
ABSTRACT

Lot of medicinal plant researchers wishes to see details of a variety of species on a single online portal containing most of the required botanical details of that plant at a glance. There are many such existing biological repositories to provide such useful information. Now to develop a mechanism at ease in Uttarakhand my work have been proposed which will emphasize on an easy continuous search, sort and pagination mechanism to display the medicinal plant details of varieties as required. To create such a program displaying information of a large number of species is a hectic task to be done.

The author in this work made use of trending wordpress[1] open source content management system and attractive angular javascript code[2][3]. Now the inner side of medicinal plant database development requires a search, sort and pagination mechanism to search the particular variety of interest. Although there is a lot of ways to implement the required database but the author had used the angular javascript in a custom page template connecting with other pages containing medicinal plants complete information for creating this advanced search mechanism as a part of wordpress that is inherently absent. The details of plants were created individually page wise in wordpress.

In the proposed work, the limitation associated with the complication and creation time of a medicinal database website is removed.

KEYWORDS: wordpress, angular javascript, search, medicinal plants, website.

INTRODUCTION

In the past years, several days were required for the development of a professional website and a professional web developer team or expert was required to conduct the task. But now the technological advancement brought us with several open source content management software platform such as wordpress, joomla and drupal eliminating the issue of the requirement of professional knowledge of website development but only some basic knowledge will drive us to create a professional database website. Using the custom page template the other script can be inserted inside the wordpress page creating attention towards the easy modification properties of the wordpress.[1]

MEDITIONAL PLANTS DATABASE

This is the medicinal plant database repository under development containing details of over thousand of plants having medicinal importance in Uttarakhand. A sample wordpress page containing details of *Abelmoschus crinitus* Wall as follows:

1. **Botanical Name** – *Abelmoschus crinitus* Wall
2. **Common name** – Hairy Okra Kamlya
3. **Taxonomy:** Cellular organisms; Eukaryota; Viridiplantae; Streptophyta; Streptophytina; Embryophyta; Tracheophyta; Euphyllophyta; Spermatophyta; Magnoliophyta; Mesangiospermae; eudicotyledons; Gunneridae; Pentapetalae; rosids; malvids; Malvales; Malvaceae; Malvoideae; *Abelmoschus*

[Kumar**et al.*, 5.(8): August, 2016]

ICTM Value: 3.00

4. **Taxonomy ID** [1682376](#)

5. **Habit** Soft shrubby perennial

6. **Habitat** Deciduous forests and wastelands

7. **Location in Uttarakhand** Kumaun

8. **Part use** Whole plant

9. **Medicinal Use** Different parts of the plant have uses in Ayurveda herbal medicine.

10. **Genomic Information available in National Center for Biotechnology (NCBI)**

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Fig.1. *Abelmoschus crinitus* Wall

Nucleotide	Proteins	EST
2	NA	NA

11. **Pub Chem Information**-N/A

12. **Compound Information**-NA

13. **Available Scientific Literature at Pubmed** –NA

14. **Web References**

1. <http://eol.org/pages/2884905/details#habitat>
2. https://en.wikipedia.org/wiki/Abelmoschus_moschatus
3. <http://www.uttaranchal.org.uk/kumaonplants.php>

WORDPRESS

WordPress is a free and open-source content management system (CMS) written in PHP and based on MySQL licensed under the GPL. To create a website using wordpress the wordpress is installed on a web server. The basic features of wordpress includes a plugin architecture and a template system. Recently wordpress have been used by more than 26.4% in top 10 million websites. Being the easiest, wordpress is very popular blogging system on the Web. WordPress allows users to create and edit websites from a central control panel, which includes a text editor for modifying content and menus to change various design elements. WordPress provides various plugins in WordPress Plugin Directory, and it is quite easy to upload and promote plugins in WordPress. Users can write posts in this platform and other people can write comments about the post.[1]

WordPress has a web template system using a template processor having files size of about 20 MB. WordPress users can use different themes which allows to change the look and functionality of the website. The plugin architecture allows users to extend the features and functionality of a website or blog. WordPress also features integrated link management; a search engine–friendly, clean permalink structure; the ability to assign multiple categories to articles; and support for tagging of posts and articles. WordPress Multisites allows multiple blogs to exist within one installation but is able to be administered by a centralized maintainer.[1]

ANGULAR JAVASCRIPT

AngularJS (commonly referred to as "**Angular**" or "**Angular.js**") is a complete JavaScript-based open-source front-end web application framework mainly maintained by Google and by a community of individuals and corporations to address many of the challenges encountered in developing single-page applications. The JavaScript components complement PhoneGap, the framework used for developing cross-platform mobile apps. It aims to simplify both the development and the testing of such applications by providing a framework for client-side model–view–controller (MVC) and model–view–viewmodel (MVVM) architectures, along with components commonly used in rich Internet applications.[2]

The AngularJS framework works by first reading the HTML page, which has embedded into it additional custom tag attributes. Angular interprets those attributes as directives to bind input or output parts of the page to a model that is

represented by standard JavaScript variables. The values of those JavaScript variables can be manually set within the code, or retrieved from static or dynamic JSON resources.[2]

PROBLEM FORMULATION AND OBJECTIVES

In the past, millions of user implemented their website using wordpress. We also implemented our database using wordpress open source content management system. In this work, we have implemented the angular javascript inside the custom page template of wordpress utilizing both the edges of angular.js and wordpress[1][2][3].

