COSC 480 Project

"TrekkPedia"

"Gathering, Sharing and enjoying the trekking courses"

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1. Introduction

1) Overview

many people enjoy trail trekking when they have time to relax. Arguably, most of trekkers want to know where a proper trekking course is because trekkers do not want to go to same trekking courses again. Even though, to gather information which has subjective opinion by themselves regarding trekking courses is tough work. For this reason, "TrekkPedia" (http://localhost/index.py)was developed and is being serviced for participating with enthusiastic trekkers. This web software is being provided mainly four functions, it will be introduced in the next chapter for manipulating the "TrekkPedia" website. However, the following procedure should be considered by users to operate this program.

2) Install process

This 'TrekkPedia' program has been developed for web page showing.
First of all, entire files to operate 'TrekkPedia' can be downloaded on the Github page (https://github.com/nezca/joohyunahn_cosc480).
Detail way of download for that, It will be introduced the below procedure.
Joo-Hyun Ahn had developed this program in the Local server environment by using Apache web server. When Ahn's server computer is turn on, public user can access certain URL. Unfortunately, that is nearly impossible because this is not a commercial service using 24 hours on. So, to operate this program properly on the user's Local computer, users should follow the below procedure. To install Apache web server on our own computer directly is little bit hard work. However, a few of services can help us such as 'Bitnami Wamp Stack', 'Wamp server' and 'Apache Lounge'. In the below process is going to be followed 'Bitnami Wamp Stack'.

a) Downloading entire 'TekkPedia' files
   i. Go to Github (https://github.com/nezca/joohyunahn_cosc480)
   ii. Click the green box 'Clone or download' to download

b) Setting a web server environment
   i.   Go to download 'Bitnami WAMP Stack' (https://bitnami.com/stack/wamp/installer)
   ii. Do download appropriate version of install file depend on user's OS.
   iii. After download, in the download folder 'bitnami-wampstack installer' file will be exist. Just double click it, user will notice 'installation folder alert box' to set a folder (Tip, remember the path). Then, to enter password for MySQL, it does not need this program but maybe next time user will use it, so remember it and click next.
   iv. If the 'Window Security Alert' box might be floated, then user have to tick 'Allow access'. When 'Completing the 'Bitnami WAMP Stack Setup Wizard' box is pop-up, just tick on the small square box left side of 'Launch Bitnami WAMP Stack'.
   v.   'Bitnami manager' program will appear on the window, now install has been done. It means that user can control web server.

| vi. | User is going to be able to find 'Manage Servers' among 3 tabs on the above the control box, just click it to move on it. In the white box of 'Manage Servers', there are two servers such as 'MySQL Database' and 'Apache Web Server'. |
| vii. | User can Start or Stop by using control button on the right side of box. Now user must click the Start button for 'Apache Web Server' to operate 'TrekkPedia' on the web page. |

3) Access to public "TrekkPedia" web page

a) "Open network & Internet settings" which is located on the bottom of right side within taskbar. Click by right button of the mouse to 'network and internet setting'.

b) Find "Network and Sharing Center", then click t. In the "View your active networks", user will find "Ethernet" link which can be clicked. In the "Ethernet Status" box, users can find their IPv4 address.

c) It will be "TrekkPedia" web page with /index.py after IP address. (i.e. 132.01.01.142/index.py)

4) To manipulate program files

a) Find the 'htdocs' folder which is located in 'Apache' folder, probably users have forgot path we had mentioned that it should be remembered on the above introduction chapter. If then use the "Search Window" function.

b) There are "TrekkPedia" files. User might can manipulate by using some IDE such as Pycharm, Wing or Atom ETC...

c) When user manipulates some code in the files and store it. Immediately it will be reflect to the real web page. Because there is no staging server at all, I am sorry, so please be careful.

