



# ***Digital Walking Group***

## **Study Project**

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# Scenario

During the times of isolation, the community of Merley North residents **aged 60+** had a **reduced opportunity to socialise with friends and family**.

Older residents are showing **signs of loneliness and social distress**.

A local community centre ran a poster campaign to encourage people to meet up, but **many older people cannot get to the meeting spots**.

Local organiser found that there is a **strong “silver surfer” community** of people who use the internet for socialising and information.

**“Digital walking group”** idea: an **online community space** for older residents to **discover what is going on** in their local area and **report their walking experiences**.

The residents can order a step counter.

The space must have a code of conduct.





## **Help older residents to:**



**Keep moving and stay active**



**Gain confidence to express themselves socially**



**Obtain digital autonomy and reduce loneliness**

# *The Users*



**Main users: 60+ years old community residents**



**"Silver surfers": familiar with technology, use tablets**



**May have accessibility & mobility requirements**



**Safety online and while walking**



# *Specifications: Important Data*

## **User:**

Username

Walker ID

Location

## **Group:**

Group name

Description

Meeting day

Meeting time

## **Platform:**

Local weather

Local news

Photo sharing

## **Step counter form:**

Name

Address

Protected data

The background of the slide features a stylized landscape illustration. At the top left, a large white sun is partially obscured by a white cloud. The sky is a light blue. In the center, a dark blue mountain with white snow patches rises. To the right of the mountain, a white house with a brown roof and red shutters sits on a green hill. A small yellow tree is next to the house. In the foreground, a blue lake reflects the sky. On the left side of the lake, there are three reeds with brown heads and green stalks. The overall style is flat and modern.

# *Minimum Viable Product*

Defined during the initial client meeting

## **Key priorities:**

Providing a way for users to socialise through groups

Providing information about walks to enable users to make appropriate choices

Creating a product with a simple design to be inclusive of all levels of digital literacy

## **Desired outputs:**

**Walking groups info**

**A list of walks with details (e.g. location, length, accessibility, etc.)**

**Easy to navigate, accessible UI**

# Process



**Defining Functional Requirements**



**User Stories & OOD**



**Website Architecture**



**Wireframing**

# Functional Requirements

Web app and user requirements defined in the following format

**Web App:**

- A. User interaction
- B. General app functionality
- C. User feedback for routes

|                        |   |      |
|------------------------|---|------|
| Id                     | Req3  | High |
| Version                | 1   |      |
| Name                   | Password check  |      |
| Description            | The app must match the correct password to username, if the password provided does not match the stored one, reject wrong password and generate error message |      |
| Users(s)               | All users   |      |
| Inputs                 | User password   |      |
| Outputs                | Redirect to member area if the password matches the user name, generate error message otherwise   |      |
| Preconditions (if any) | Username and password must correspond to a valid user profile   |      |

**User:**

- A. New Users
- B. Existing Users:
  - B-1. User login and profile
  - B-2. Finding walks

|                        |   |      |
|------------------------|---|------|
| Id                     | Req4  | High |
| Version                | 1   |      |
| Name                   | Return to the previous page   |      |
| Description            | Users should be able to return to the previous page   |      |
| Users(s)               | All users   |      |
| Inputs                 | Click of a button that redirects to the previous page   |      |
| Outputs                | Previous page is displayed  |      |
| Preconditions (if any) | The user has navigated from the original page they had opened. If the previous page is a member's page it cannot be returned to by a user who is not that logged in member. |      |



# *User Stories and Object Oriented Design*

User stories written and analysed to identify objects

As a **person** who likes to walk, I want to find **walking routes** near me so I can enjoy the outdoors and socialise with others.

