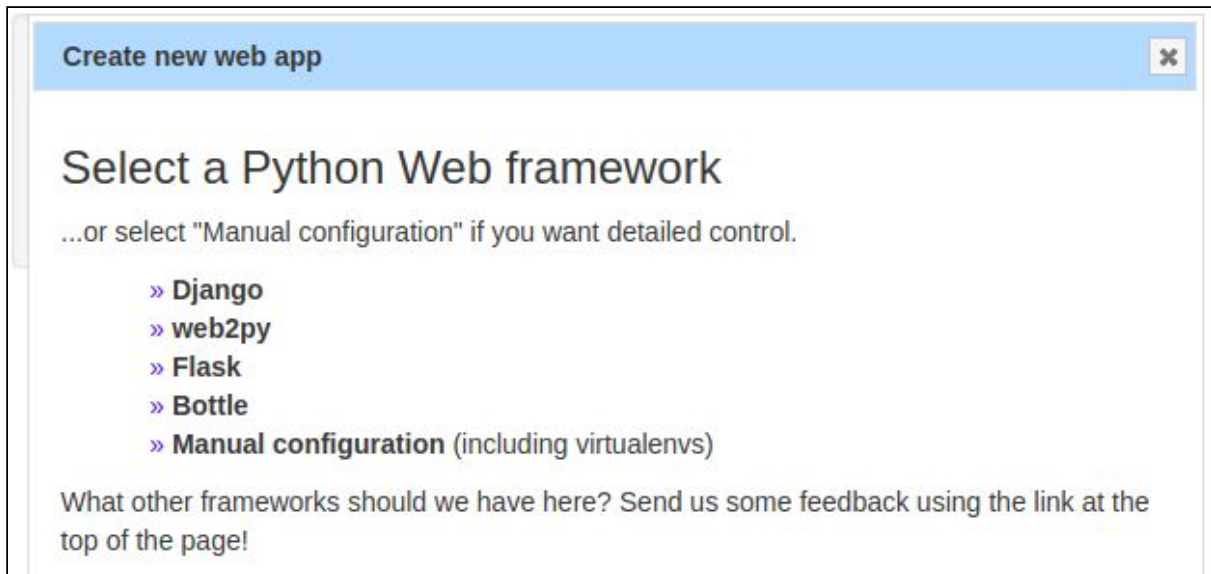


Fig. 2.3 Select “Manual configuration”

Select Python version 2.7, as shown in fig 2.4.

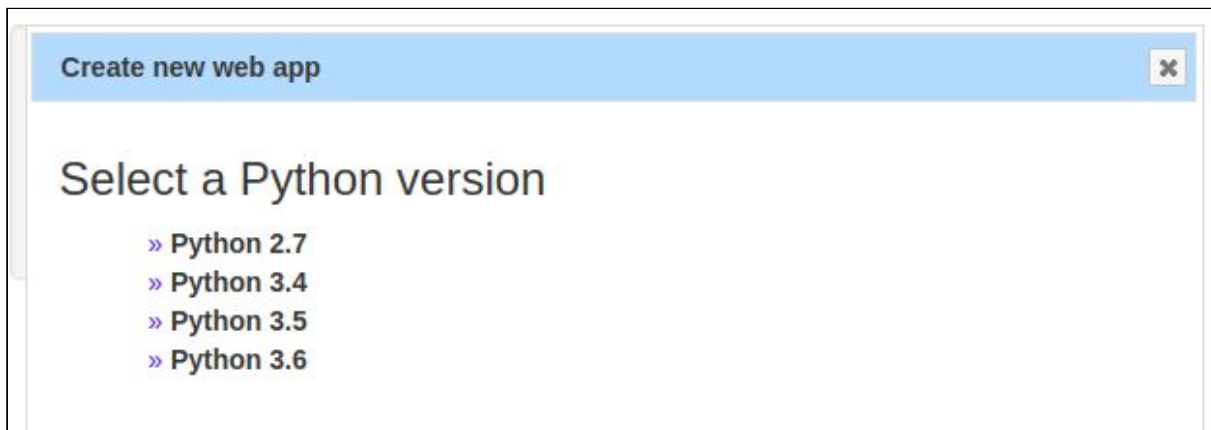


Fig. 2.4 Select Python 2.7

On the Virtualenv section of the Web tab enter “mysite-virtualenv”, fig 2.5.

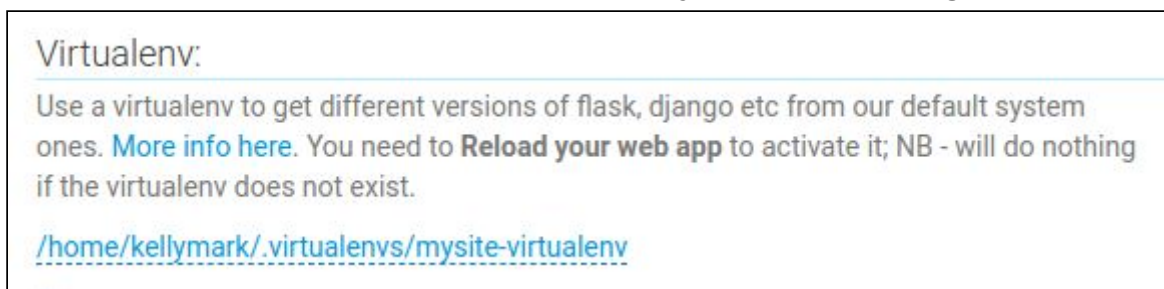


Fig. 2.5 Virtualenv

On the Code section of the Web tab, click on the WSGI configuration file, fig 2.6.