2. User Interface and functions *(Just follow the check sign from top to bottom)*

1) Main page: Interface

If you can see web page as the below example picture, users have got success to access to the "TrekkPedia" web page. This web page is not very complicated, just read sentences and follow your intend to do next step. Simple explanation would be the following.

a) Go to main page
b) The number of the trekking courses in DB
c) An area for chosen trekking course information
d) To create a new trekking course information by user
e) An area for choose able trekking course lists
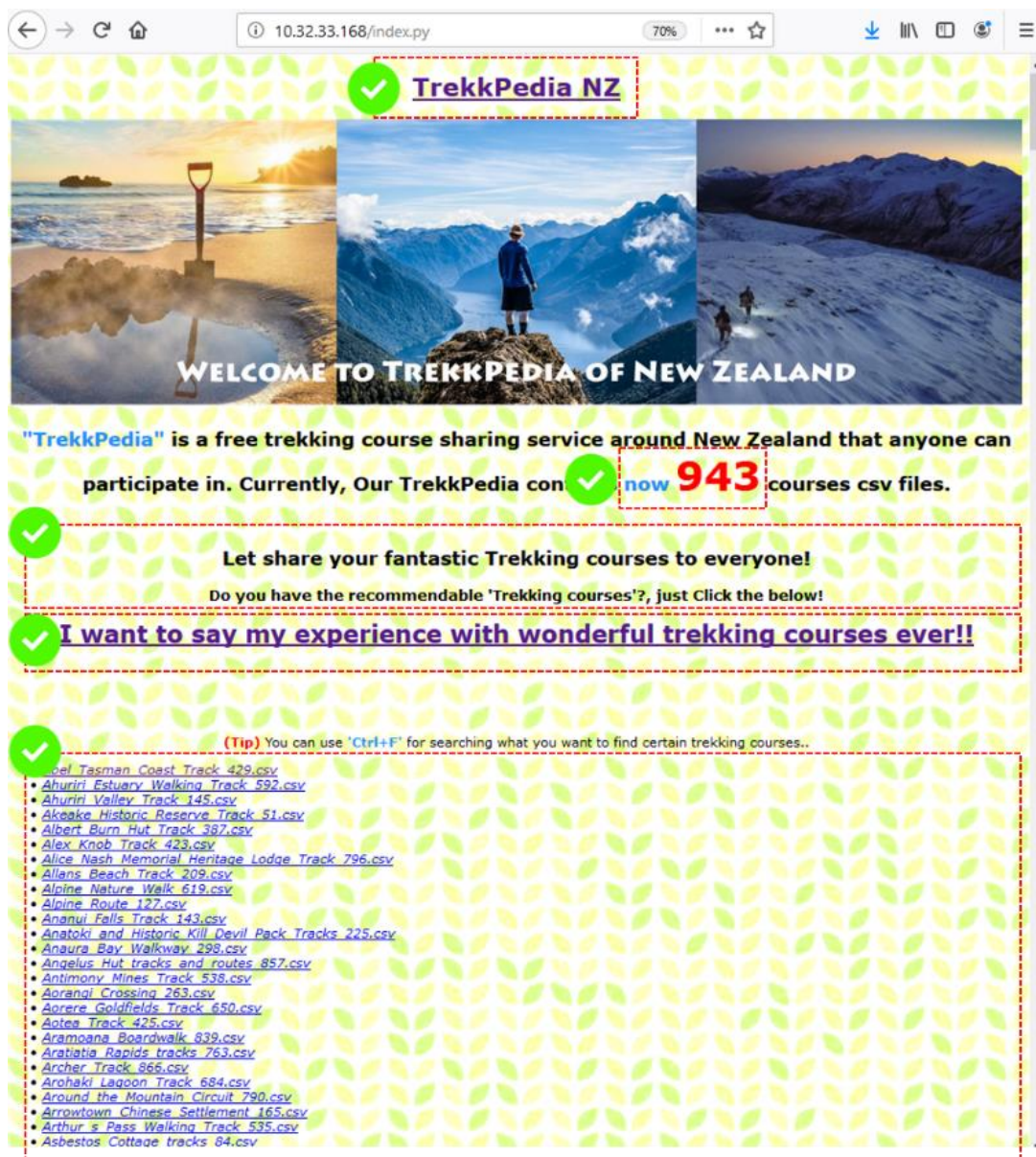
2) Create page: main function

Overall, Create page will give an opportunity that users can access data base to create brand new trekking courses or something has changed the previous trekking courses.
However, to access database directly means that users should have to consider what user want to publish to everyone.

a) In the main page, when user clicked "I want to say my experience with wonderful trekking courses ever!!" User will notice the below page to enter some information regarding the trekking courses.

b) Users can write a name and description of the trekking course what users want.

c) Then click the submit query button to store. It will be stored in the TrekkPedia DB and show to every users immediately.