**person**

**walking  
route**

# *Objects*

**User**

**Route**

**Review**

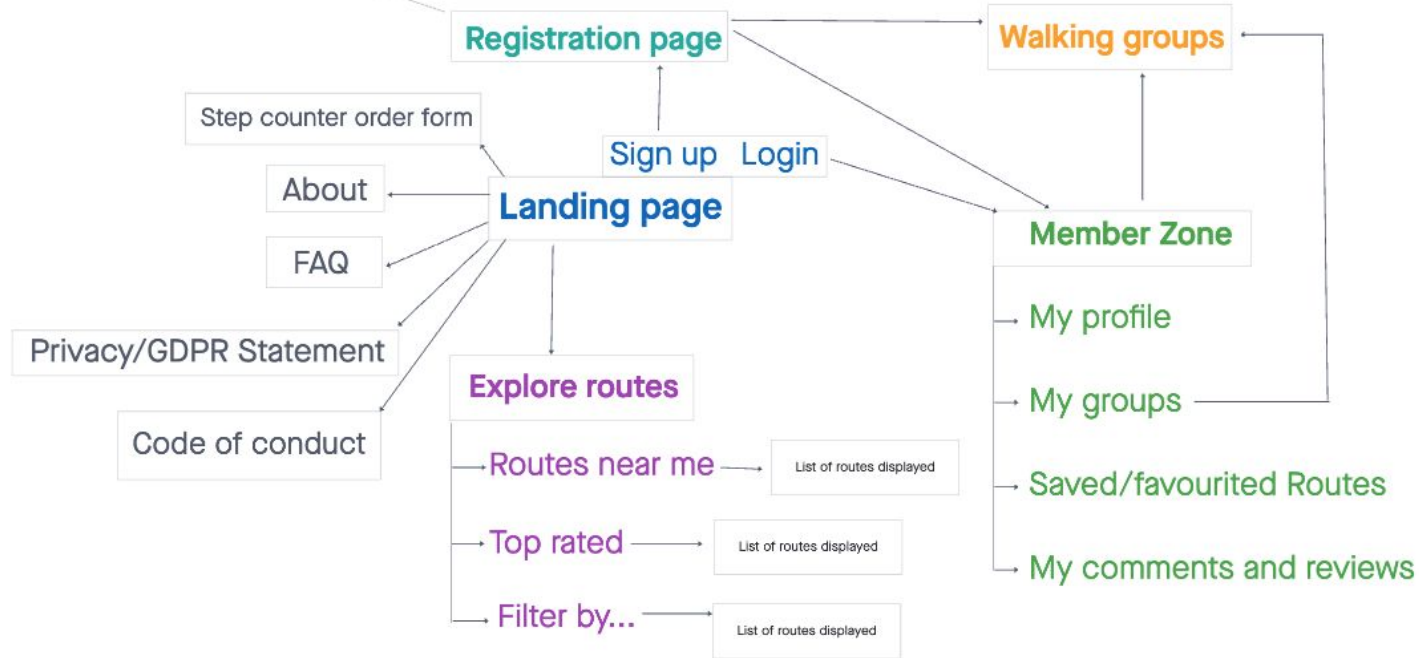
**Comment**

**Walking  
group**

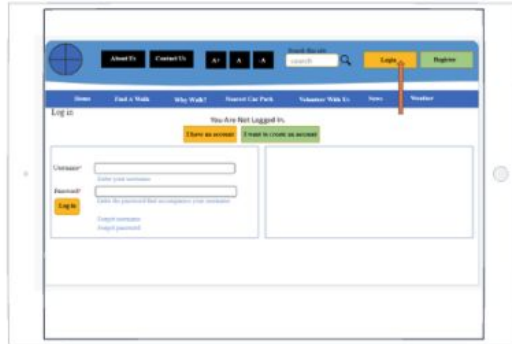
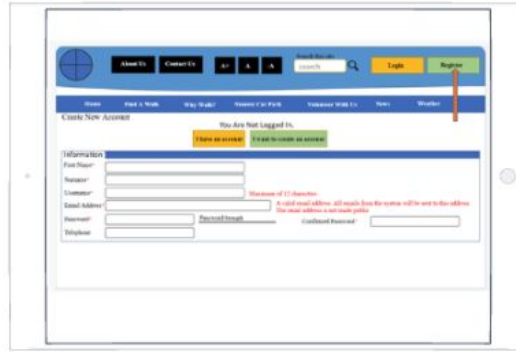


