

CSC3003S Capstone Project

USER MANUAL

Project Abbreviation and Name: PneumoVis – Curating and Visualizing Data on Pneumococcal Infection

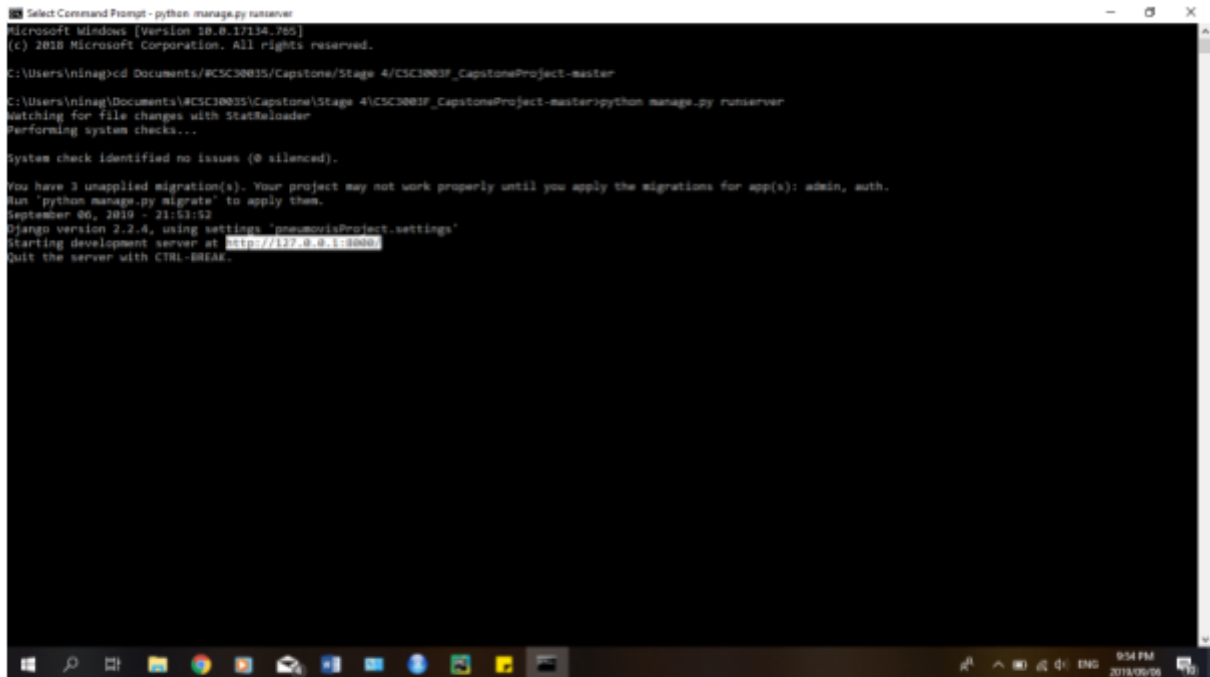
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OPEN WEB APPLICATION:

1. To open the “Pneumoniae Bacteria Visualization” Web Application, open the command prompt (for Windows)/Terminal (for Mac)/Command line (for Linux).
2. Use the `cd` command to go to the directory which contains “manage.py” (in the screenshot below the path is `Documents/#CSC3003S/Capstone/Stage 4/CSC3003F_CapstoneProject-master`) and type the following command: `python manage.py runserver`
3. Once the command has been run, copy and paste the URL provided, which has been highlighted in the screenshot below, (<http://127.0.0.1:8000/>) into the web browser (see Figure 1).



```
Select Command Prompt - python manage.py runserver
Microsoft Windows [Version 10.0.17134.765]
(c) 2018 Microsoft Corporation. All rights reserved.

C:\Users\ninag\Documents\#CSC3003S\Capstone\Stage 4\CSC3003F_CapstoneProject-master

C:\Users\ninag\Documents\#CSC3003S\Capstone\Stage 4\CSC3003F_CapstoneProject-master>python manage.py runserver
Watching for file changes with StatReloader
Performing system checks...

System check identified no issues (0 silenced).

You have 3 unapplied migration(s). Your project may not work properly until you apply the migrations for app(s): admin, auth.
Run 'python manage.py migrate' to apply them.
September 06, 2019 - 21:53:52
Django version 2.2.4, using settings 'pneumovisProject.settings'
Starting development server at http://127.0.0.1:8000/
Quit the server with CTRL-BREAK.
```

