Shropshire Botanical Society Online Flora
Web application Specification

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Overview

The Shropshire Botanical Society is seeking to renew it's Online Flora web application. This specification out lines the hoped for functionality together with the technical and development constraints of the work.

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1 Background

The Shropshire Botanical Society has been dedicated to promoting the enjoyment, understanding and conservation of the flora of Shropshire since the 18th century. One of the principle activities of the Society is to collect and maintain records of plant sightings within the historical boundaries of the county of Shropshire. Since 2003 the Society has made these records freely available online via a bespoke web application or Online Flora. This original Online Flora was written using PHP and CodeIgniter Web Framework backed by MySql database. The web application is still available at captain-blue.azurewebsites.net but unfortunately the data is now many years out of date.

Maintaining and updating the database has proved to be challenging. Additionally the application was conceived prior to the introduction of the iPhone and it not suited to mobile use. Hence the Society seeks to renew the web application, to provide a more modern mobile interface and to use up to date data stored by the National Biodiversity Network Atlas. Currently all the Society's records are submitted to the National Biodiversity Network Atlas and since 2017 the Society's records have been available via a web service at the NBN Web service API. Using the NBN Web service API provides reliable data source and a supported service for maintaining and updating the Society's records.

2 Objective

To replicate the functionality of the original Online Flora in a responsive mobile design using data sourced from the NBN Web service API.

3 Usage and Users

The Online Flora is used for searching the Society's records but not for entering new records. Maintaining and updating the data is conducted via a separate manual process. Searches of the database are conducted for three different geographical scenarios.

Search Shropshire searching all the records of based on the name of the plant. Allowing the user to drill down to a single sighting record or showing a map of grid squares with records for a named plant.

Search by Site searching for a named site, then listing the names of plants for that named site. Again allowing the user to drill down to a single sighting record.

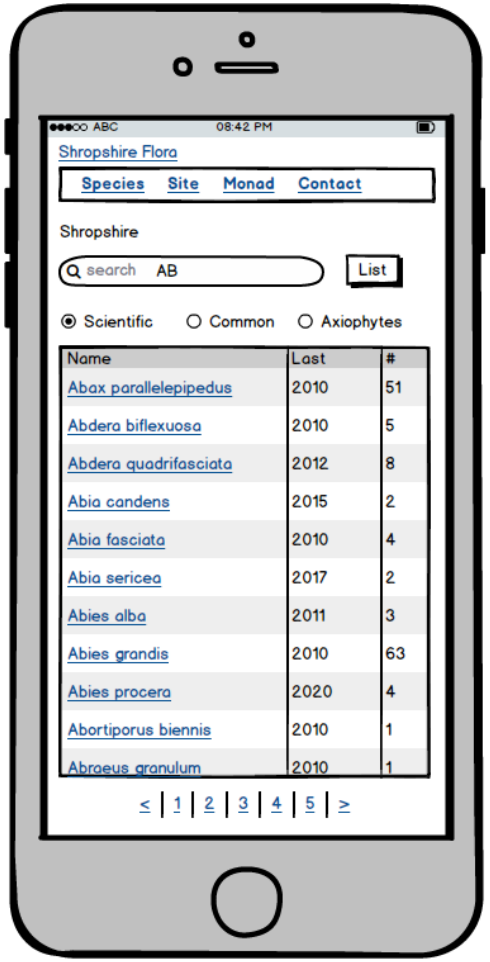
Search by Monad or Grid Square Selecting a 1 km grid square within the county of Shropshire, then listing the names of plants for that named site. Again allowing the user to drill down to a single sighting record.