# Initial Website Architecture

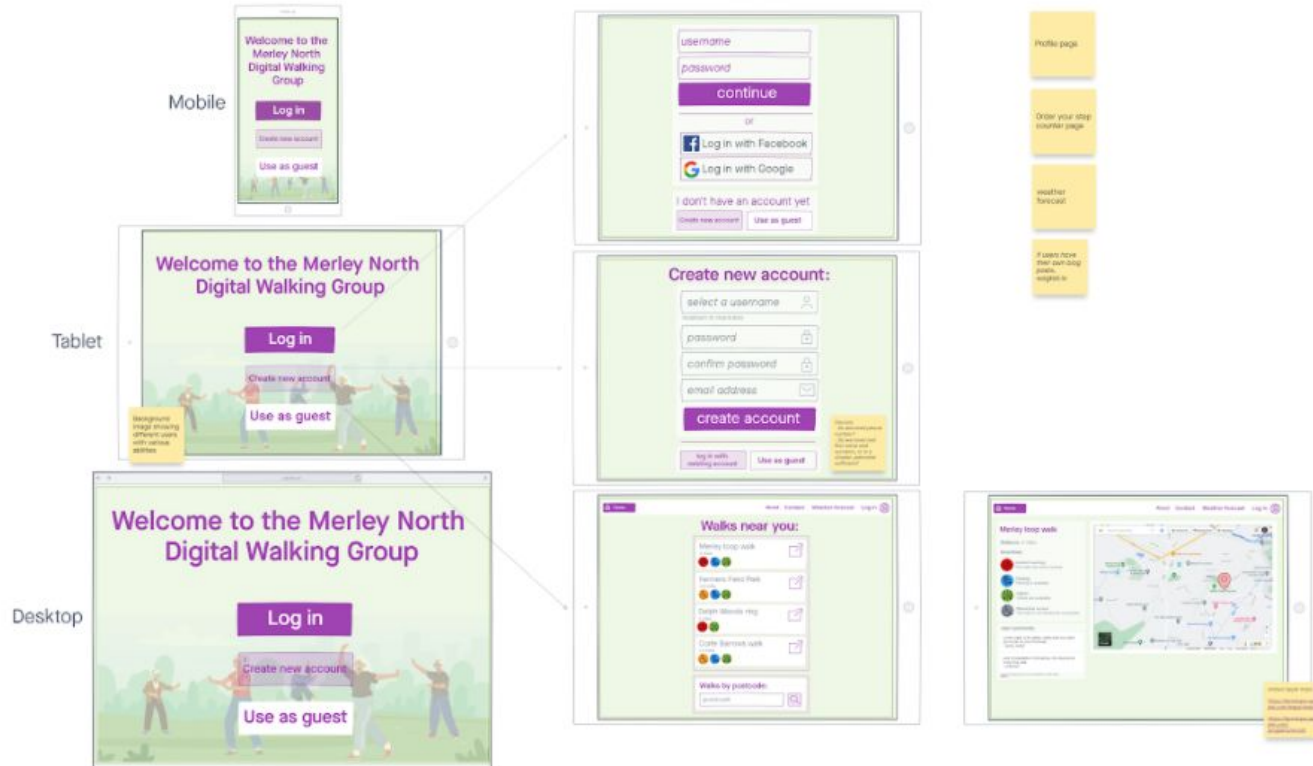
{Sends confirmation link to e-mail}



# GUI & Wireframes Version 1



# GUI & Wireframes Version 2



# GUI & Wireframes Version 3



# Website Accessibility Considerations



# *Design*



**Application Design Framework**



**Backend build**



**Frontend build**





# *Application Design Framework:* *Python Django*

## **Reasoning:**



**Existing opinionated framework:  
faster delivery**



**Front- to backend functionality**



**Integrated database creation &  
management**

# ***Other Tools Used : Backend***



**Pythonanywhere: hosting production site**



**Git & Github: version