Figure 1: Commands to type into the Command Prompt to open the Web Application

HOME PAGE:

1. At the top of every page, there is a navigation bar. This contains the name of the Web Application, “Pneumoniae Bacteria Visualization”, and links to the “Home”, “Add Data”, “Data Card” and “About” pages (See Figure 2).

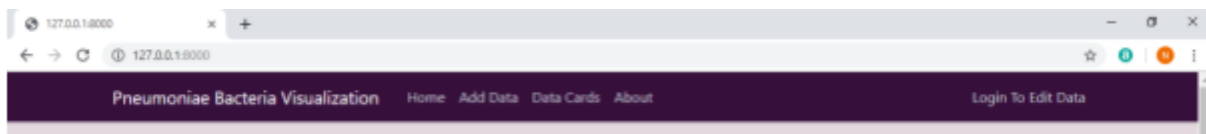


Figure 2: The navigation bar which is present at the top of all pages

2. You will first be taken to the Home Page. This page contains the Overview Graph, Summary Statistics and other useful graphs.
3. The Overview Graph contains a list of the serotypes in the x-axis and the number of incidences in the y-axis. A legend is provided at the top right-hand corner of the graph.

- Below the Overview Graph, are some summary statistics giving the number of swabs which are male, female, HIV exposed, vaccinated, come from Gugulethu, and come from Mandalay.
- At the bottom of the Home Page, other useful graphs can be found. Legends are also provided at the top of each graph.
- All graphs have three buttons at the bottom left-hand corner which help to navigate and understand the graphs better (See icons circled in red in Figure 3). The first button (a house icon) allows you to return the graph to its original state, the second button (an intersecting vertical and horizontal lines with arrow heads) allows you to drag and move the graph around and the third button (a magnifying glass) allows you to select an area of the graph which gets zoomed in.

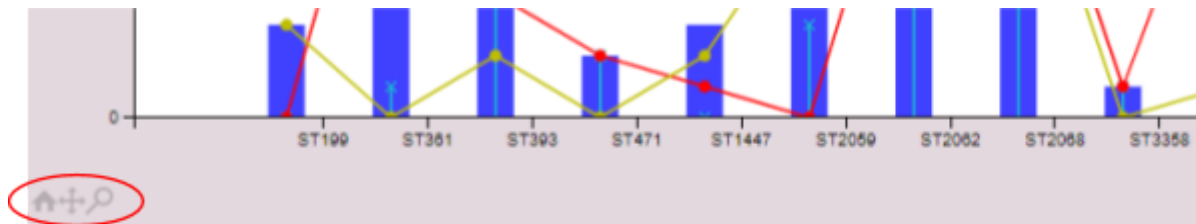


Figure 3: The graph navigational buttons visible at the bottom of every graph

ADD DATA PAGE:

- If you would like to add data to the database, click on the “Add Data” button in the navigation bar at the top of the screen (see Figure 4).

ParticipantID	npa_a4_growth	dateCollected	presence	dob	sex	hivExposed	site	serotype	vaccine	sequence
PT1	Growth	28-05-13	Yes	05-06-12	Male	No	Gugulethu	13	NVT	5647
PT1	Growth	24-01-13		05-06-12	Male	No	Gugulethu			

Figure 4: The “Add Data” page

- Ensure that the file you wish to upload is a CSV file with the data in the correct column heading format shown in the image provided on the “Add Data” page.
- Click on the “Choose File” button to select the file you wish to upload from your desktop.