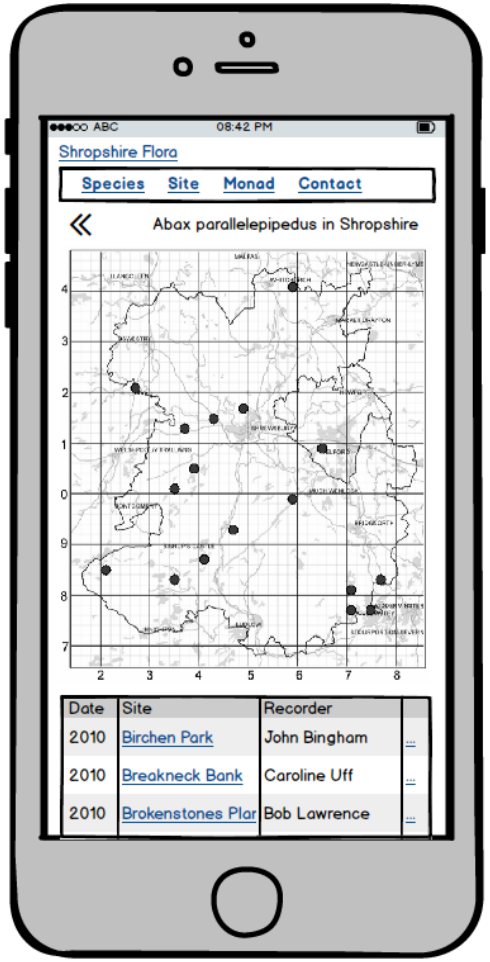
Users of the Online Flora are typically members of the Society and as such are often very experienced botanists and will favour

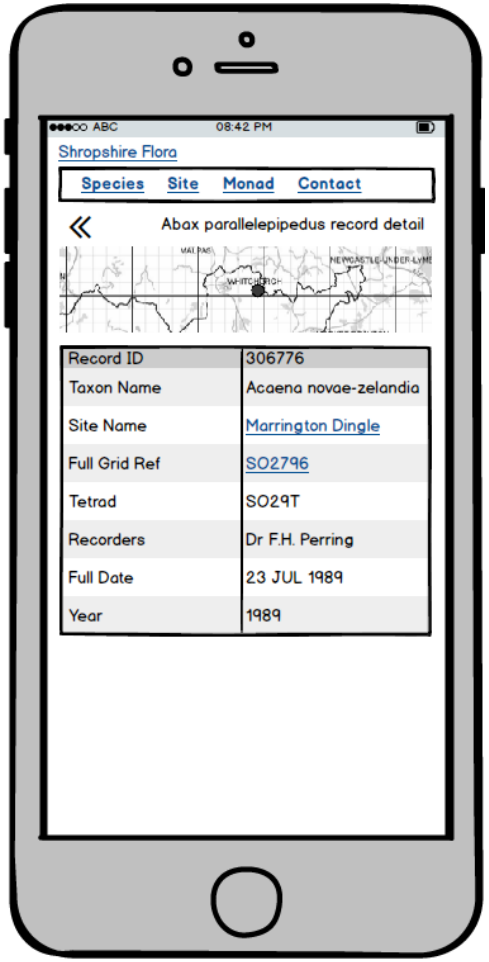
identifying plant species via the scientific name. A typical scenario would be a member of the Society intending to visit a location would search for a list of plants that have previously been sighted at that location. A similar search might also be conducted at the location of interest using a mobile phone. Up to this time the Society has not offered an interface that is suitable for mobile phone use. As a result there is no information about the types and sizes of the devices that might be used. However the Society does maintain a blog/website at www.shropshirebotany.org.uk. The majority of visitors to the site use Google Chrome on a Windows platform.

4 Search County by Plant Name

4.1 Mobile







Map automatically expanded at this point.