Objectives for this work are:

1. To implement a meditional plant database using wordpress custom design.
2. The main focus of this research is the use of angular javascript search, sort and pagination mechanism inside wordpress.
3. The objects of interest is the logic functionality.
4. To analyze the use of several plugin in performance enhancement.
5. To enhance security options for the database.

RESEARCH METHODOLOGY

The basic idea of secure meditional plant database designing of wordpress is to create a smart search platform for the users of keen interest towards the plants of meditional importance in Uttarakhand.

In this research, we have followed the given steps to implement the research problem.

Step1: First we developed the website using wordpress 4.6.

Step2: Secondly we implemented the continuous search, sort and pagination angular javascript inside the custom page template of the wordpress.

Step3: Then we installed all related javascript file, CSS files and created a separate database for this search database script in which links of wordpress plants details page were stored.

Step4: Thereafter we had tested the functionality of the continuous search and sort mechanism on local server XAMPP.

Step5: Finally, the database website is ready get hosted until all the required plants species are covered.

Step6: Continuous updation is possible by creating new wordpress pages.

3.1 Writing a custom page template: The custom page template was stored in the current theme folder and named as searchpage.php which required bootstrap.min.css, angular.min.js ui-bootstrap-tpls-0.10.0.min.js and app.js already installed in the wordpress folder at required locations. The code of searchpage.php is as follow:[3]

```
<?php
```

```
/*
```

```
Template Name: Search Page Template
```

```
*/
```

```
get_header(); ?>
```

```
<!DOCTYPE html>
```

```
<html ng-app="http://localhost/database/new_module" ng-app lang="en">
```

```
<section id="primary" class="content-area">
```

```
<main id="main" class="site-main" role="main">
```

```
<head>
```

```
<meta charset="utf-8">
```

```
<link href="http://localhost/database/css/bootstrap.min.css" rel="stylesheet">
```

```
<style type="text/css">
```

```
ul>li, a{cursor: pointer;}
```

```
</style>
```

```
<br>
```

```
<br>
```

```
<title>Search your plants details from Uttarakhand</title>
```

```

</head>
<body>

<div ng-controller="customersCtrl">
<div class="container">
<br/>
<blockquote><h1><a href="" style="font-size:32px;">Search your plants details from Uttarakhand</a></h1></blockquote>
<br/>
  <div class="row">
    <div class="col-md-2">PageSize:
      <select ng-model="entryLimit" class="form-control">
        <option>20</option>
        <option>40</option>
        <option>60</option>
        <option>80</option>
        <option>100</option>
      </select>
    </div>
    <div class="col-md-3">Filter:
      <input type="text" ng-model="search" ng-change="filter()" placeholder="Enter text here" class="form-control" />
    </div>
    <div class="col-md-4">
      <h5>Filtered { { filtered.length } } of { { totalItems } } total plants</h5>
    </div>
  </div>
  <br/>
  <div class="row">
    <div class="col-md-12" ng-show="filteredItems > 0">
      <table class="table table-striped table-bordered">
        <thead>
          <th>Botanical Name&nbsp;<a ng-click="sort_by('botanicalname');"><i class="glyphicon glyphicon-sort"></i></a></th>
          <th>Common Name&nbsp;<a ng-click="sort_by('CommonName');"><i class="glyphicon glyphicon-sort"></i></a></th>
          <th>Location In Uttarakhand&nbsp;<a ng-click="sort_by('location');"><i class="glyphicon glyphicon-
sort"></i></a></th>
        </thead>
        <tbody>
          <tr ng-repeat="data in filtered = (list | filter:search | orderBy : predicate :reverse) | startFrom:(currentPage-
1)*entryLimit | limitTo:entryLimit">
            <td><a href="{ { data.taxanomy } }" target="_top">{ { data.botanicalname } }</a> </td>
            <td>{ { data.CommonName } }</td>
            <td>{ { data.location } }</td>
          </tr>
        </tbody>
      </table>
    </div>
    <div class="col-md-12" ng-show="filteredItems == 0">
      <div class="col-md-12">
        <h4>No Plants Found</h4>
      </div>
    </div>
    <div class="col-md-12" ng-show="filteredItems > 0">
      <div pagination="" page="currentPage" on-select-page="setPage(page)" boundary-links="true" total-
items="filteredItems" items-per-page="entryLimit" max-size="5" direction-links="true"
boundary-links="true" class="pagination-large" previous-
text="&laquo;" next-text="&raquo;"></div>
    </div>
  </div>
</div>

