

Institiúid Teicneolaíochta Cheatharlach



At the Heart of South Leinster

Online Voting System

Administrative Manual

Name: Mark Kelly

Student Number: C00198041

Course: Bachelor of Science (Honours) Software Development

Supervisor: Dr. Lei Shi

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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.

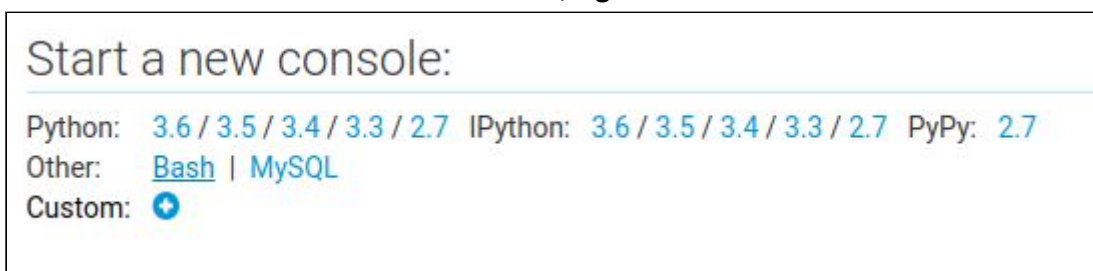


Fig. 2.1 Click on “Bash”

Clone the repository from GitHub.

```
$ git clone https://github.com/marcuskelly/evote.git
```

Create a virtual environment with Python version 2.7.

```
$ mkvirtualenv --python=/usr/bin/python2.7 mysite-virtualenv
```

Change to the project directory.

```
$ cd evote/  
$ cd evoteproject/
```

Instal the requirements.

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

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

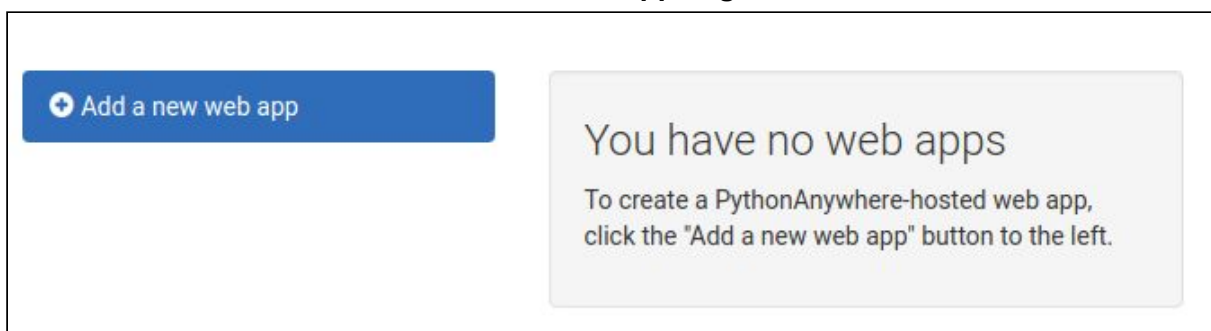


Fig. 2.2 Add a new web app

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

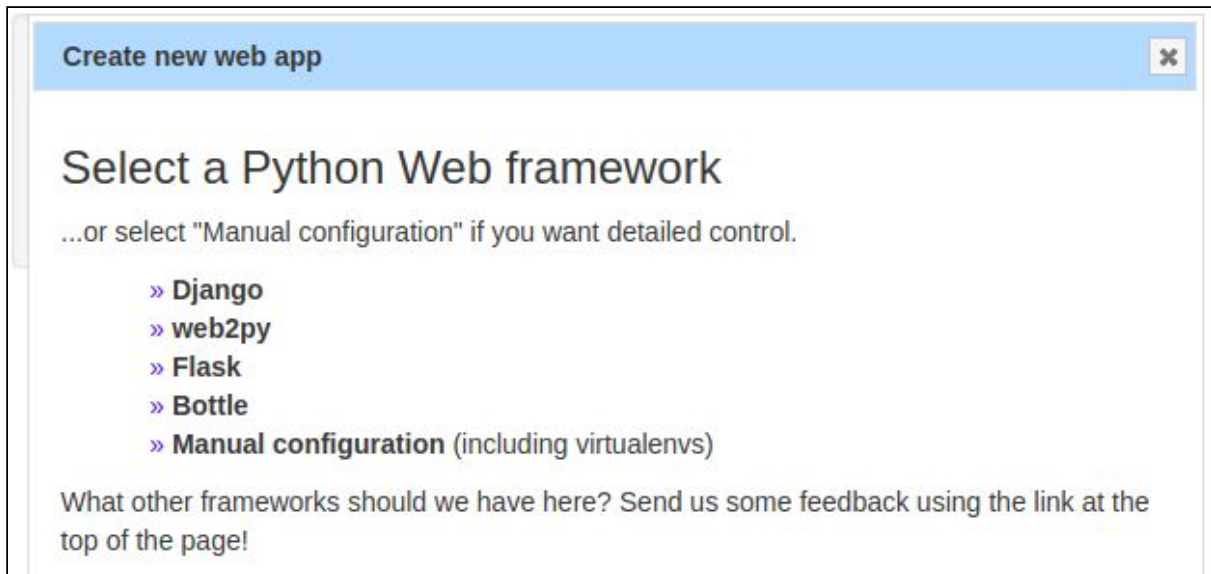


Fig. 2.3 Select “Manual configuration”

Select Python version 2.7, as shown in fig 2.4.