- If the file you try to upload is not in a CSV format, the following notification will appear and the file will not be uploaded to the database (see Figure 5).

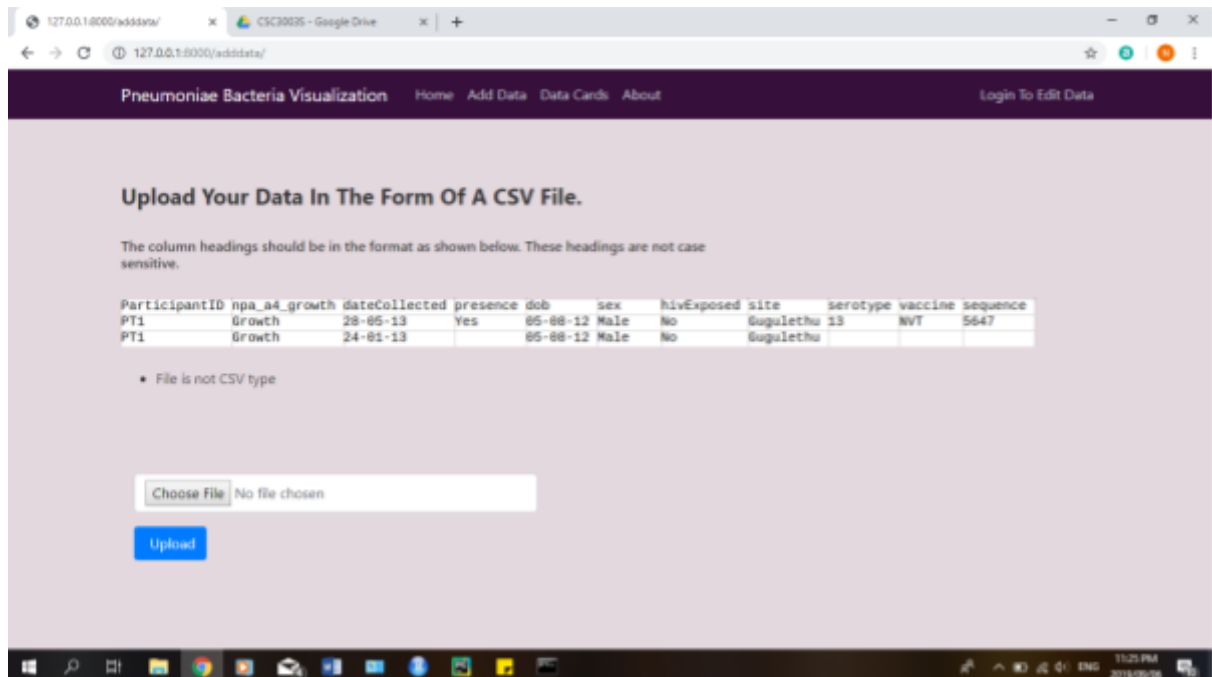


Figure 5: Screenshot showing the "File is not CSV type" notification

- If the file you wish to upload does not follow the correct column heading format, the following notification will appear and the file will not be uploaded to the database (see