Map collapsed at this point

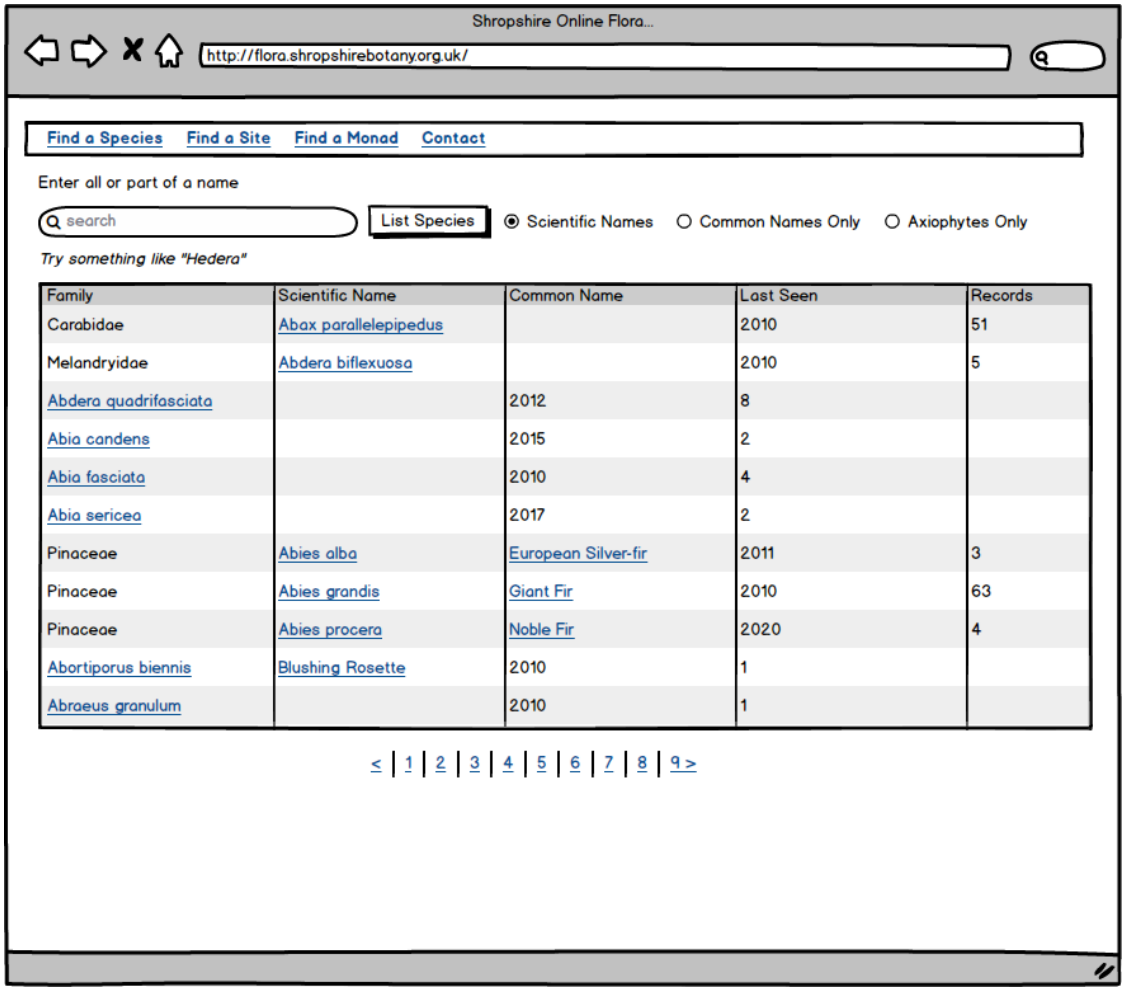
Search within the entire collection for the county.

Scientific Name selected by default.

Common Name where common name is selected only those sightings with a common name will be show.