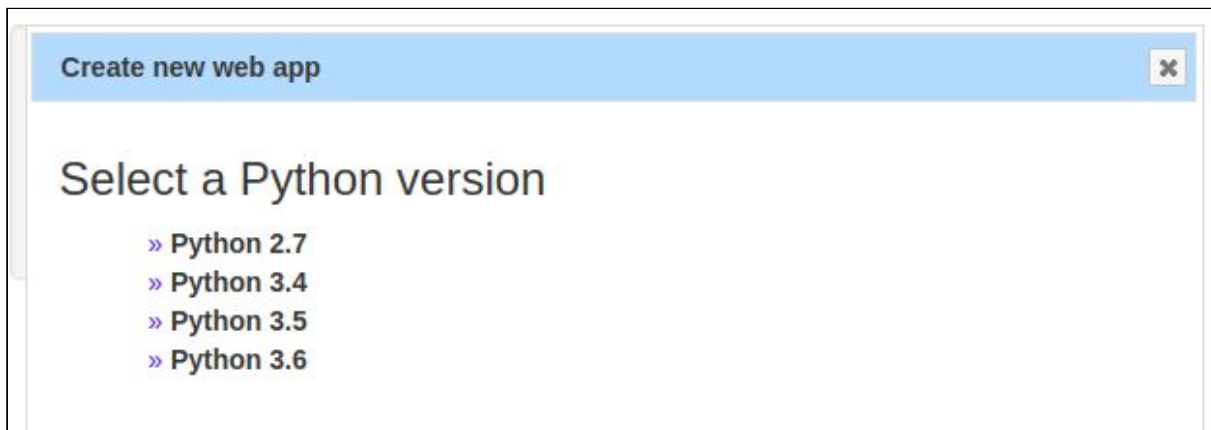


Fig. 2.4 Select Python 2.7

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

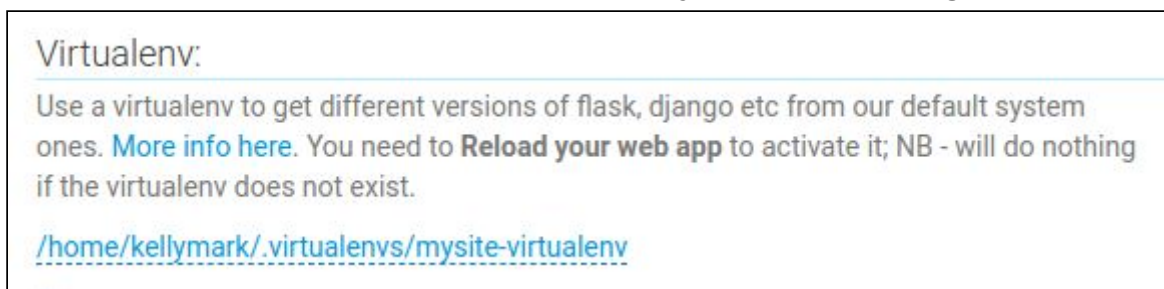


Fig. 2.5 Virtualenv

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

Code:

What your site is running.

Source code: [Enter the path to your web app source code](#)

Working directory: [/home/itcsuvoting/](#)

WSGI configuration file: [/var/www/itcsuvoting_pythonanywhere_com_wsgi.py](#)


Python version: 2.7 

Fig. 2.6 WSGI configuration

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

```
import os
import sys

path = '/home/itcsuvoting/evote/evoteproject/src'
if path not in sys.path:
    sys.path.append(path)

os.environ['DJANGO_SETTINGS_MODULE'] = 'evoteproject.settings'
SECRET_KEY=os.environ["SECRET_KEY"]

from django.core.wsgi import get_wsgi_application
application = get_wsgi_application()
```

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

```
$ cd src/
```

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

```
$ cp evoteproject/settings/local.sample.env evoteproject/settings/local.env
```

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.

```

/home/itcsuvoting/evote/evoteproject/src/evoteproject/settings/local.env Keyboard sho
1 # Django project configuration, if environ vars are missing
2 #
3 # This is a sample file. Rename to local.env for a quick development
4 # settings. Git will not track local.env as it contains confidential
5 # information. So store a backup of this file outside this repo.
6 #
7 # Note: No spaces around '=' sign and no quotes for righthand values.
8
9 EMAIL_HOST=smtp.sendgrid.net
10 EMAIL_PORT=587
11 EMAIL_HOST_USER=marcusKelly
12 EMAIL_HOST_PASSWORD=R0ck3t0namaz3
13 EMAIL_USE_TLS=True
14 SENDGRID_API_KEY=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
15 DATABASE_URL=mysql://itcsuvoting:wU58116@tVA6@itcsuvoting.mysql.pythonanywhere-services.com/itcsuvoting$default
16 # DATABASE_URL=sqlite:///db.sqlite3
17 # Command to create a new secret key:
18 # $ python -c 'import random; import string; print("".join([random.SystemRandom().choice(string.digits + string.as
19 SECRET_KEY=(b-(ukrs0hlqilo&ihv_)0ye9kz82u4c3s%b8*0_-c%^(a^7$)
20

```

Fig. 2.7 local.env file.