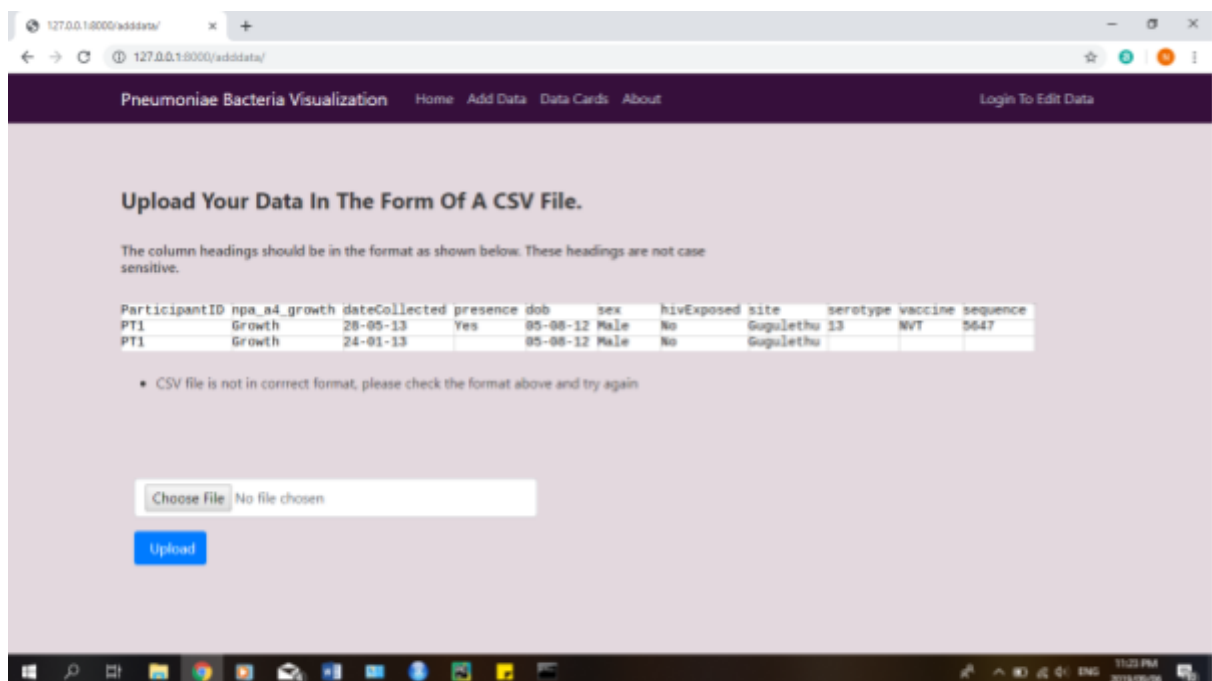


Figure 6: Screenshot showing the "CSV file is not in correct format" notification

Figure 6).

6. If the file is in the correct format, the file will be successfully uploaded and the following notification will appear (see Figure 7).