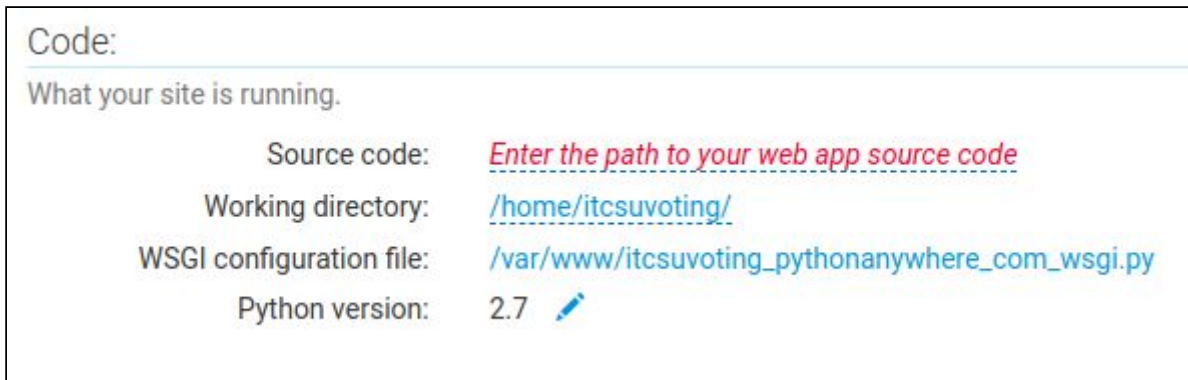


Fig. 2.6 WSGI configuration

Delete the contents of the WSGI configuration file and add the following code.

```

UY\ [ ^
UY\ [ ^ _e
.
\M T i' É³ T[YQ³ U' O_ab[ `UZS³ Ob[ `Q³ Ob[ `Q\ ^[ VQO³ _ ^É
UR: \M T: Z[ `UZ' _e_É\M T
... _e_É\M T ÉM\OZP\ \M T°
.
[_ÉOZbU^ [ Z»É' i' "fi#Ç' i' ((É"fi' Ç! #~) ži É¼ i' ÉOb[ `Q\ ^[ VQO³ _É_Q' `UZS_É'
' i' , &i (ÇŽi -i [_ÉOZbU^ [ Z»É' i' , &i (ÇŽi -É¼
.
R^ [ Y' PVMZS[ ÉQ' ^OÉc_SU' UY\ [ ^' SQ Çc_SUÇM\ \XUOM U[ Z'
M\ \XUOM U[ Z' i' SQ Çc_SUÇM\ \XUOM U[ Z' ° Á
    
```

Go back to the Bash console on the Console tab and change to the src directory.

```

î' OP' _ ^³ Á
Á
    
```

Copy local settings as local.env is not tracked by version control.

```

î' O\ `Ob[ `Q\ ^[ VQO³ _Q' `UZS_³ X[ O\XÉ_M\ \XOÉOZb' Ob[ `Q\ ^[ VQO³ _Q' `UZS_³ X[ O\XÉOZb
    
```

The database credentials are entered in the local.env file, documented in section 5.4.3 of the Code Document, as shown below in fig 2.7. secret key and email settings are also set here.

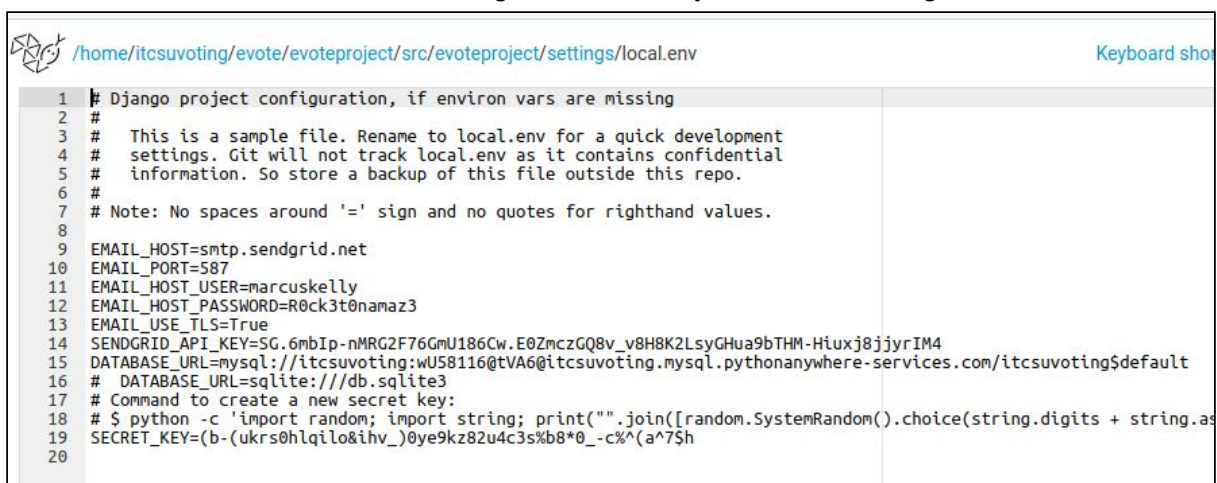


Fig. 2.7 local.env file.

Enter the database settings

```
^ ( " " " " i Q) &zi Ye_] Xc33U_ O_ab[ ` UZStc) ÚYÓÓÚÉ` *` ÚÉU_ O_ab[ ` UZSEYe_] XE\`e` T[ ZMecTQ^Oæ_Q^bUOQ_ÉQ[Y
3U_ O_ab[ ` UZSÍ PORM&X`
```

Go back to the Bash console on the Console tab.

```
Í ` \e` T[ Z` YNZM$OE\`e` YUS^M Q
Í ` \e` T[ Z` YNZM$OE\`e` O^QM Q_a\Q^a_Q^`
i YMUX` MPP^Q_`ç` ` Q_` É` Q_` ÉQ[Y`
" MYQç` ` Q_` ` a_Q^`
$M_c[ ^Pç` `iiiiiiiiiiiiiiii`
$M_c[ ^P` 1M$MUZ^ç` `iiiiiiiiiiiiiiii`
` a\Q^a_Q^` O^QM QP` _aOQO__RaXXeF`
```

Setup static files

```
Í ` \e` T[ ZxÉÚ` YNZM$OE\`e` O[ XXQO` _` M UOÁ
```

3. User guide

This section details how to use the system. The steps for creating elections, ballots and candidates are provided. The steps are also provided on how to register, login, and vote on an election.