Enter the database settings

```
DATABASE_URL=mysql://itcsuvoting:wU58116@tVA6@itcsuvoting.mysql.pythonanywhere-services.com  
/itcsuvoting$default
```

Go back to the Bash console on the Console tab.

```
$ python manage.py migrate  
$ python manage.py createsuperuser  
Email address: test@test.com  
Name: test user  
Password: *****  
Password (again): *****  
Superuser created successfully.
```

Setup static files

```
$ python2.7 manage.py collectstatic
```

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

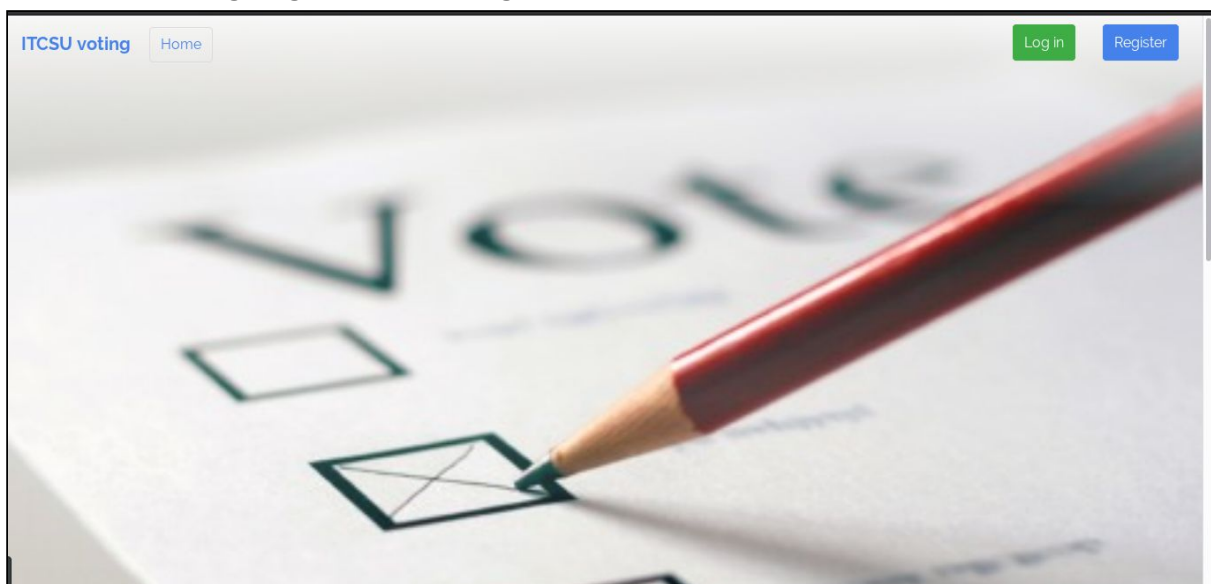


Fig. 3.1 Landing page

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.

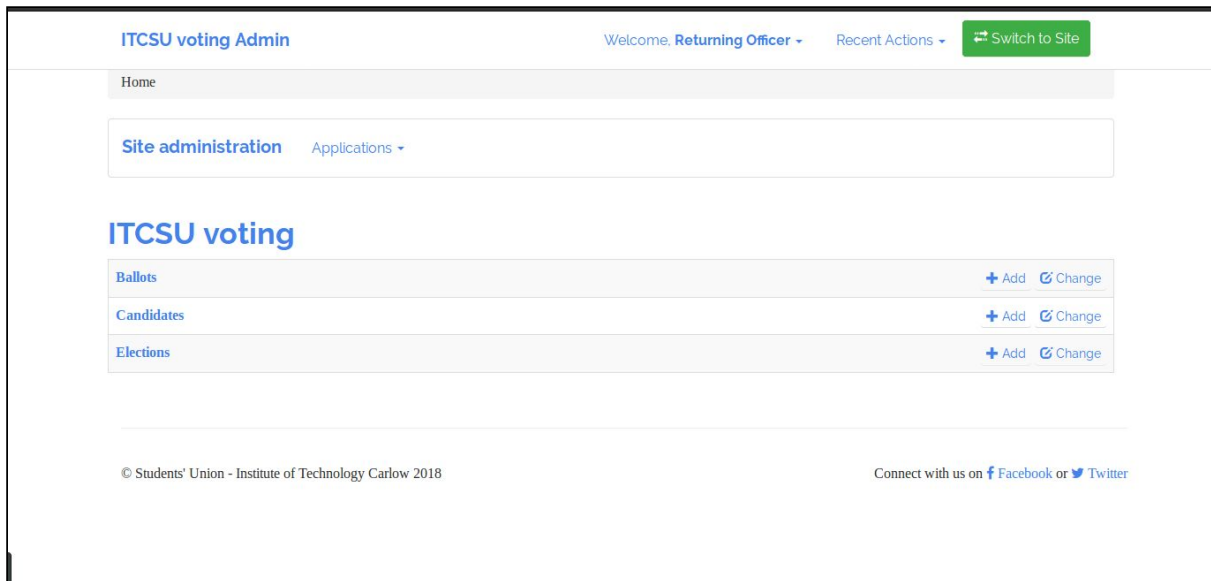


Fig. 3.6 Election administration page

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”.