Axiophytes

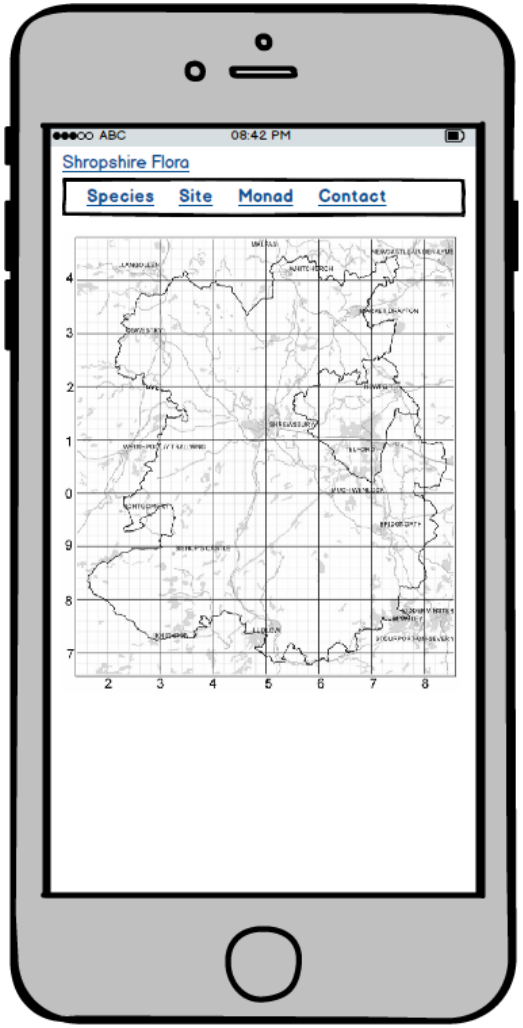
4.2 Desktop

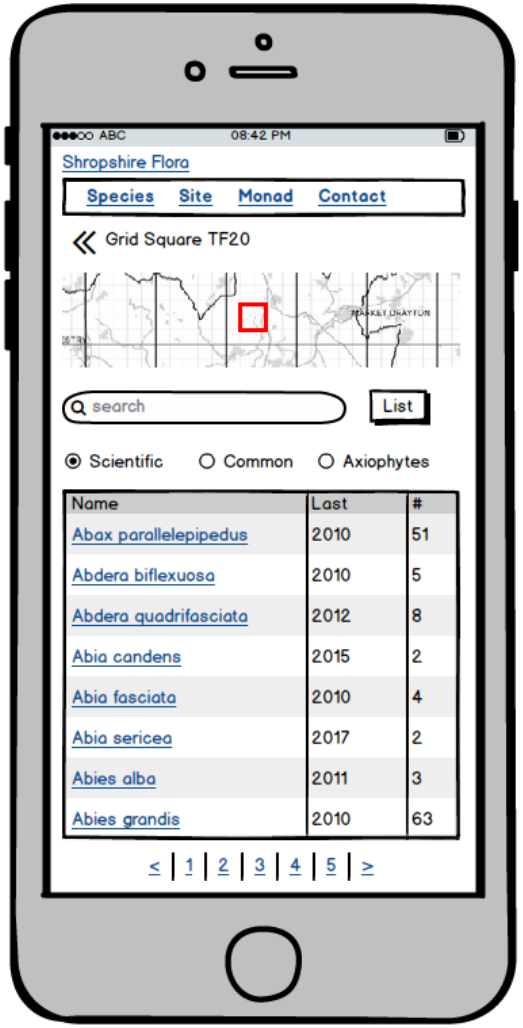


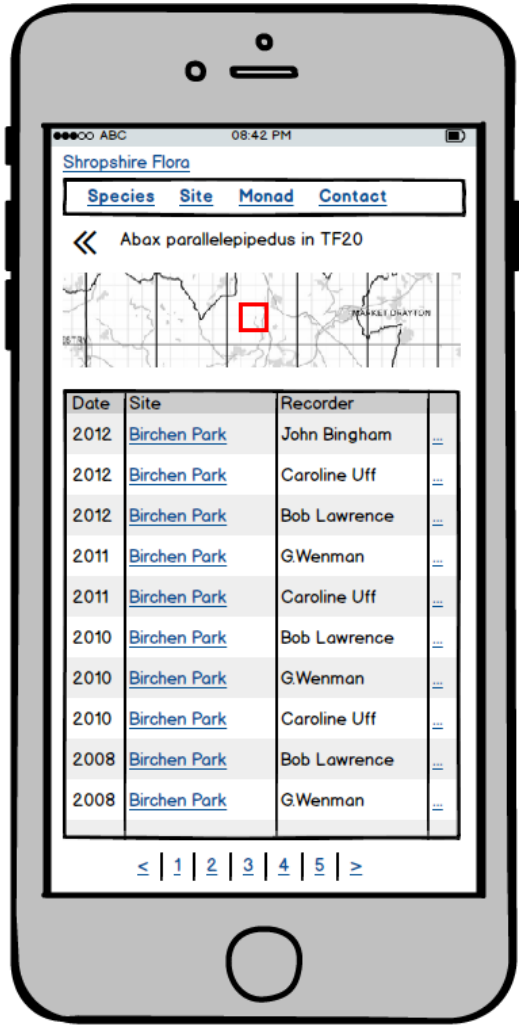
https://records-ws.nbnatlas.org/explore/group/Birds?fq=data_resource_uid:dr782+AND+taxon_name:B*&pageSize=12

5 Search Grid Square by Plant Name

5.1 Mobile







Grid square select control

6 Technical Constraints

Simplest possible with lowest barrier to entry. Success with PHP and CodeIgniter. Simple and convenient caching. Possible to source PHP developers from within the ranks of members. Possibility of free hosting.

PHP 7.3 for deployment to Google App Engine.

CodeIgniter 4.0.4 happ with No Caching to reveal performance, convenient caching later.

Twitter Bootstrap 5 for responsive layout.

Leaflet 1.6.0 Mapping https://github.com/DuncanRowland/NBNMapOverlayExamples

No NBN API Calls from the Client because we might want to use caching.

Commits to Github branching but no where else. at Github The Society will

Style Sheet from the blogspot Website

JavaScript plain, no jquery.

No database but you could have static data files.