3.1 Election administrator

3.1.1 Change password

An account is created for the election administrator with the default password "AdminPassword1". The first thing the election administrator needs to do is login to the system and change their password.

Go to the landing page and click Log in



Fig. 3.1 Landing page

Enter your login details

Please Log In

Email address*
Enter Email

Password*
Enter Password

[Forgot Password?](#)

Remember me

Log in

[Not registered to vote? Register.](#)

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Fig. 3.2 Login page

Select “Change Password” from the dropdown on your email address

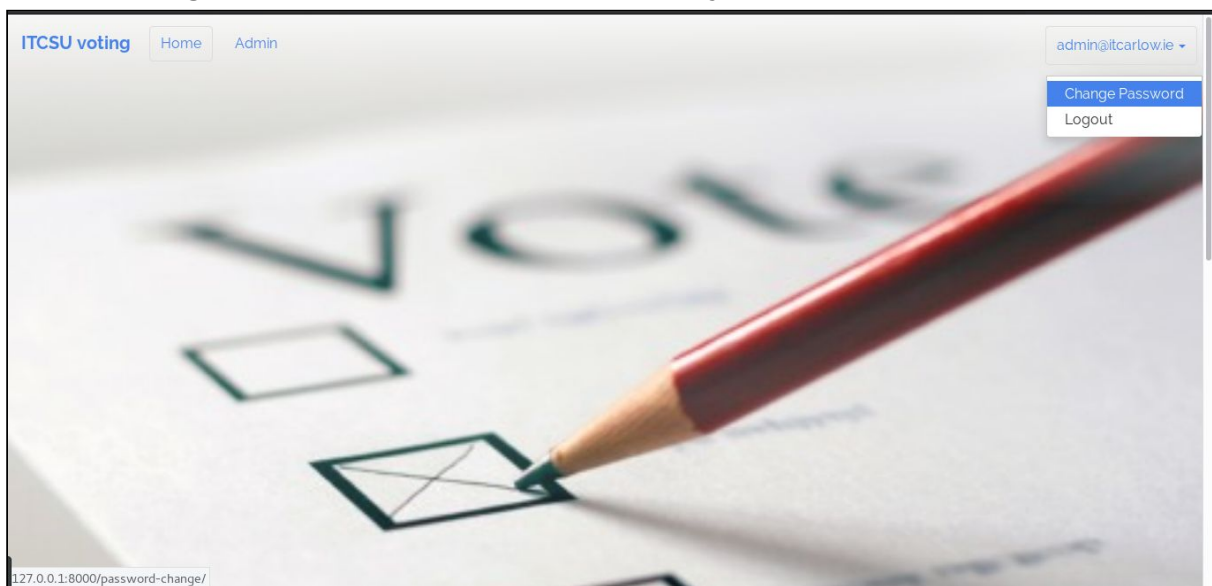


Fig. 3.3 Select “Change Password”

Enter your details, and click “Change Password”

Password Change

Old password*
.....

New password*
.....

- Your password can't be too similar to your other personal information.
- Your password must contain at least 8 characters.
- Your password can't be a commonly used password.
- Your password can't be entirely numeric.

New password confirmation*
.....

Change Password

Fig. 3.4 Change Password page

Your password has now been changed



Fig. 3.5 Password changed

3.1.2 Create election

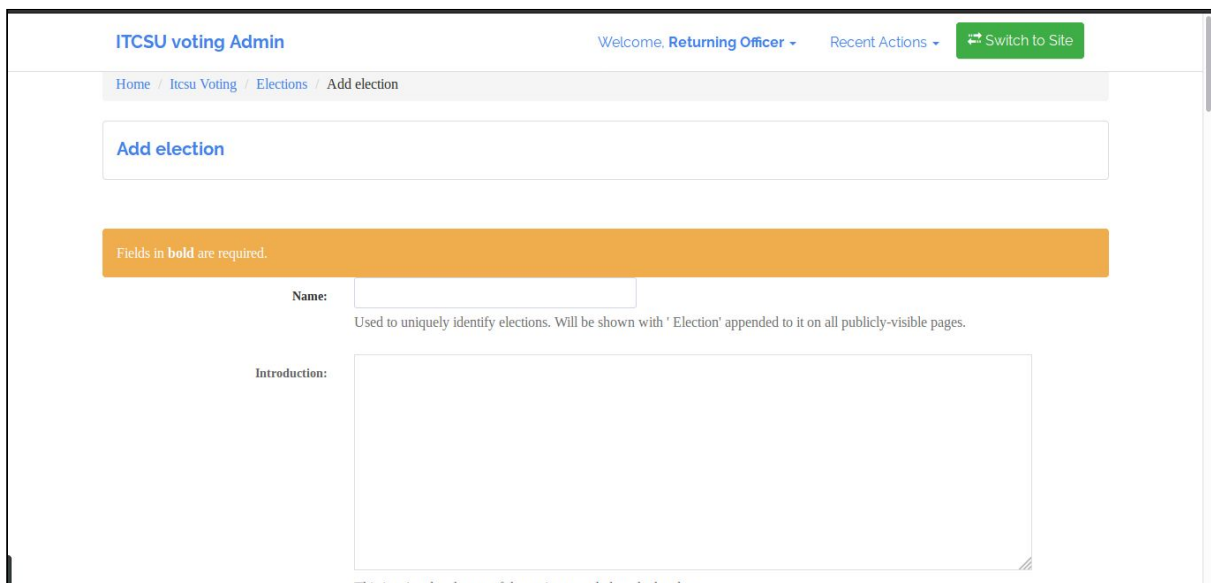
When logged in, click on the “Admin” tab to bring up the election administration page.



Fig. 3.6 Election administration page

Select “Add” on the Elections row to bring up the “Add Election” page.