control**



**VSCode: individual workstations**



# *Other Tools Used : Frontend*



**HTML**



**CSS + Bootstrap: web element design**



**JavaScript: interactivity**



***Backend***

# *The Apps*

Based on the previously identified objects



**WALKS**



**USERS**



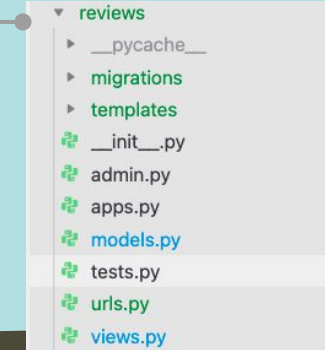
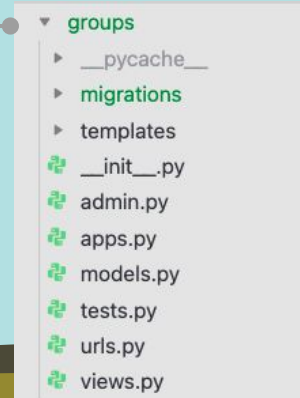
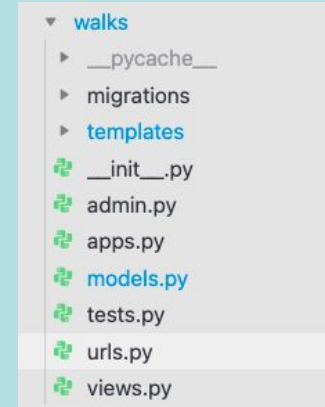
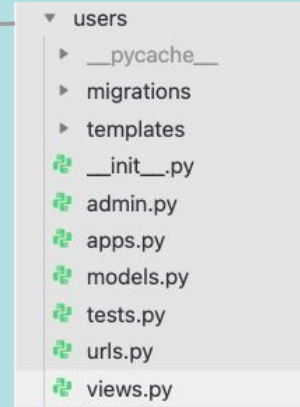
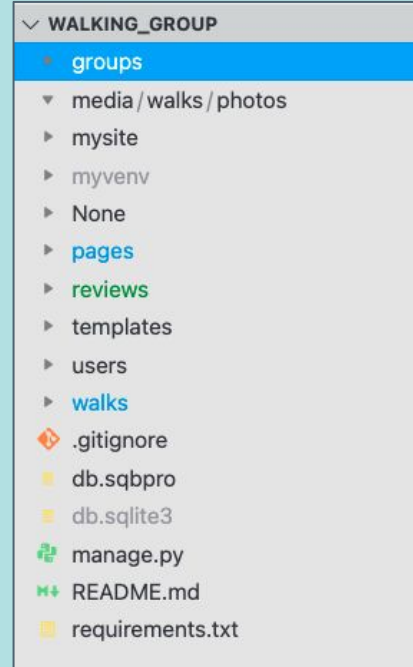
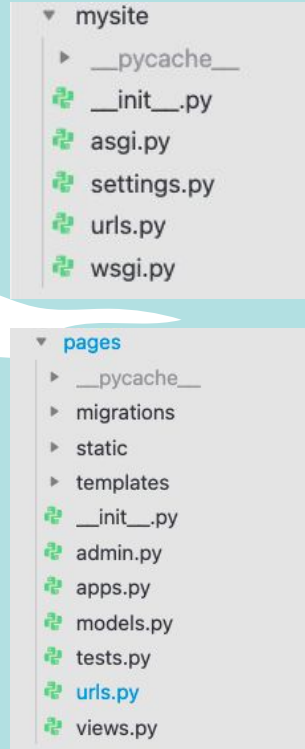
**REVIEWS**



**GROUPS**

# Project Structure

## Apps



# Database Design



Models within the apps create and define the tables in our database.