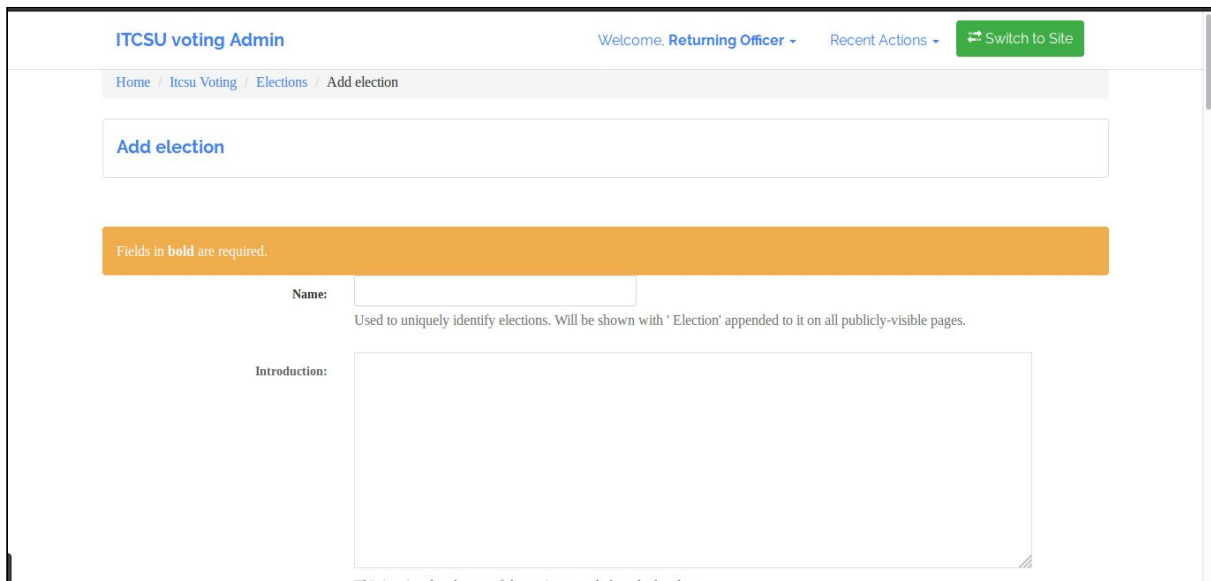


Fig. 3.7 Add election page

3.1.3 Create ballot

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

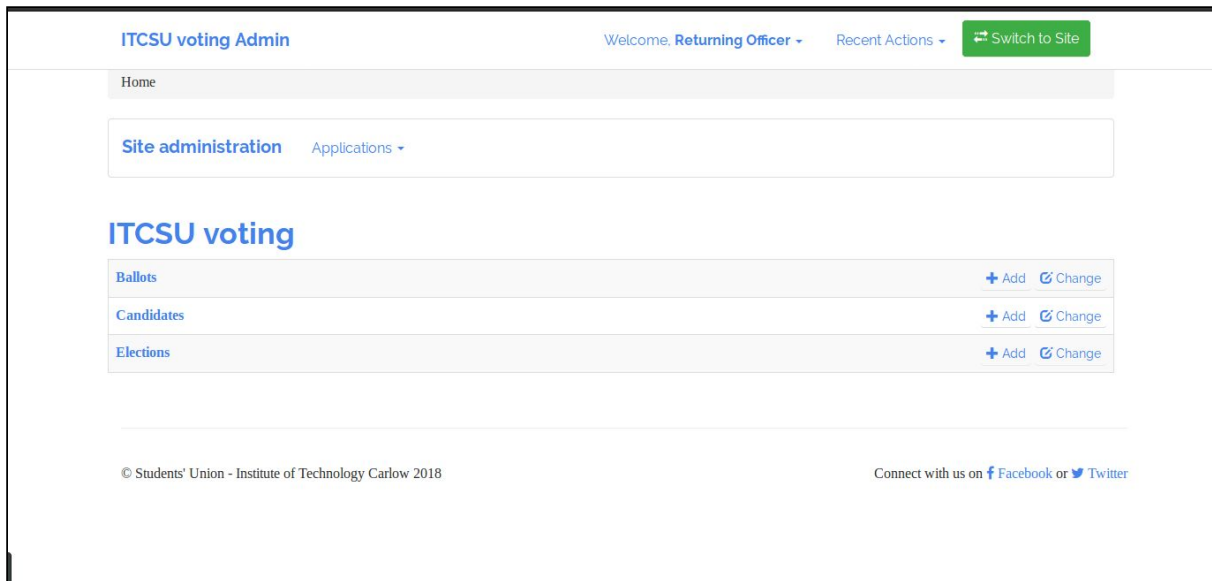


Fig. 3.8 Election administration page

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”.

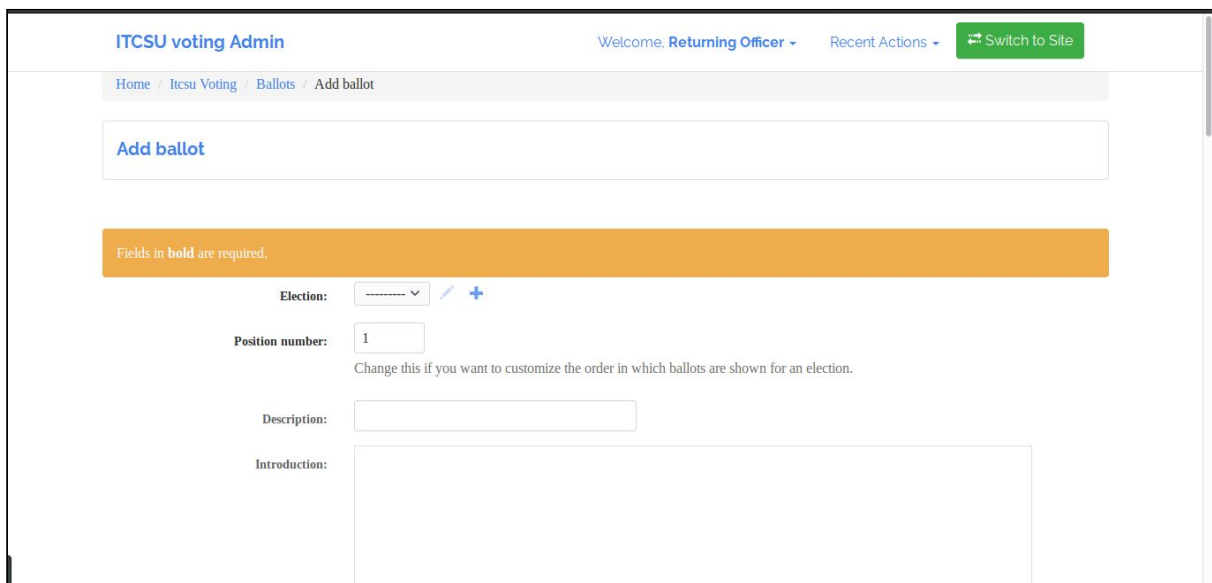


Fig. 3.9 Add ballot page

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.