On the “Add Election” page, enter the details of the election, including the name, introduction, start date, end date, and allowed voters. Then click “Save”.



The screenshot shows the 'Add election' page in the ITCSU voting Admin interface. The page title is 'ITCSU voting Admin' and the user is logged in as 'Returning Officer'. The breadcrumb trail is 'Home / Itcsu Voting / Elections / Add election'. There is a green 'Switch to Site' button in the top right corner. Below the breadcrumb trail is a blue 'Add election' button. A yellow warning bar states 'Fields in bold are required.' The form contains two fields: 'Name:' with a text input field and a description 'Used to uniquely identify elections. Will be shown with ' Election' appended to it on all publicly-visible pages.', and 'Introduction:' with a large text area. A small note at the bottom of the page reads 'This is copied at the top of the voting page below the header'.

Fig. 3.7 Add election page

3.1.3 Create ballot

When logged in, click on the “Admin” tab to bring up the election administration page.

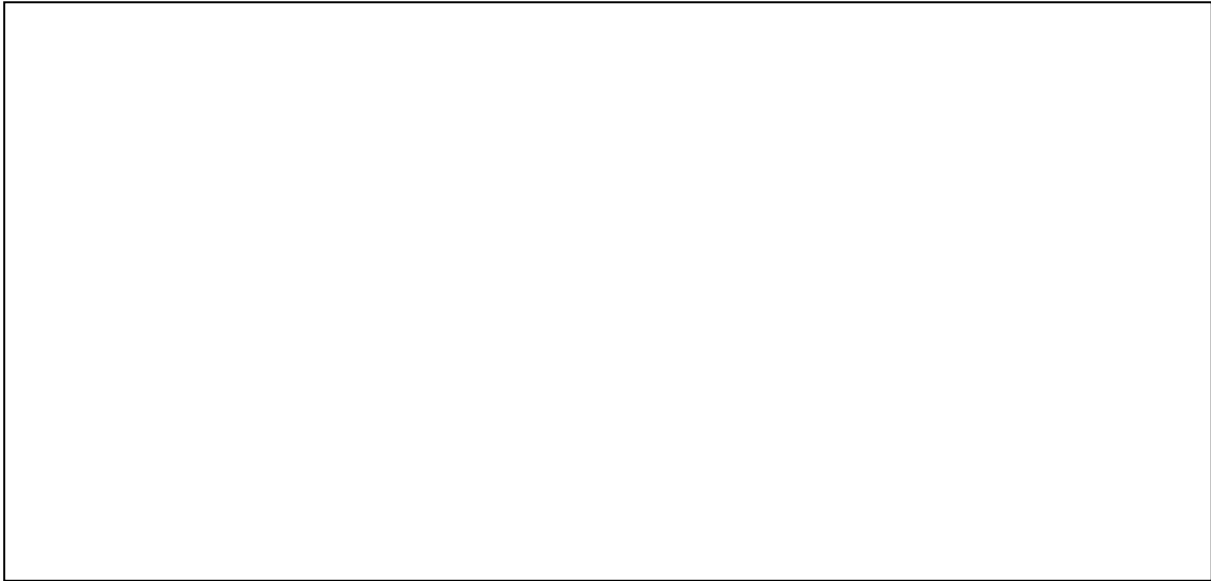


Fig. 3.8 Election administration page

Select “Add” on the Ballots row to bring up the “Add Ballot” page.

On the “Add Ballot” page, select the election you want to link the ballot to, then enter the details of the ballot, including a description and an introduction. Then click “Save”.

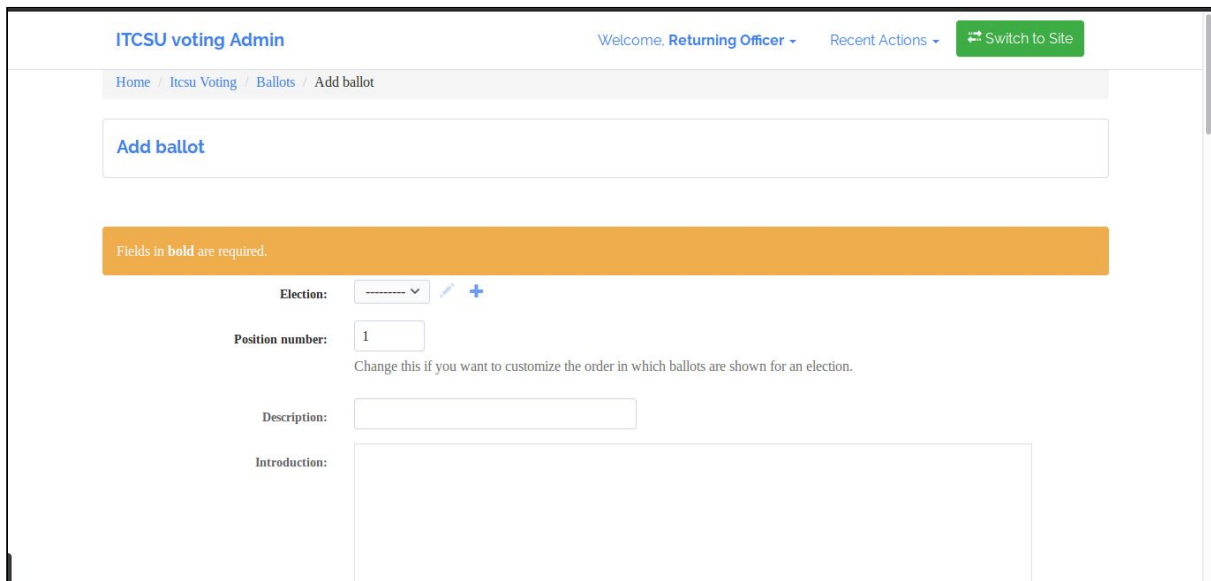


Fig. 3.9 Add ballot page

Keep adding ballots in this manner until you have the desired number of ballots created.