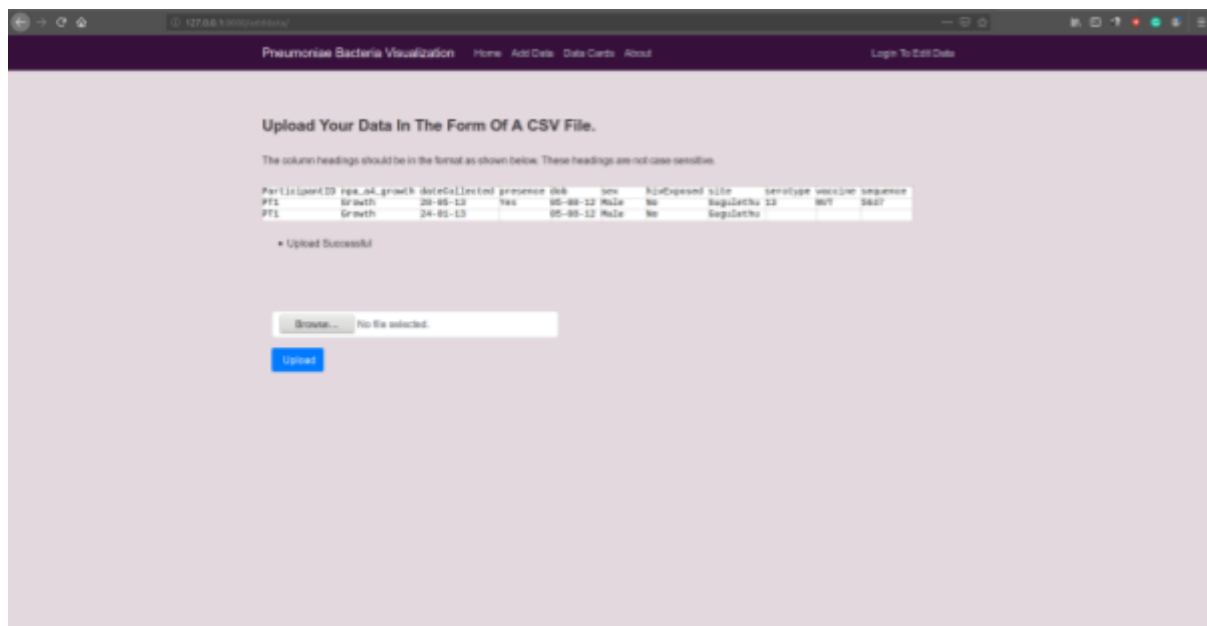


Figure 7: Screenshot of the "Upload Successful" notification

DATA CARDS PAGE:

1. Clicking on the "Data Cards" button on the navigation bar takes you to the "Data Cards" page, which contains information on the 26 Serotypes being studied (see Figure 8).

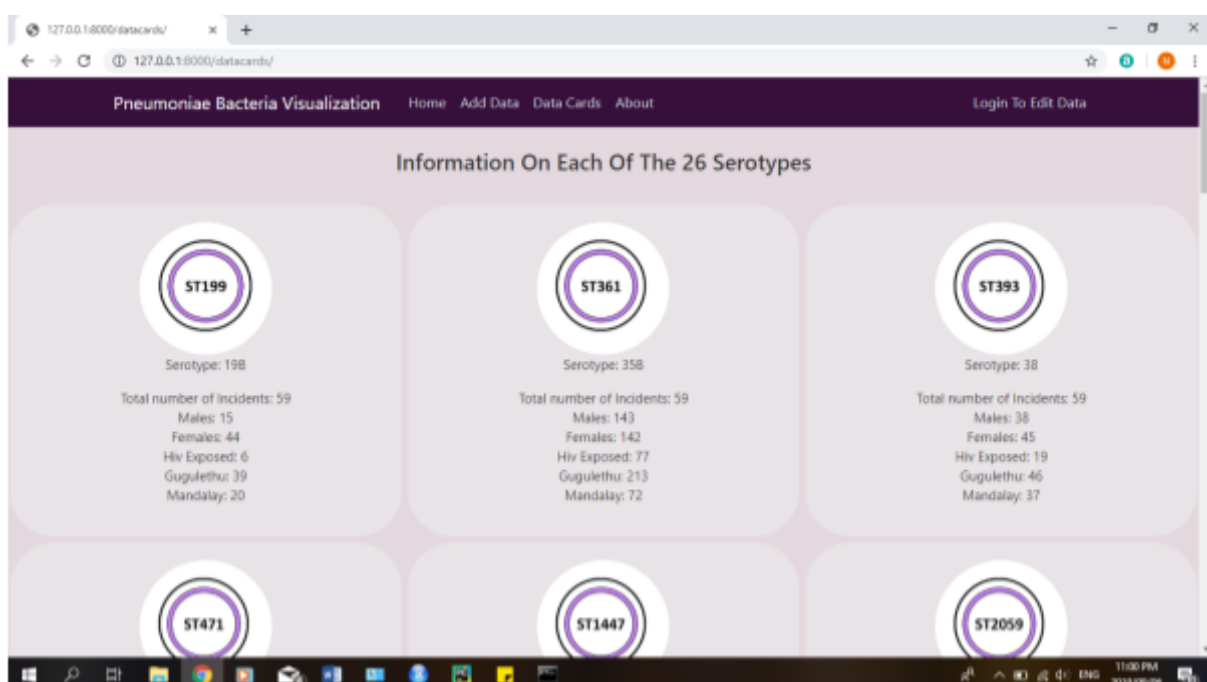


Figure 8: The "Data Cards" page

ABOUT PAGE:

1. Clicking on the “About” button on the navigation bar takes you to the “About” page. This page contains information about the research being done and the purpose of the visualization done in the web application. It also contains Dr Dube, the researchers, contact details (see Figure 9).