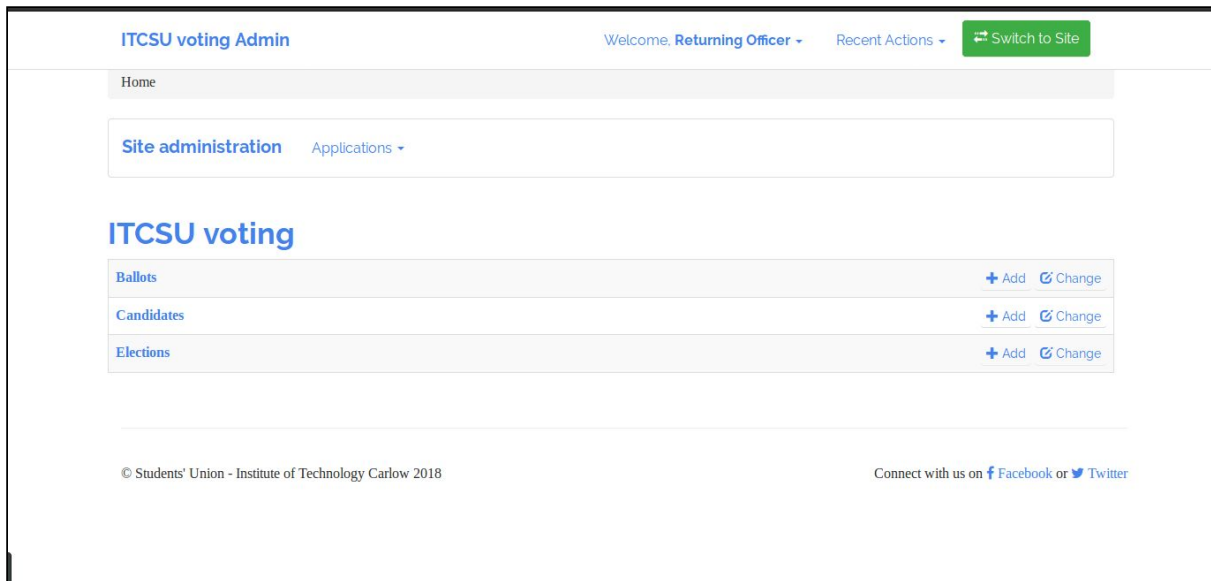


Fig. 3.10 Election administration page

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”.

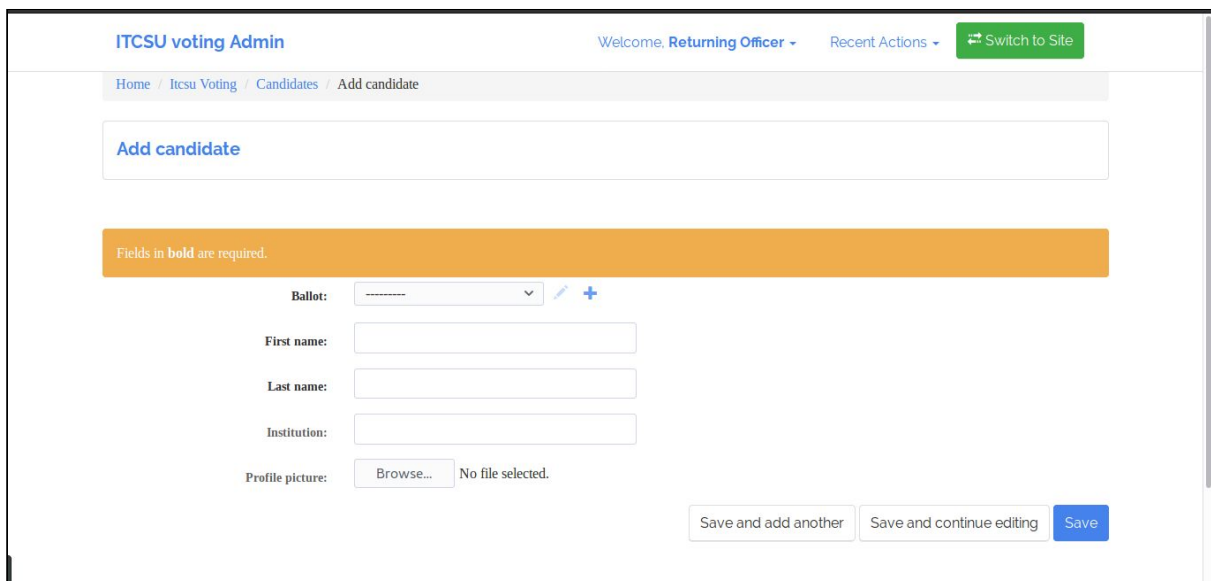


Fig. 3.11 Add candidate page

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.