3.1.4 Create candidate

When logged in, click on the “Admin” tab to bring up the election administration page.

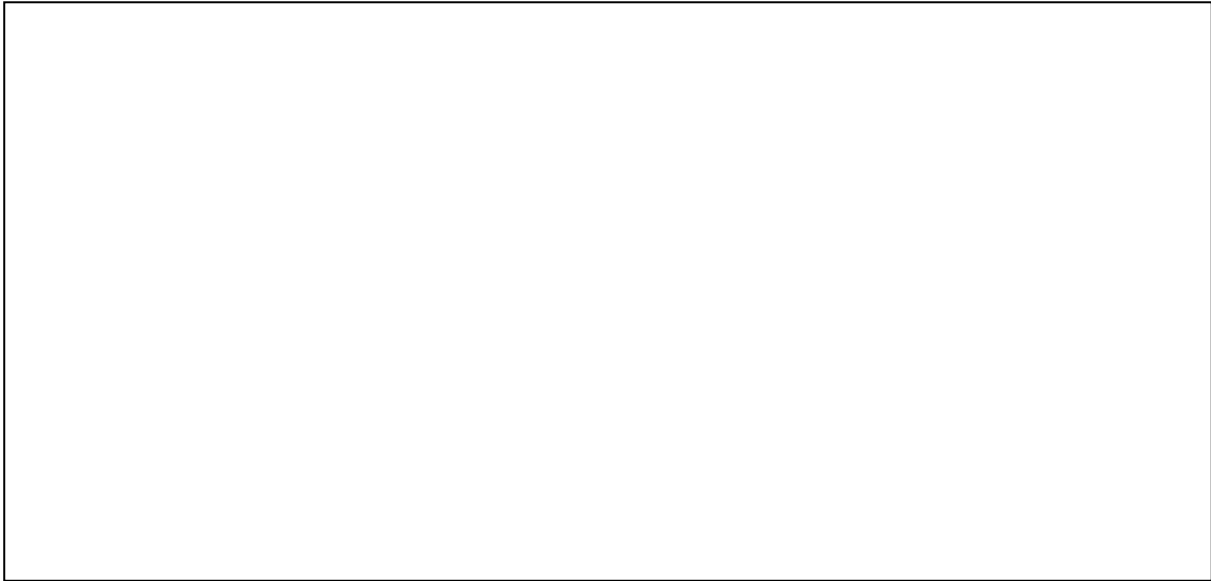


Fig. 3.10 Election administration page

Select “Add” on the Candidates row to bring up the “Add Candidate” page.

On the “Add Candidate” page, select the ballot you want to link the candidate to, then enter the details of the candidate, including a first name, last name, institution, and profile picture. Then click “Save”.

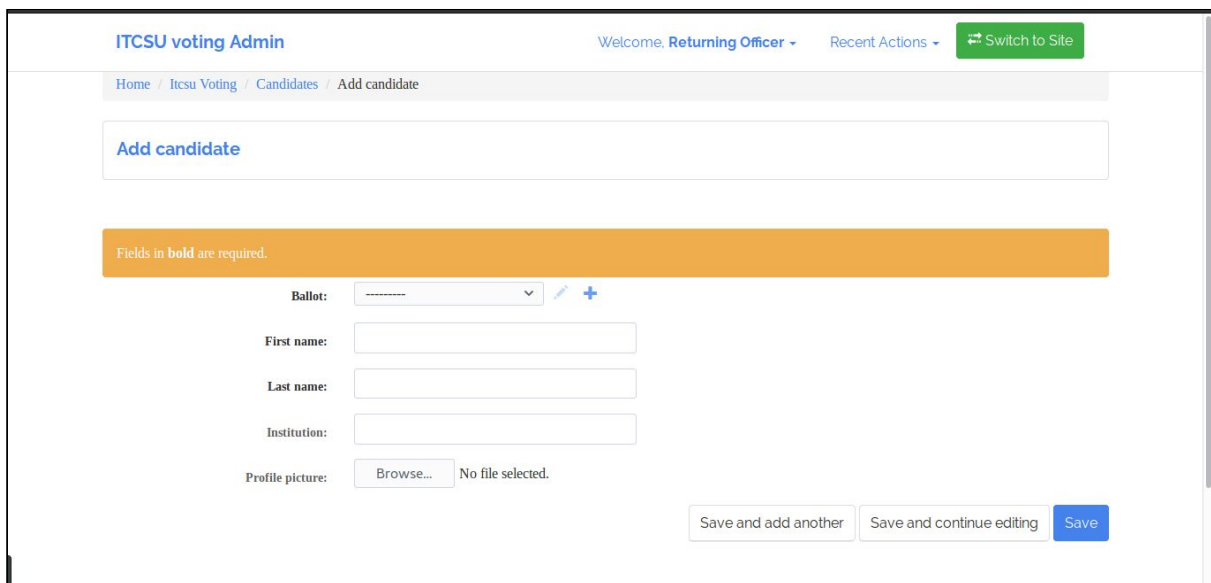


Fig. 3.11 Add candidate page

Keep adding candidates in this manner until you have the desired number of candidates for a ballot.

3.1.5 Election

When logged in, click on the “Admin” tab to bring up the election administration page.