Using one-to-one, many-to-one and many-to-many relationships the tables relate to each other enabling intended functionality



Django's built-in User table has been extended using a one-to-one relationship that enabling additional fields to be added

# Code Example

## walks/models.py:

walks > models.py > ...

```
1  from django.db import models
2
3  # Create your models here.
4
5  class Walk(models.Model):
6      # walk ID will be automatically generated
7      walk_name = models.CharField(max_length=100)
8      walk_length = models.DecimalField(max_digits=4, decimal_places=2, help_text="Distance in miles")
9      step_count = models.IntegerField(default=None)
10     parking = models.BooleanField()
11     wheelchair_access = models.BooleanField()
12     toilet = models.BooleanField()
13     cafe = models.BooleanField()
14     rest_area = models.BooleanField()
15     scenic_spot = models.BooleanField()
16     dog_bin = models.BooleanField()
17     rating = models.IntegerField(help_text="Rating out of 5")
18     lat = models.DecimalField(max_digits=9, decimal_places=6, default=50.78448)
19     lng = models.DecimalField(max_digits=9, decimal_places=6, default=-1.96783)
20     photo = models.ImageField(null=True, blank=True, upload_to="walks/photos/")
21
```



# Code Example

## walks/views.py:

```
walks > views.py > ...
1  from ast import walk
2  from django.shortcuts import render, get_object_or_404
3  from .models import Walk
4
5  # Create your views here.
6  def walks_list(request):
7      walk_list = Walk.objects.all()
8      return render(request, 'walks/walks_list.html', {'walk_list': walk_list})
9
10 def walks_detail(request, pk):
11     walk = get_object_or_404(Walk, pk=pk)
12     return render(request, 'walks/walks_detail.html', {'walk': walk})
13
14 def walk_photo(request):
15     walk_photo = Walk.photo()
16     return render(request, 'walks/walks_detail.html', {'walk': walk_photo})
```



*Frontend*

# *Frontend Design Approach*



**Always keeping target user primary focus**



**Elements are responsive to viewport size**



**Font size also responsive, designed to be as large as possible on any given resolution for visually impaired users**

**Code of Conduct**

- Be kind and welcoming to others

**Local news**

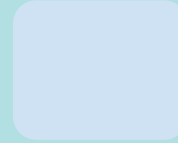
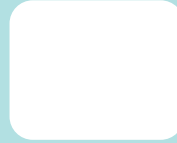
 **UK**

[bbc.co.uk/news](https://bbc.co.uk/news)

