COMP2001 Assessment CW1

Normalisation

Martin Read

Plymbridge Circular

Easy • ⭐ 4.6 (158)

Plymouth, Devon, England

🔖

📷 **Photos (205)**   🚗 **Directions**   🖨️ **Print/PDF map**   ↪️ **Share**   ⋯ **More**

Length	Elevation gain	Route type
5.0 km	**147 m**	**Loop**

Discover this 5.0-km loop trail near Plymouth, Devon. Generally considered an easy route, it takes an average of 1 h 23 min to complete. This is a popular trail for birding, hiking, and running, but you can still enjoy some solitude during quieter times of day. The trail is open year-round and is beautiful to visit anytime. Dogs are we **Show more**

▶ **Preview trail**

| Bird watching | Hiking | Running | Walking | Bike touring |

| Dog-friendly | Kid-friendly | Partially paved | Cave | Forest | River |

| Views | Wildflowers | Wildlife | Rails trails |

Description

This is a gentle circular walk through ancient oak woodlands, beside the beautiful River Plym. Within the woods are remains of the area's industrial past and there are breathtaking views across the valley from the viaduct. Along the way you may see kingfishers, sea trout, dippers, peregrine falcon, deer and other wildlife **Show more**

Suggest edit

Suggest edit

Show more

Nearby trails

Moderate • ⭐ 4.7 (165)

Shaugh Bridge, Dewerstone and Cad...