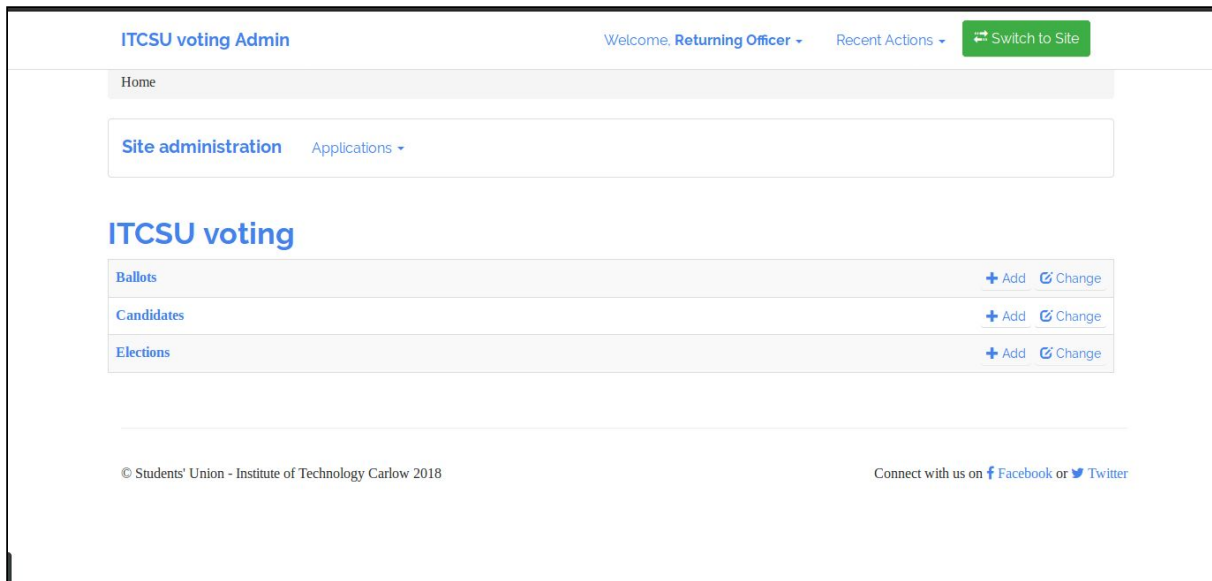


Fig. 3.12 Election administration page

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)

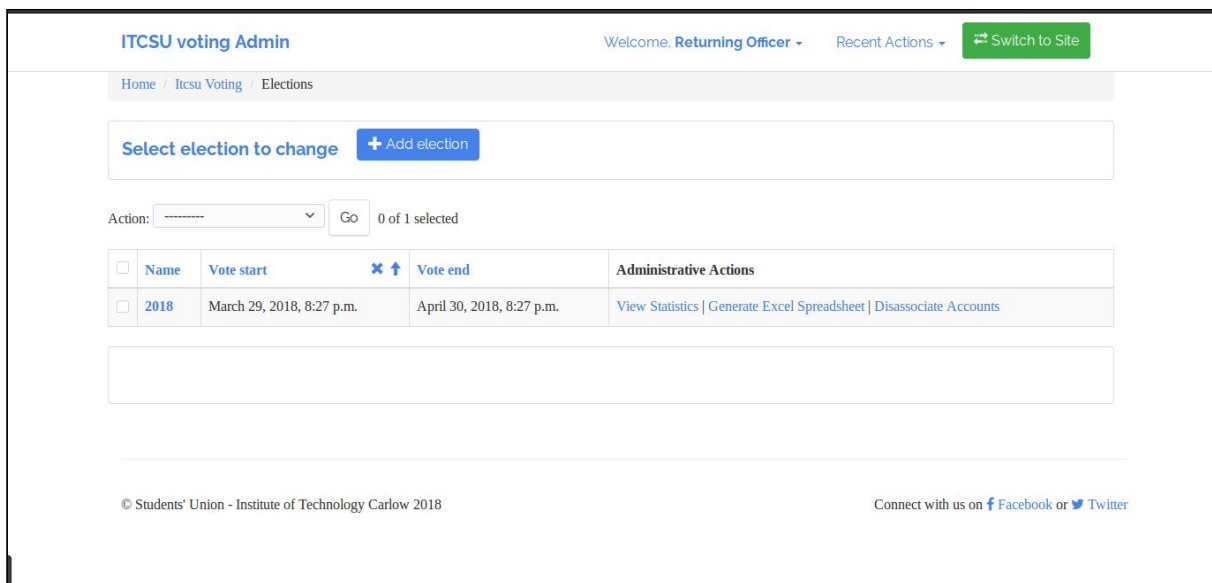


Fig. 3.13 Election page

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.