# *Colour Scheme*



**Blue + White**



**Good contrast for increased legibility**



**Blue is a “trusted” colour, often used by financial services & familiar because of sites like Facebook**



**The design is meant to help users who are less comfortable with the internet feel confident on the platform**

# Frontend Build



**Bootstrap:** clean, simple, replicable, responsive design



**formspree.io:** contact form email message functionality



**JavaScript:**

Responsive navbar

Weather forecast

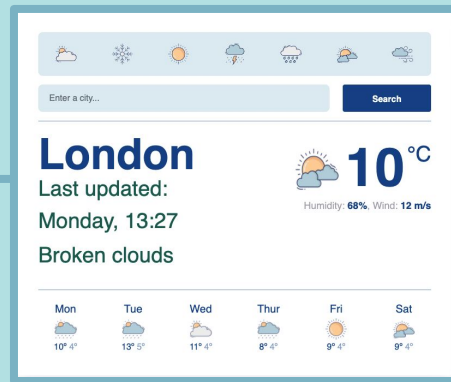
Google Maps integration



**API:**

openweathermap.org

Google Maps



# Code Example

## walk\_details.html:

```
walks > templates > walks > walks_detail.html > div.container.mx-auto.mt-5 > div.walk-container > div.row > div.col-md-4.mb-3 > div.row.mb-3 > div.col-2

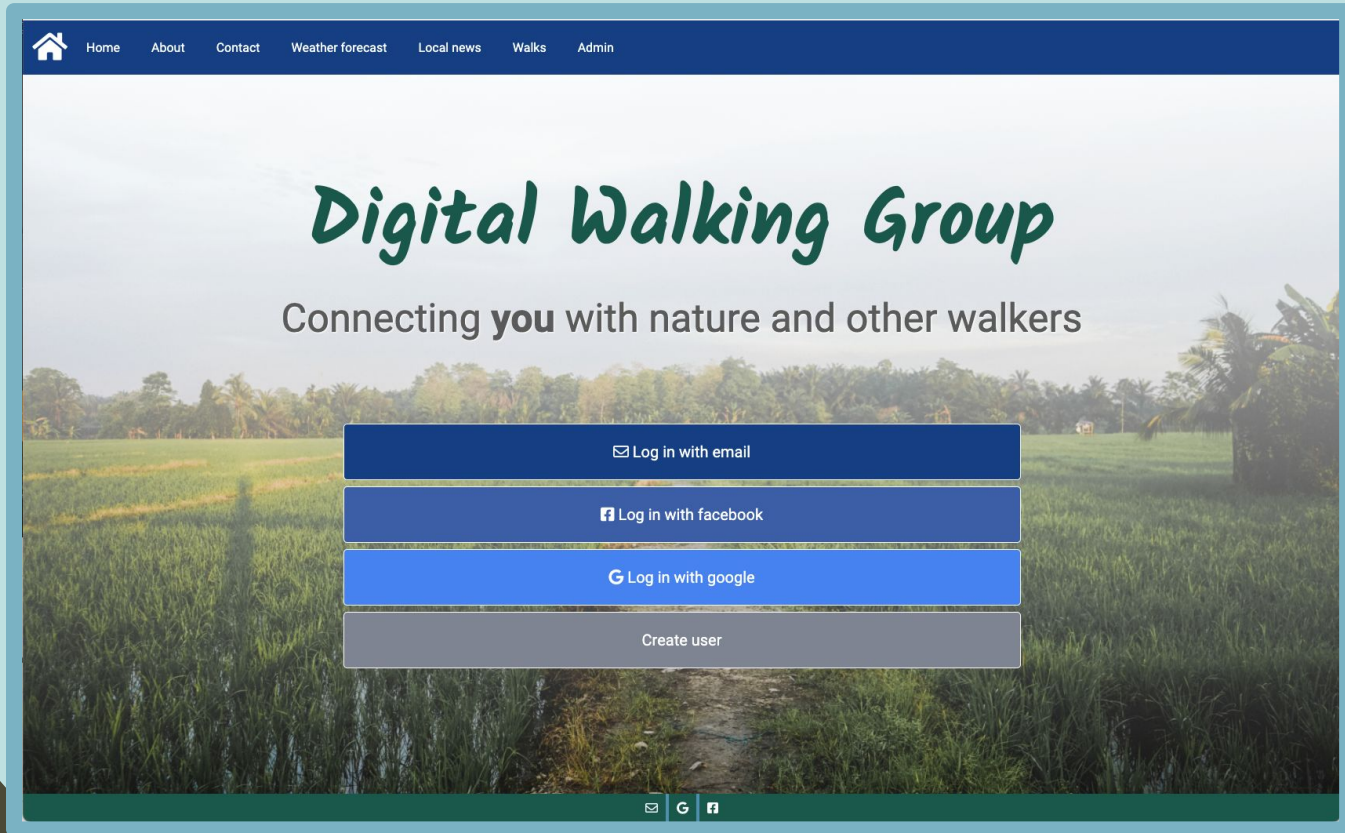
1  {% extends 'pages/base.html' %}
2  <!--Main-->
3  {% block content %}
4
5  <div class="container mx-auto mt-5">
6
7      <h2 id="walk_name">
8          {{ walk.walk_name }}
9      </h2>
10
11     <div class="walk-container">
12         <div class="row walk-details">
13             <p><span class="walk-details-amenity-heading">Distance: </span><span class="walk-distance">{{ walk.walk_length }} miles</span></p>
14             <p><span class="walk-details-amenity-heading">Step count: </span><span class="walk-distance">{{ walk.step_count }} steps</span></p>
15             <p><span class="walk-details-amenity-heading">Rating: </span><span class="walk-distance">{{ walk.rating }} </span></p>
16             <p class="coords"><span id="walk-lat">{{ walk.lat }}</span> <span id="walk-lng">{{ walk.lng }}</span></p>
17             <br />
18         </div>
19         <div class="row">
20             <div class="col-md-4 mb-3">
21
22                 {% if walk.parking %}
23                 <div class="row mb-3">
24                     <div class="col-2">
25                         <i class="fas fa-parking circle circle-blue"></i>
26                     </div>
27                     <div class="col-10">
28                         <p class="walk-details-amenity-detail">Parking is available</p>
29                     </div>
30                 </div>
31                 {% endif %}
32             </div>