3) Update page: main function

Overall, Update page will give an opportunity that users can access data base which are already written trekking courses to manipulate.

However, to access database directly means that users should have to consider what user want to publish to everyone.

a) If any users have doubt regarding the written information, user can revise the information.

b) At the moment, user can use previous name of the trekking course or rename it. (Tips) most of name will show '.csv', when user rename it, please erase '.csv'.

c) Of course, in the description box contents also can be changed by users.

d) Then click the submit query button to store. It will be updated in the TrekkPedia DB and show to every users immediately.

4) Delete page: main function

Overall, Delete page will give an opportunity that users can access data base to remove the previous trekking courses. However, delete trekking courses by accessing database directly. This function is the most critical function to every users and administrators. "TrekkPedia" is a free trekking course sharing service with enthusiastic and devoted trekkers. We believe all of Trekkers to maintain this service.

a) Rarely, the trekking courses might be disappeared. In the case of this situation, unnoticed trekkers are going to be disappointed and will spent lots of money and time. To prevent this happen, "Trekkpedia" provides a delete function.

b) In the chosen trekking course page, user can find a button as "This trekking course has to be deleted because it does not exist anymore!!" and can click it to delete. However, usually, Delete function is very sensitive to maintain data. Hence, when users are considering click the delete button please be careful. If users clicked it, the alert box will be appeared.
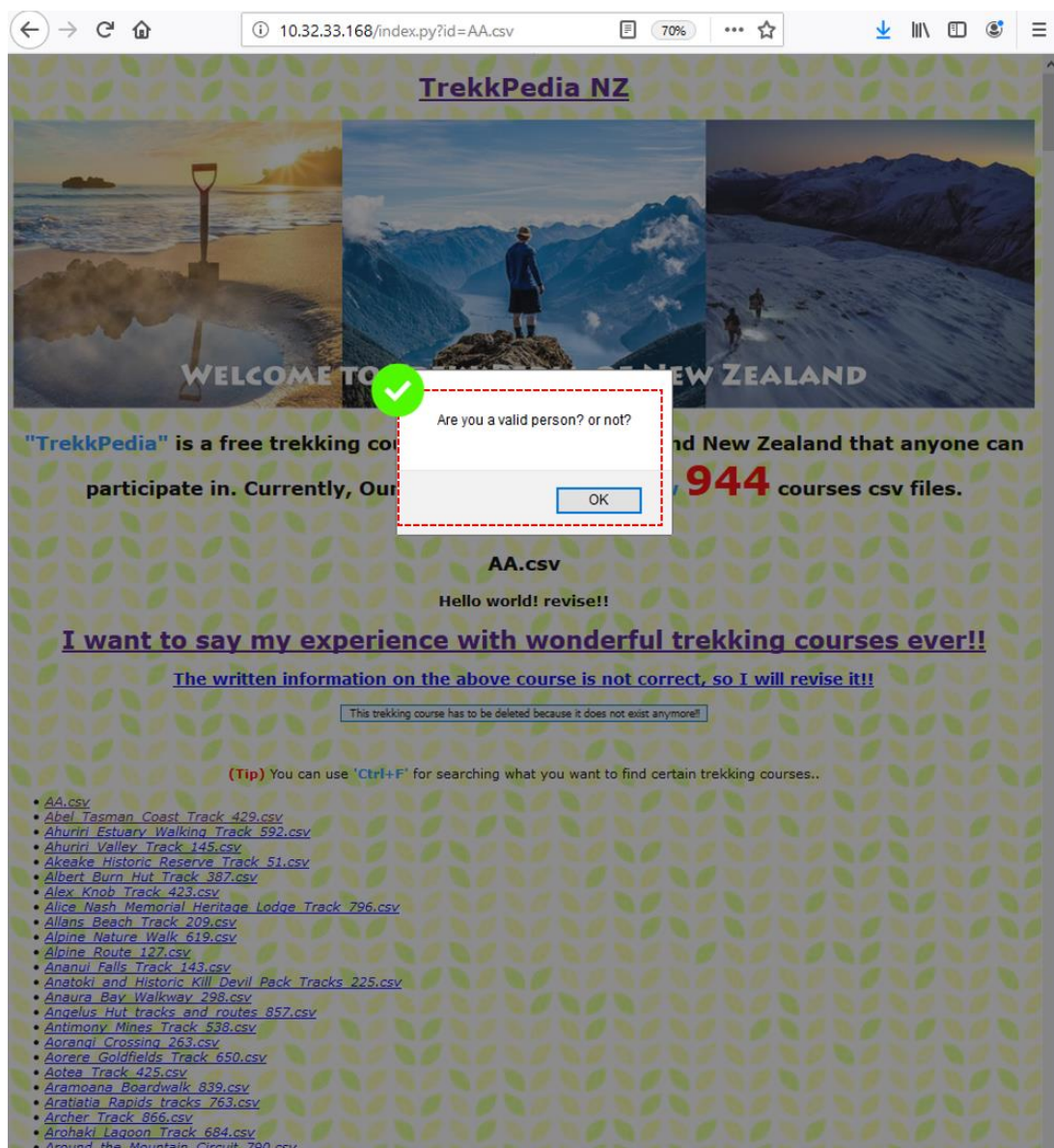
3. Configuration