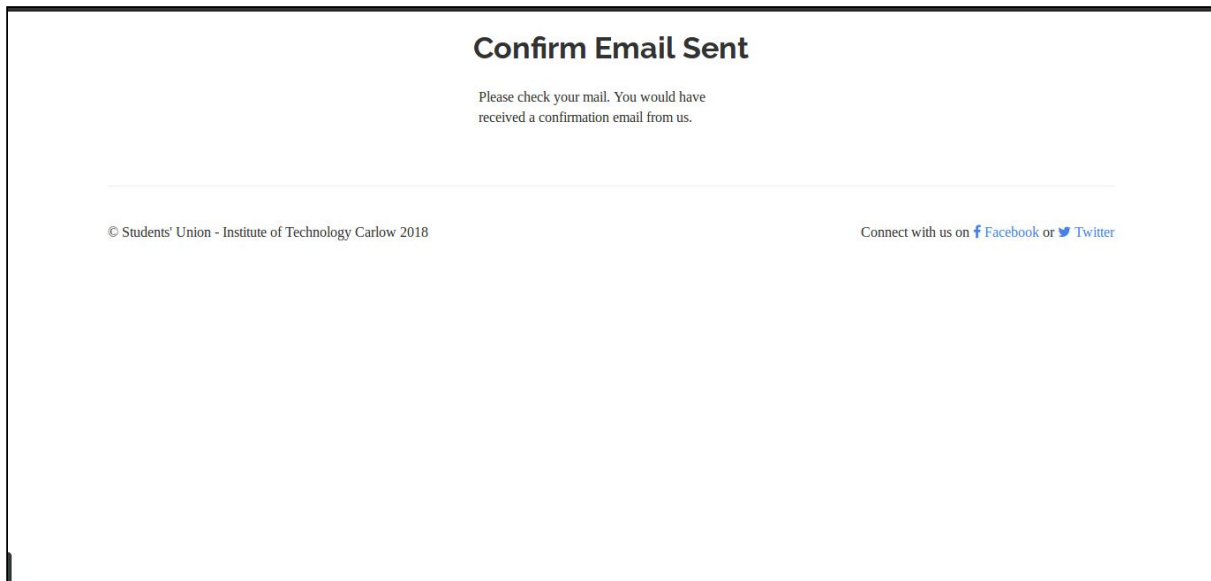


Fig. 3.16 Confirmation email sent page

A confirmation email will be sent to the voter.

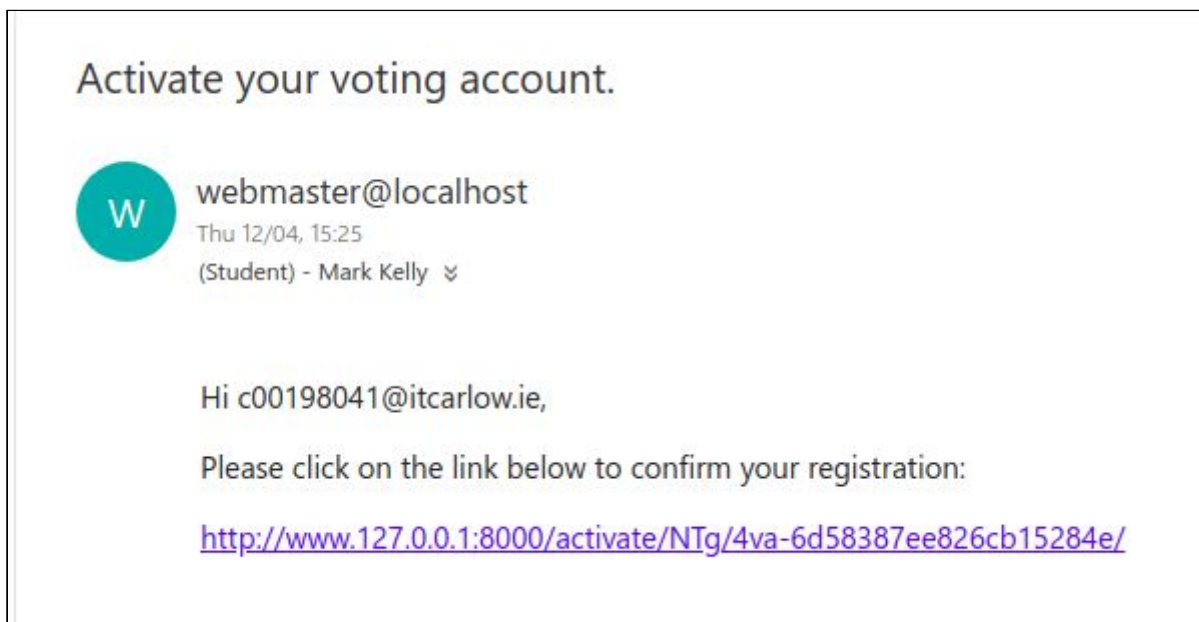


Fig. 3.17 Confirmation email

Following the link confirms your email address.



Fig. 3.18 Email confirmed

Links are one time use only.

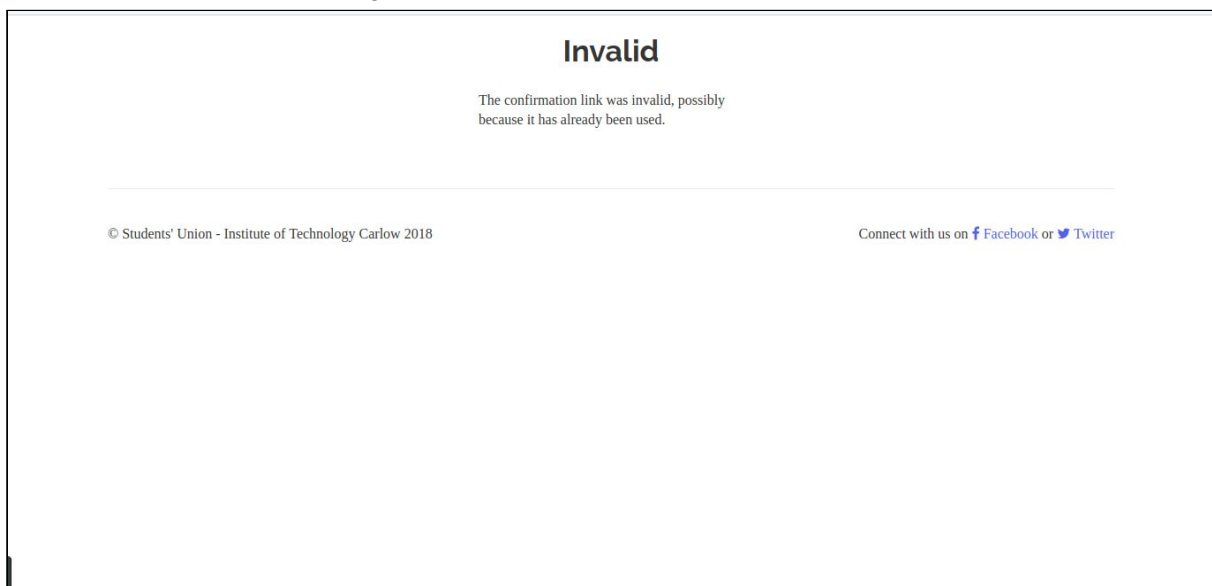


Fig. 3.19 Invalid token page

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.