```

# *The Final Product Demo*

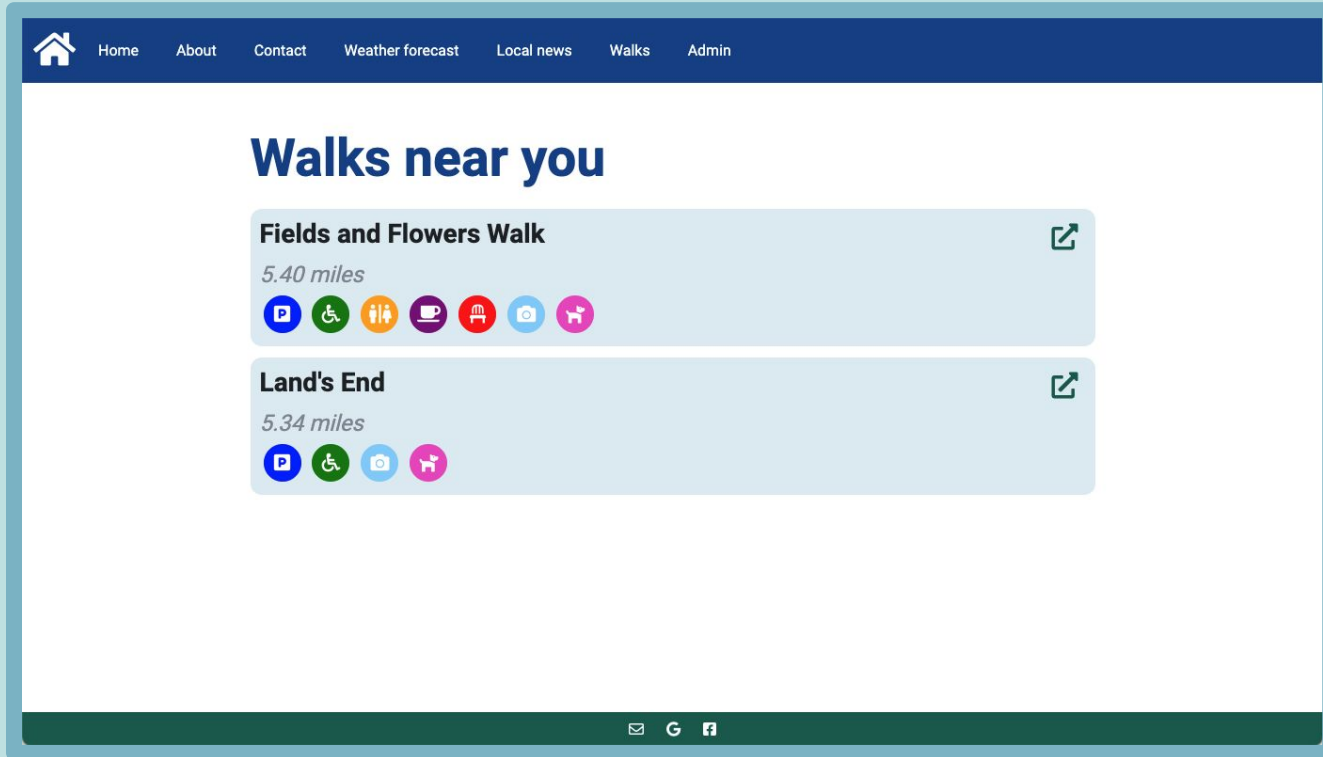


# Landing Page





# Walks List Page



# Walk Details Page

## Fields and Flowers Walk

Distance: 5.40 miles  
Step count: 12000 steps  
Rating: 5








-  Parking is available
-  Wheelchair accessible
-  Toilets are available
-  There is a cafe
-  There is a rest area
-  There is a scenic spot
-  Dog waste bins are available










Photo of Fields and Flowers Walk



### Reviews


- Lovely walk! A bit steep, make sure you have good grip on your footwear.  
- jenny\_m62
- Lots of bluebells in the spring. My dog Scout loved this walk.  
- evfemart

Distance: 5.40 miles  
Step count: 12000 steps  
Rating: 5

-  Parking is available
-  Wheelchair accessible
-  Toilets are available
-  There is a cafe
-  There is a rest area
-  There is a scenic spot
-  Dog waste bins are available



# User Registration Page

 [Home](#) [About](#) [Contact](#) [Weather forecast](#) [Local news](#) [Walks](#) [Admin](#)

## Create new user


Email address

Password

Repeat password

Address

Date of birth (optional, for step counter)



☐ Yes, I would like to receive the email newsletter

# Reviews Page

[Home](#)[About](#)[Contact](#)[Weather forecast](#)[Local news](#)[Walks](#)[Admin](#)

## Great Walk!

Posted by: Scoutie

The sun shining through the trees in the forest was heavenly!

**Rating:** 5

### Reviews

Author: Scoutie

Title: Great Walk!

The sun shining through the trees in the forest was heavenly!

Rating: 5