1) Program components Hierarchy

Folder	Files	Purpose	Status
.ipynb_checkpoints	3 trekking courses files	To check original	N
__pycashe__	Pandas library	To manipulate csv files n Python	N
Data	943 trekking courses	To serve a trekking courses data	Y
Data_backup	Data Backup folder	Alternative data	N
Data_original	2 trekking courses fles	To check original data from NZ	N
Images	5 image data	To show on the web page	Y
14 unfoldered files	7 core Python files & ETC	To provide info on web by Python	Y

2) Program general environment

Date and Location	15/10/2019	University Canterbury	
Copyright	Joo-Hyun Ahn	University Canterbury, MADS, COSC 480 Project	
Program dependency	Program languages	Python 3.6 64bit	
		CGI for Python 3.6	
		HTML 5	
		CSS 3	
		JavaScript	
	Network	Apache web	
		Bitnami Wamp Stack 7.3. 10-0	
	Git hub address	https://github.com/nezca/joohyunahn_cosc480	
	Data sources	DOC Walking and Tramping Experiences routes. NZ government: department of conservation	
		DOC Walking and Tramping Experiences locations NZ government: department of conservation	

4. Further information

1) Development Story

a) Intention

I had supposed to develop a trekking course recommendation program again in Python language version that I had developed a few years ago. But I felt that is just a just time consuming because it is already exist on (https://trekking-advisor.herokuapp.com/) by myself.

b) Pivoting

So I decided, I will use my time to make something new that I wanted to make instead of just deal a programming course project.

2) Issues and Solutions

a) Web server issue

I was faced lack of time to develop a fancy program I wanted, even though I want to publish on the web to show to public users. Hence I tried to deploy on free web server service such as "Heroku". But it took a lot of time to deploy my program. However I could not give up, so I changed the web server to my own local server using Apache web server service. However it has some limitation that it does not work on the web unless I turn on my server computer.

b) Coordinates to address

Trekking course data sources were given from Department of conservation New Zealand. There were two information for location of the certain trekking course entry point which are longitude and latitude. I wanted to translate the real address that people can understand where they can go. I had to use Google Map API, but I couldn't from lack of ability.

3) Future Development

I will this program be developed and combining to Trekking advisor(https://trekking-advisor.herokuapp.com/) to recommend to the trekkers beautiful trekking courses and stories that had been disappeared. Every roads are going to be linked and exciting stories will be stacked on the each roads as time goes by.