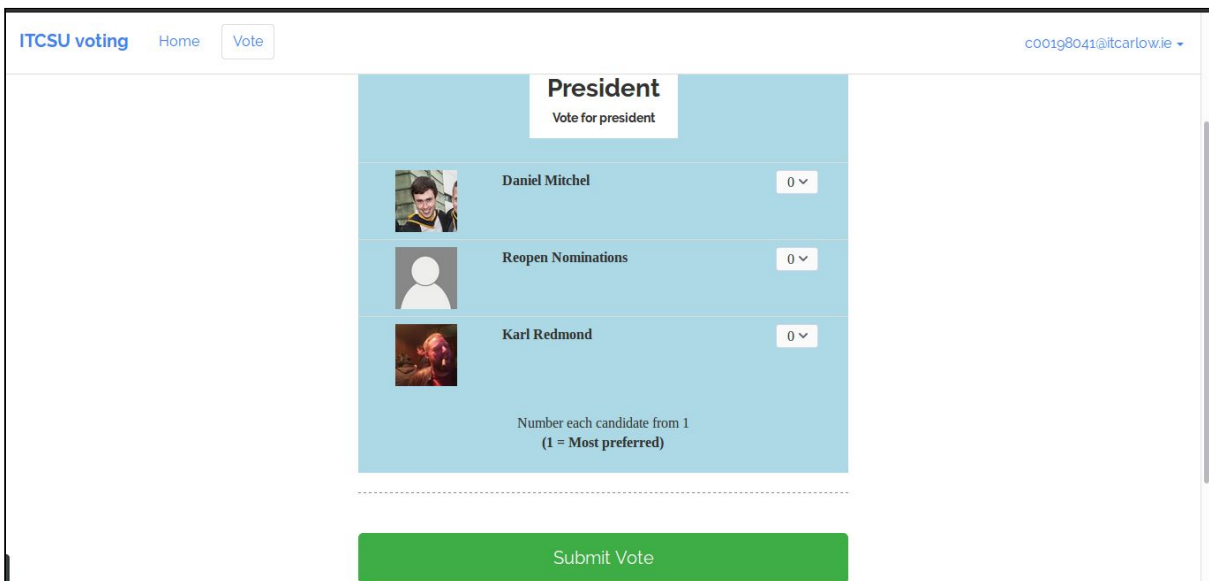


Fig. 3.21 Voting page

The voter confirms their choices.

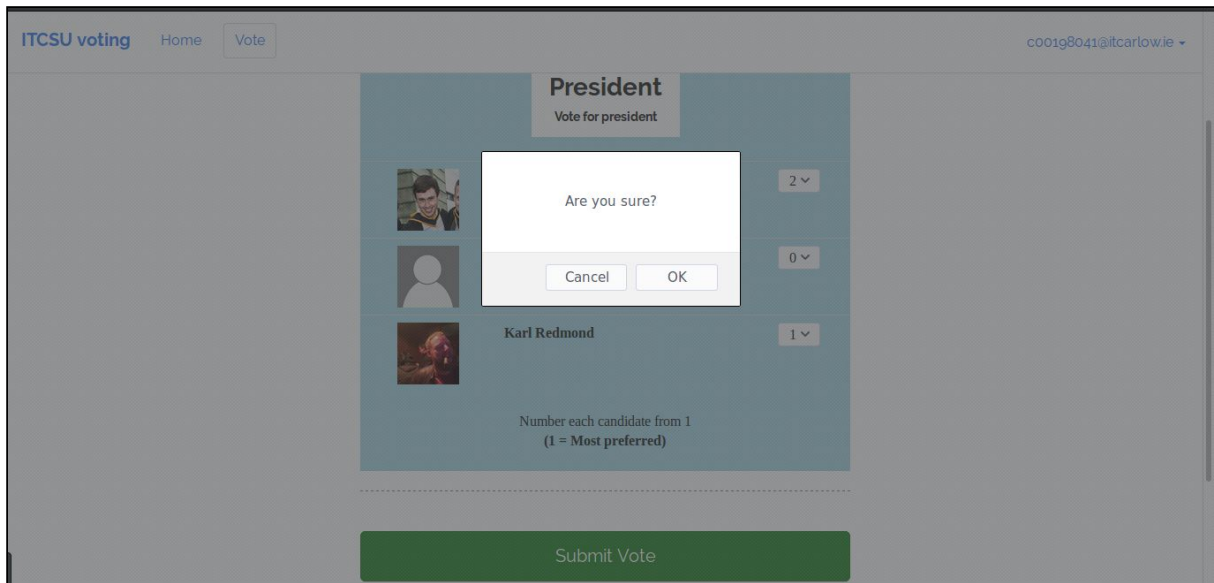


Fig. 3.22 Confirm choices

The votes have now been placed.



Fig. 3.23 Voting complete