Dartmoor National Park

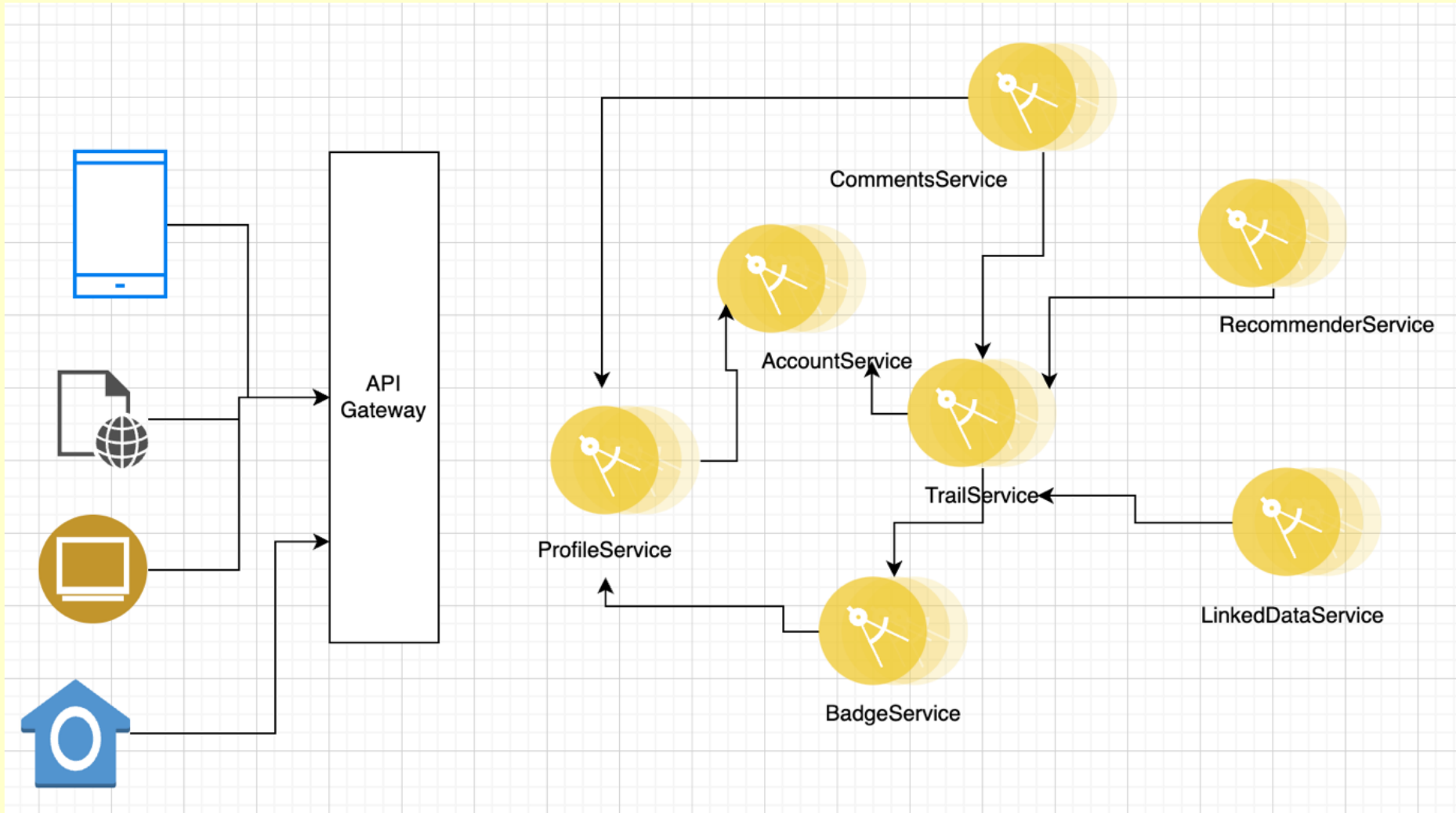Length: 6.0 km • Est. 1h 43m

Trail Normalisation Summary

UNF	1NF	2NF	3NF	Relation name
Trail ID	**Trail ID**	**Trail ID**	**Trail ID**	**TRAIL**
Trail name	**Trail name**	**Trail name**	**Trail name**	
Difficulty	**Trail Summary**	**Trail Summary**	**Trail Summary**	
Location	**Trail Description**	**Trail Description**	**Trail Description**	
Length	**Difficulty**	**Difficulty**	**Difficulty**	
Elevation gain	**Location**	**Location**	**Location**	
Route type	**Length**	**Length**	**Length**	
Trail Summary	**Elevation gain**	**Elevation gain**	**Elevation gain**	
(Trail Feature ID	**Route type**	**Route type**	**Route type**	
Trail Feature)				
Trail Description	**Trail ID**	**Trail ID**	**Trail ID**	**TRAIL-FEATURE**
	Trail Feature ID	**Trail Feature ID**	**Trail Feature ID**	
	Trail Feature			
		Trail Feature ID	**Trail Feature ID**	**FEATURE**
		Trail Feature	**Trail Feature**	

Possible Trail Normalisation

UNF	1NF	2NF	3NF
Trail ID	**Trail ID**	**Trail ID**	**Trail ID**
Trail name	**Trail name**	**Trail name**	**Trail name**
Difficulty	**Trail Summary**	**Trail Summary**	**Trail Summary**
Location	**Trail Description**	**Trail Description**	**Trail Description**
Length	**Difficulty**	**Difficulty**	**Difficulty**
Elevation gain	**Location**	**Location**	**Location**
Route type	**Length**	**Length**	**Length**
Trail Summary	**Elevation gain**	**Elevation gain**	**Elevation gain**
(Trail Feature ID	**Route type**	**Route type**	**Route ID**
Trail Feature)			
Trail Description	**Trail ID**	**Trail ID**	**Route ID**
	Trail Feature ID	**Trail Feature ID**	**Route type**
	Trail Feature		
		Trail Feature ID	**Trail ID**
		Trail Feature	**Trail Feature ID**
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UNF	1NF	2NF	3NF	Relation name
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Difficulty	**Trail Summary**	**Trail Summary**	**Trail Summary**	
Location	**Trail Description**	**Trail Description**	**Trail Description**	
Length	**Difficulty**	**Difficulty**	**Difficulty**	
Elevation gain	**Location**	**Location**	**Location**	
Route ID	**Length**	**Length**	**Length**	
Route type	**Elevation gain**	**Elevation gain**	**Elevation gain**	
Trail Summary	**Route ID**	**Route type**	**Route ID**	
(Trail Feature ID	**Route type**			
Trail Feature)		**Trail ID**	**Route ID**	**ROUTE TYPE**
Trail Description	**Trail ID**	**Trail Feature ID**	**Route type**	
	Trail Feature ID			
	Trail Feature	**Trail Feature ID**	**Trail ID**	**TRAIL-FEATURE**
		Trail Feature	**Trail Feature ID**	
			Trail Feature ID	**FEATURE**
			Trail Feature	