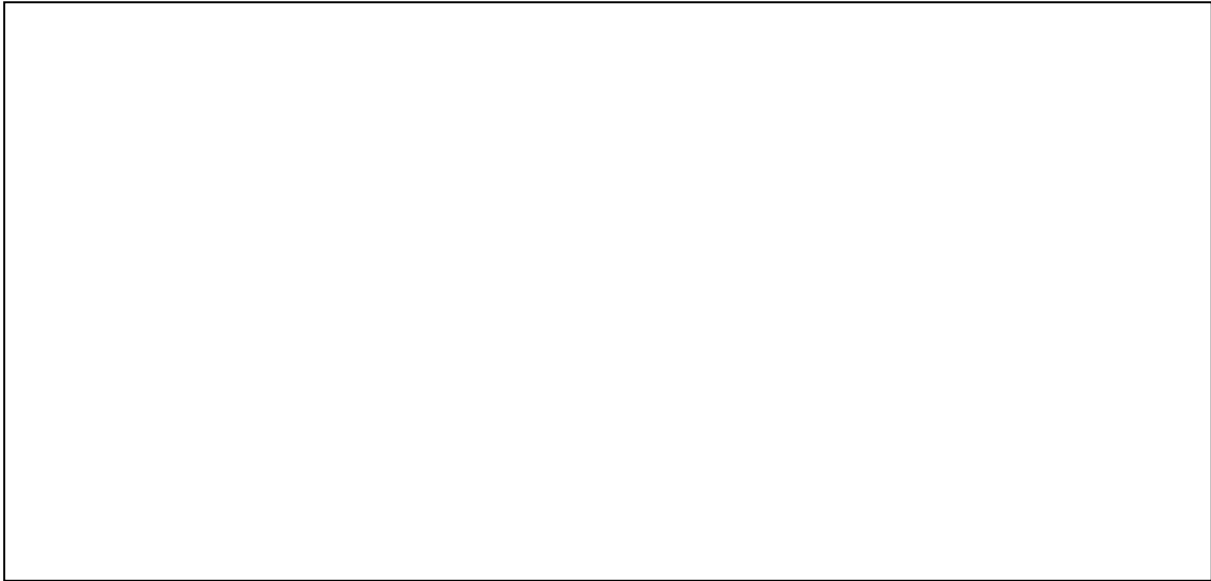


Fig. 3.12 Election administration page

Select “Elections” on the Elections row to bring up the “Election” page.

On this page you can view the statistics/results of an election, generate an excel spreadsheet with the results of an election, or disassociate account (this removes any link between the voter and the vote in the database)

The screenshot shows the ITCSU voting Admin interface. At the top, it says "ITCSU voting Admin" and "Welcome, Returning Officer". There are links for "Recent Actions" and a "Switch to Site" button. The breadcrumb trail is "Home / Itcsu Voting / Elections". Below this, there is a search bar with "Select election to change" and an "Add election" button. An "Action:" dropdown menu is set to "-----" with a "Go" button and "0 of 1 selected". A table lists the election details:

<input type="checkbox"/>	Name	Vote start	<input type="checkbox"/> <input type="checkbox"/>	Vote end	Administrative Actions
<input type="checkbox"/>	2018	March 29, 2018, 8:27 p.m.		April 30, 2018, 8:27 p.m.	View Statistics Generate Excel Spreadsheet Disassociate Accounts

At the bottom, there is a copyright notice: "© Students' Union - Institute of Technology Carlow 2018" and social media links for Facebook and Twitter.

Fig. 3.13 Election page

3.2 Voter

3.2.1 Voter registration

A student can only register to vote after an election has been created by the election administrator, and up to three days before the election starts. Students will have to register again for future elections.

Go to the landing page and click Register.



Fig. 3.14 Landing page

Enter your details on the Register page.

Enter your details, including college email address, password, and password confirmation.

Fig. 3.15 Register page

The voter is directed to the Confirm Email Sent page.

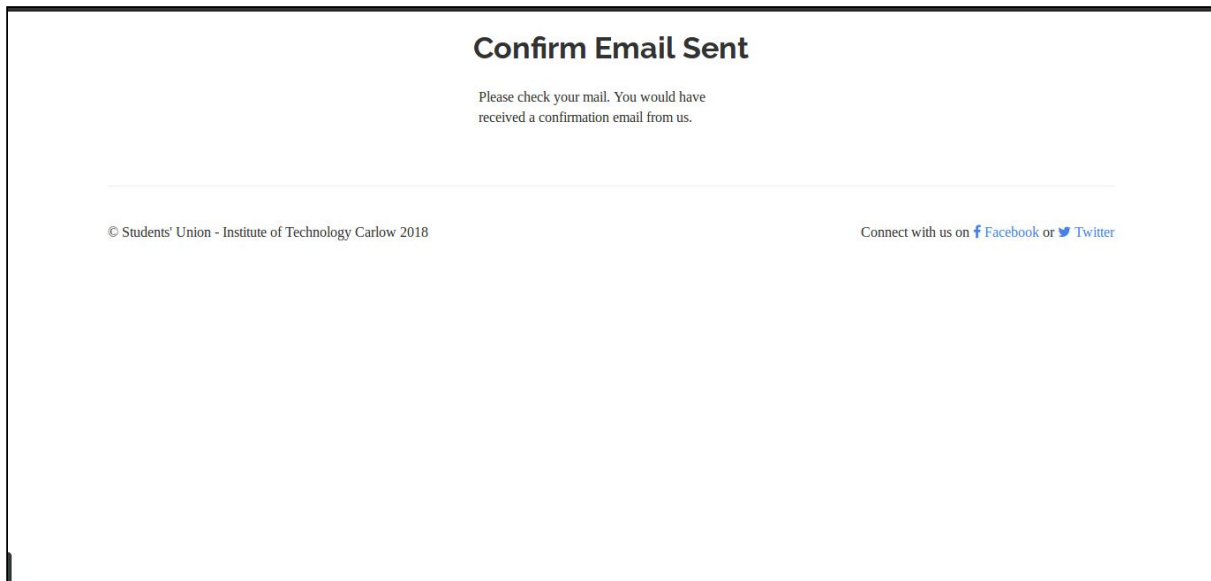


Fig. 3.16 Confirmation email sent page

A confirmation email will be sent to the voter.