# Admin Site



## Django administration

WELCOME, **POL** [VIEW SITE](#) / [CHANGE PASSWORD](#) / [LOG OUT](#)

### Site administration

#### AUTHENTICATION AND AUTHORIZATION

**Groups** [+ Add](#) [Change](#)

**Users** [+ Add](#) [Change](#)

#### GROUPS

**Groups** [+ Add](#) [Change](#)

#### REVIEWS

**Reviews** [+ Add](#) [Change](#)

#### WALKS

**Walks** [+ Add](#) [Change](#)

### Recent actions

#### My actions

[Poochie People Saturday](#)  
Group

[Nature Lovers Sunday](#)  
Group

[Nature Lovers Sunday](#)  
Group

[Walk object \(2\)](#)  
Walk

[evfc88](#)  
User

[evfc88](#)  
User

[Scoutie](#)  
User

[Scout](#)  
User

[Emma](#)  
User

[Nature Lovers Sunday](#)  
Group



# Admin Site

Django administration

WELCOME, [POL](#). [VIEW SITE](#) / [CHANGE PASSWORD](#) / [LOG OUT](#)

[Home](#) > [Walks](#) > [Walks](#) > [Add walk](#)

AUTHENTICATION AND AUTHORIZATION

Groups

+ Add

Users

+ Add

GROUPS

Groups

+ Add

REVIEWS

Reviews

+ Add

WALKS

Walks

+ Add

Add walk

Walk name:

Walk length:

Distance in miles

Step count:

☐ Parking

☐ Wheelchair access

☐ Toilet

☐ Cafe

☐ Rest area

☐ Scenic spot

☐ Dog bin

Rating:

Rating out of 5

Lat:

50.78448

Lng:

-1.96783

Photo:

Choose file

No file chosen

Save and add another

Save and continue editing

SAVE

# Resources



**Production Site:**  
**[walkinggroup.pythonanywhere.com](https://walkinggroup.pythonanywhere.com)**



**Github:**  
**[github.com/Merley-North-Digital-Walking-Group](https://github.com/Merley-North-Digital-Walking-Group)**



***Thank you!***