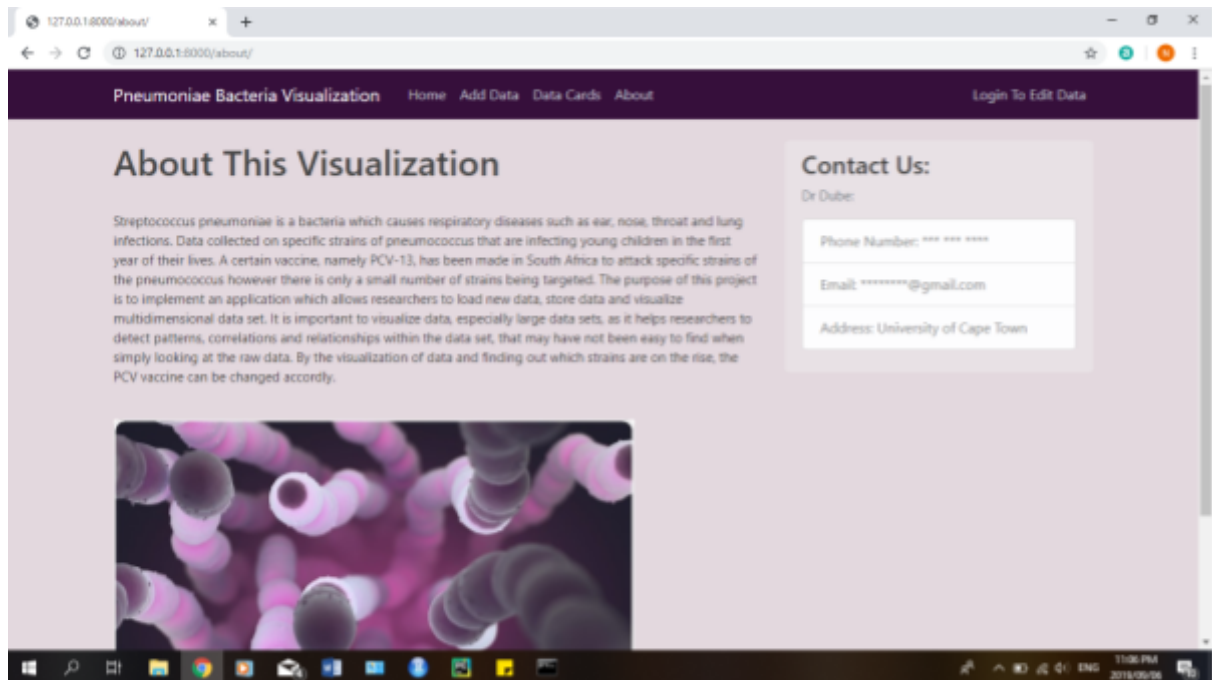


Figure 9: The “About” page

EDIT DATA:

1. If you want to edit the data in the database, you will need to click the “Login to Edit Data” button found at the far right of the navigation bar.
2. Once you have clicked the button, you will be taken to a login page. Enter the appropriate username and password (“pneumovis” is both the username and password) and click the “Log in” button (see Figure 10).