You must implement the following micro-service:

- TrailService
  - CRUD operation on trails
  - Anyone can view a trail but has limited view
  - Trails are a series of location points
  - Trails are owned by a user
  - Error checking for how far apart locations is out of scope

Product Backlog

As an Administrator I wish to create a new trail with information

As an administrator I wish to check that a new trail with information exists

As an administrator I wish to edit the information for an existing trail

As an administrator I wish to delete an existing trail

As a user of the trail app I wish to select and view a particular trail using my android mobile device

User Name	Email	Password
Grace Hopper	grace@plymouth.ac.uk	ISAD123!
Tim Berners-Lee	tim@plymouth.ac.uk	COMP2001!
Ada Lovelace	ada@plymouth.ac.uk	insecurePassword

A Model Structure

TRAIL

TrailID	Sequence
Trail name	Alphabetic
Trail Summary	Alphanumeric
Trail Description	Alphanumeric
Difficulty	Alphabetic
Location	Alphabetic
Length	Numeric
Elevation gain	Numeric
Route type	Alphabetic
OwnerID*	Numeric
LocationPt1*	Numeric
LocationPt2*	Numeric
LocationPt3*	Numeric
LocationPt4*	Numeric
LocationPt5*	Numeric

TRAIL-FEATURE

TrailID	Numeric
Trail FeatureID	Numeric

FEATURE

Trail FeatureID	Sequence
Trail Feature	Alphabetic

LOCATION-POINT

Location_Point	Numeric
Latitude	Numeric
Longitude	Numeric
Description	Alphanumeric

USER

UserID	Sequence
Email_address	Alphanumeric
Role	Alphabetic

Alternative Model Structure

TRAIL

TrailID	Sequence
Trail name	Alphabetic
Trail Summary	Alphanumeric
Trail Description	Alphanumeric
Difficulty	Alphabetic
Location	Alphabetic
Length	Numeric
Elevation gain	Numeric
Route type	Alphabetic
OwnerID*	Numeric
Pt1_Lat	Numeric
Pt1_Long	Numeric
Pt1_Desc	Alphanumeric
Pt2_Lat	Numeric
Pt2_Long	Numeric
Pt2_Desc	Alphanumeric
etc	

TRAIL-FEATURE

TrailID	Numeric
Trail FeatureID	Numeric

FEATURE

Trail FeatureID	Sequence
Trail Feature	Alphabetic

USER

UserID	Sequence
Email_address	Alphanumeric
Role	Alphabetic

Another Model Structure

TRAIL

TrailID	Sequence
Trail name	Alphabetic
Trail Summary	Alphanumeric
Trail Description	Alphanumeric
Difficulty	Alphabetic
Location	Alphabetic
Length	Numeric
Elevation gain	Numeric
Route type	Alphabetic
OwnerID*	Numeric

TRAIL-FEATURE

TrailID	Numeric
Trail FeatureID	Numeric

FEATURE

Trail FeatureID	Sequence
Trail Feature	Alphabetic

LOCATION-POINT

Location_Point	Numeric
Latitude	Numeric
Longitude	Numeric
Description	Alphanumeric

Trail-LocationPt

TrailID	Numeric
Location_Point	Numeric
Order_no	Numeric

USER

UserID	Sequence
Email_address	Alphanumeric
Role	Alphabetic