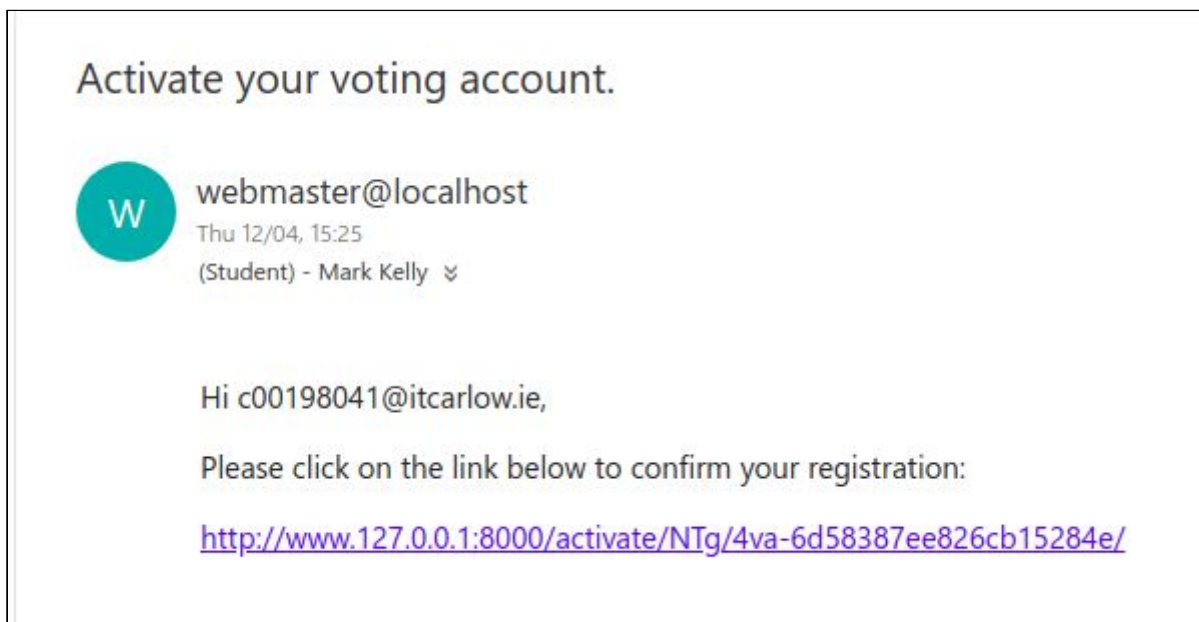


Fig. 3.17 Confirmation email

Following the link confirms your email address.



Fig. 3.18 Email confirmed

Links are one time use only.

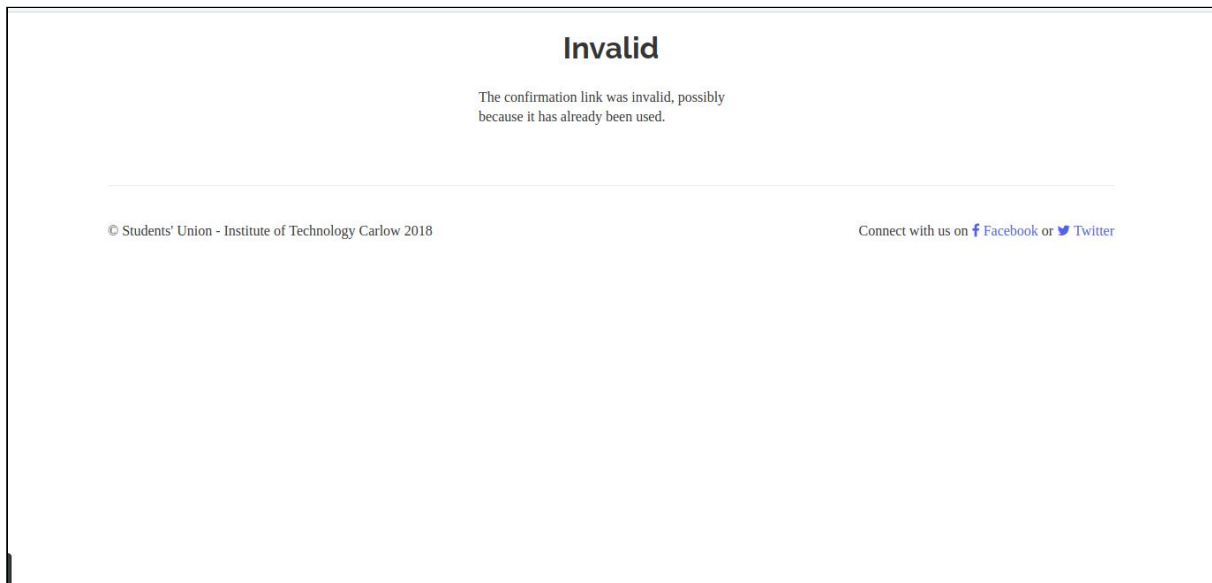


Fig. 3.19 Invalid token page

The voter can now log in to the web application and click on the Vote tab.



Fig. 3.20 Voter logged in

3.2.2 Voting on a ballot

Clicking on the Vote tab when logged in, displays the voting page.

The voter selects the choice from the dropdown list for each candidate on each ballot. The voter can then submit the vote.