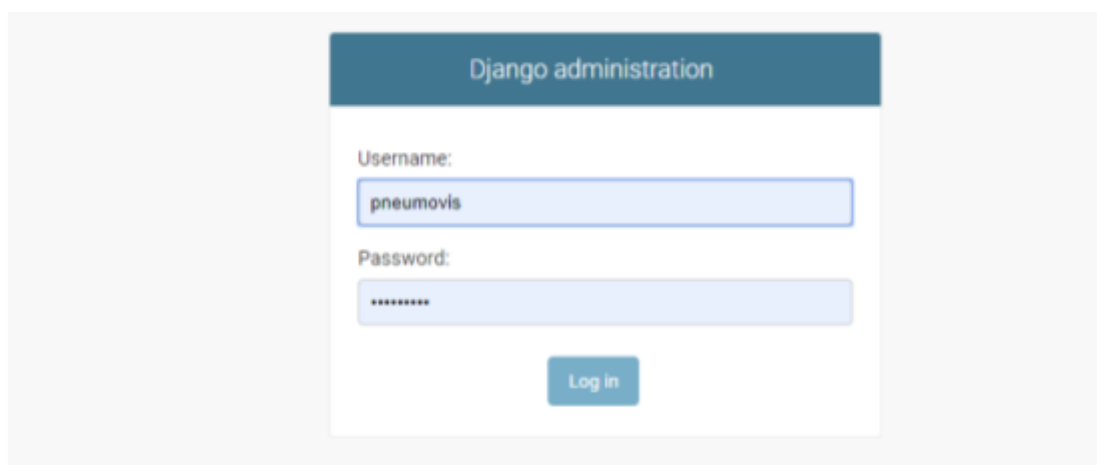


Figure 10: The “Login” page that appears before you can edit the research data.

- [illegible]

Figure 11: The “Site Administration” page.

-
- Select incident to change | Django
- 127.0.0.1:8000/admin/pneumovis/incident/
- # Django administration
- WELCOME, PNEUMOVIS. [VIEW SITE](#) / [CHANGE PASSWORD](#) / [LOG OUT](#)
- Home > Pneumovis > Incidents
- ## Select incident to change
- ADD INCIDENT +
- Action: **Delete selected incidents** Go 2 of 100 selected
- | INCIDENT |
|--|
| <input checked="" type="checkbox"/> PT84 |
| <input type="checkbox"/> PT84 |
| <input type="checkbox"/> PT84 |
| <input type="checkbox"/> PT84 |
| <input type="checkbox"/> PT84 |
| <input checked="" type="checkbox"/> PT84 |
| <input type="checkbox"/> PT84 |
| <input type="checkbox"/> PT84 |
| <input type="checkbox"/> PT84 |
| <input type="checkbox"/> PT84 |
| <input type="checkbox"/> PT83 |
- Windows taskbar: 9:40 PM 10/10/2019

Figure 12-6 Selecting the incidents to delete

- b. If you wish to change data for an incident. Simply click on the desired incident, edit the data and click the relevant “save” button (see Figure 13).

The screenshot shows a web browser window with the URL `127.0.0.1:8000/admin/pneumovis/incident/99177/change/`. The page is titled "Django administration" and "Change incident". It contains a form with the following fields: ParticipantID (PT04), Age at growth (8week), DateCollected (8/3/2012), Presence (empty), Date (1/28/2013), Sex (Female), HIVExposed (Yes), Site (Gugulethu), Serotype (empty), Vaccine (empty), and Sequence (empty). At the bottom, there are three buttons: "Delete" (red), "Save and add another" (blue), and "Save and continue editing" (blue). The Windows taskbar is visible at the bottom of the browser window.

Figure 13: Viewing and/or editing a selected incident's details

5. If you want to add an incident to the database, select the “Add” button next to the “Incidents” label. Input all the necessary data, then click the relevant “save” button (see Figure 14).

The screenshot shows a web browser window with the URL `127.0.0.1:8000/admin/pneumovis/incident/add/`. The page is titled "Django administration" and "Add incident". It contains a form with the following fields: ParticipantID (empty), Age at growth (empty), DateCollected (empty), Presence (empty), Date (empty), Sex (empty), HIVExposed (empty), Site (empty), Serotype (empty), Vaccine (empty), and Sequence (empty). At the bottom, there are two buttons: "Save and add another" (blue) and "Save and continue editing" (blue). The Windows taskbar is visible at the bottom of the browser window.