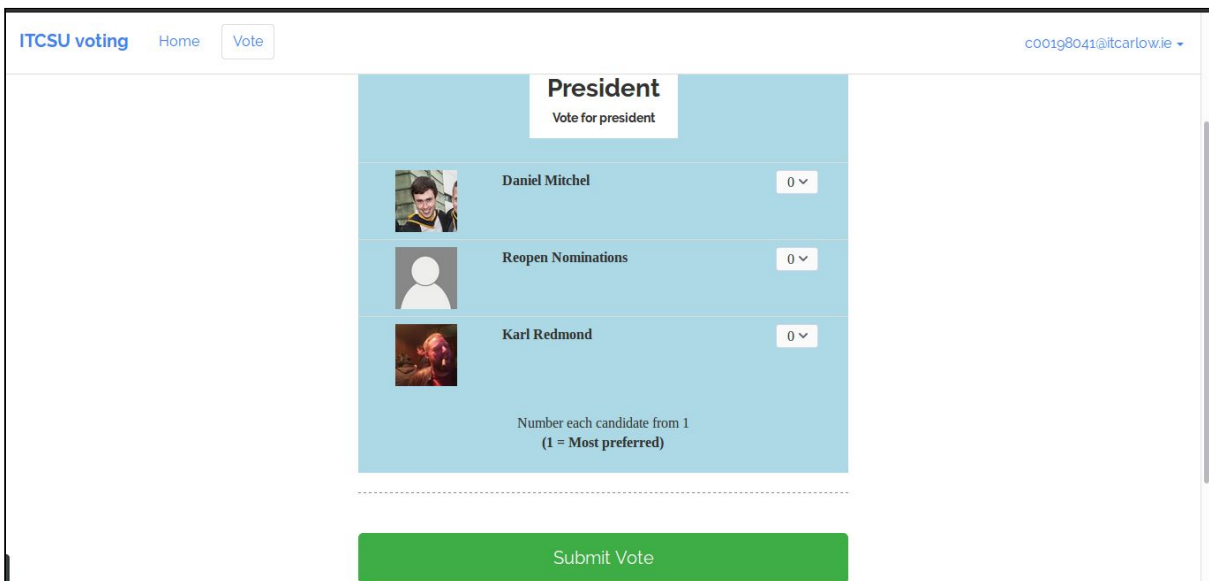


Fig. 3.21 Voting page

The voter confirms their choices.

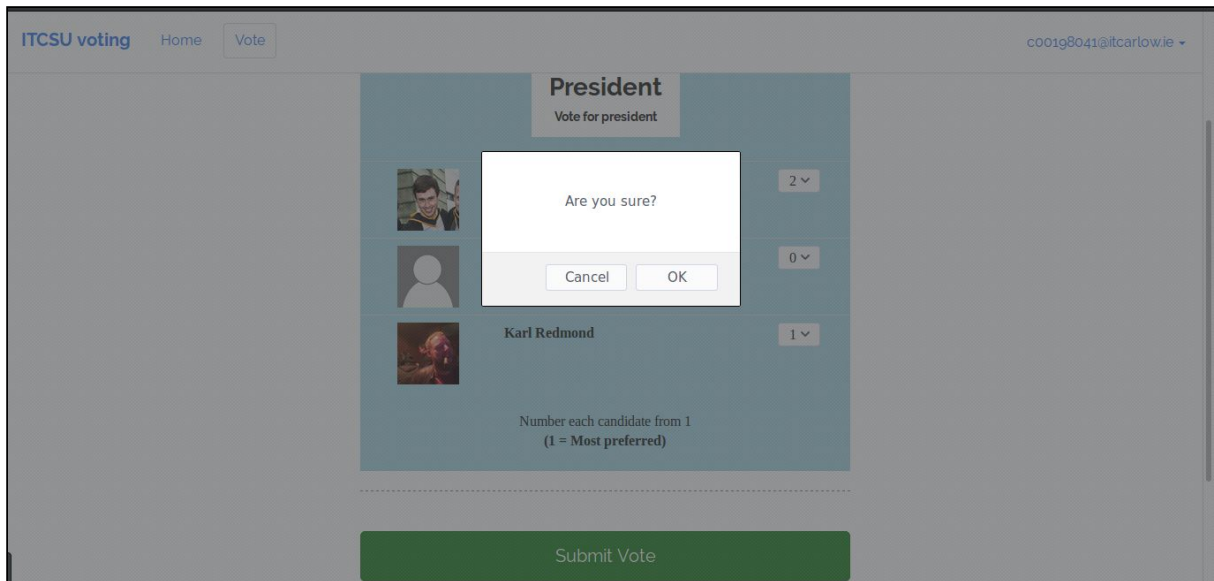


Fig. 3.22 Confirm choices

The votes have now been placed.

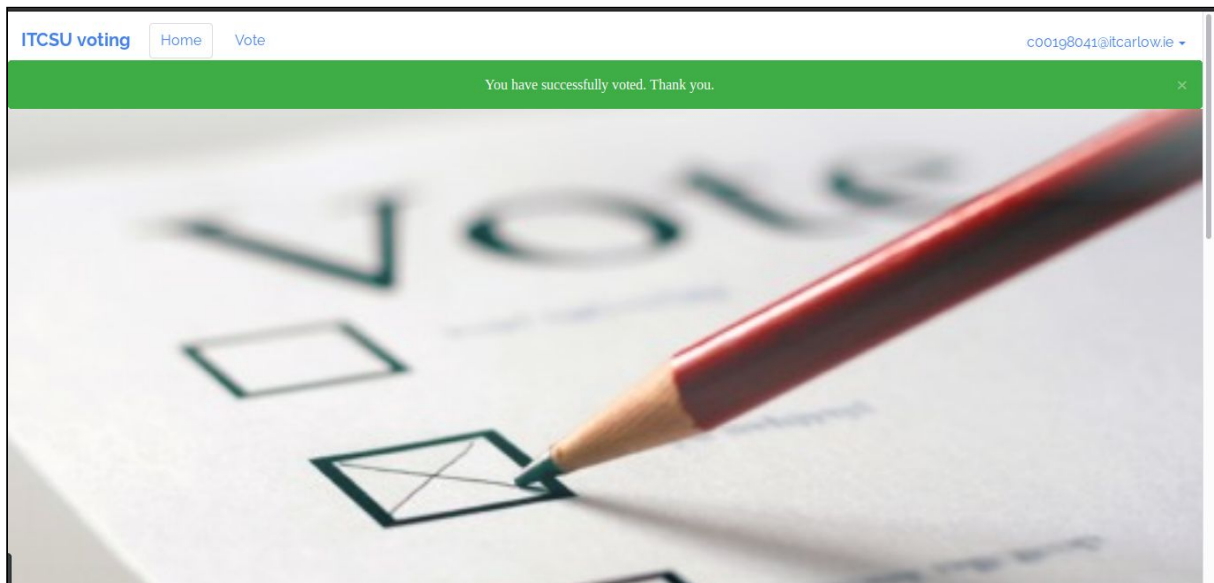


Fig. 3.23 Voting complete