```

```

</div>
</div>
<script src="http://localhost/database/js/angular.min.js"></script>
<script src="http://localhost/database/js/ui-bootstrap-tpls-0.10.0.min.js"></script>
<script src="http://localhost/database/app/app.js"></script>
</body>
</html>

</main><!-- #main -->
</section><!-- #primary -->

```

Implement paging, sorting and filter functionalities: The available angular javascript codes are used to implement these paging, sorting and filter functionalities. The codes of installed app.js are as follows:[3]

```
var app = angular.module('http://localhost/database/ new_module ', ['ui.bootstrap']);
```

```

app.filter('startFrom', function() {
  return function(input, start) {
    if(input) {
      start = +start; //parse to int
      return input.slice(start);
    }
    return [];
  }
});
app.controller('customersCtrl', function ($scope, $http, $timeout) {
  $http.get('http://localhost/database/ajax/getplants.php').success(function(data) {
    $scope.list = data;
    $scope.currentPage = 1; //current page
    $scope.entryLimit = 5; //max no of items to display in a page
    $scope.filteredItems = $scope.list.length; //Initially for no filter
    $scope.totalItems = $scope.list.length;
  });
  $scope.setPage = function(pageNo) {
    $scope.currentPage = pageNo;
  };
  $scope.filter = function() {
    $timeout(function() {
      $scope.filteredItems = $scope.filtered.length;
    }, 10);
  };
  $scope.sort_by = function(predicate) {
    $scope.predicate = predicate;
    $scope.reverse = !$scope.reverse;
  };
});

```

Connect to MySQL database and retrieve search data in JSON format: The codes of getplants.php are as follows:[3]

```
<?php
include('../includes/config.php');
```

```
$query="select distinct c.botanicalname, c.CommonName, c.location, c.taxonomy from plantf c order by c.id";
$result = $mysqli->query($query) or die($mysqli->error.__LINE__);
```

```

$arr = array();
if($result->num_rows > 0) {
  while($row = $result->fetch_assoc()) {

```

```

        }
    }
}
# JSON-encode the response
$json_response = json_encode($arr);

// # Return the response
echo $json_response;
?>

```

Configuring database: Inside the root directory and includes folder is the config.php placed which has the codes are as follows: [3]

```

<?php $SDB_HOST = '127.0.0.1'; $SDB_USER = 'root'; $SDB_PASS = ''; $SDB_NAME = 'plantf'; $mysqli = new
mysqli($SDB_HOST, $SDB_USER, $SDB_PASS, $SDB_NAME);?>

```

Creating search page: Inside the admin panel first we created a new page called search page and then selected the search page template option from the right bottom. The details are shown in figure 2.

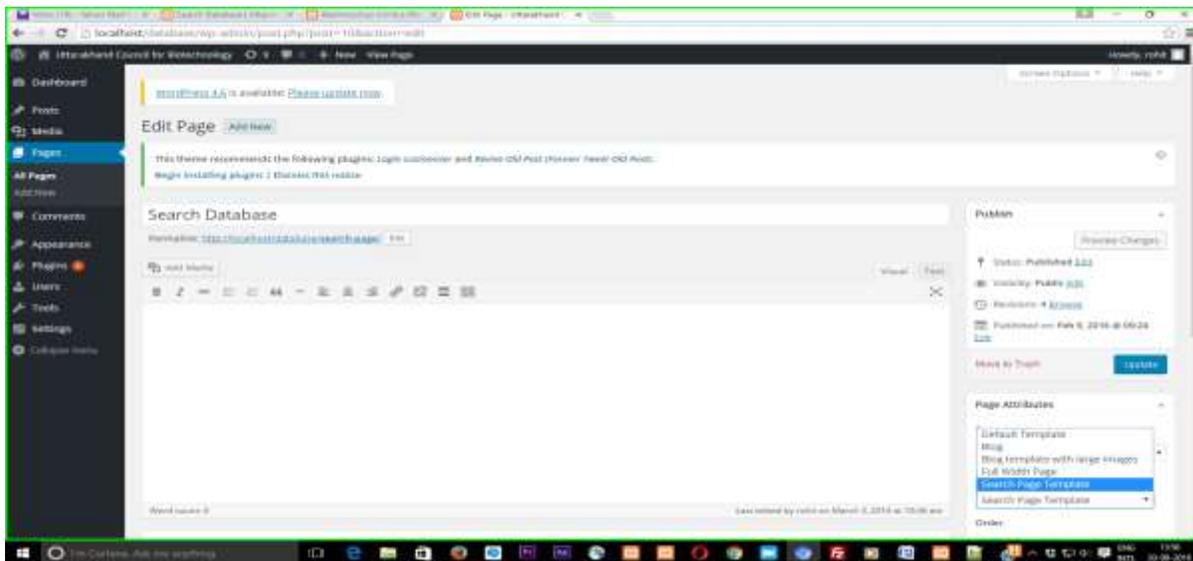


Fig 2. Screen shot of search page creation

Front end of search page: This page has continuous search, sort, filter and pagination angular javascript mechanism working in a beautiful manner and the screen shot of the page is shown in figure 3.

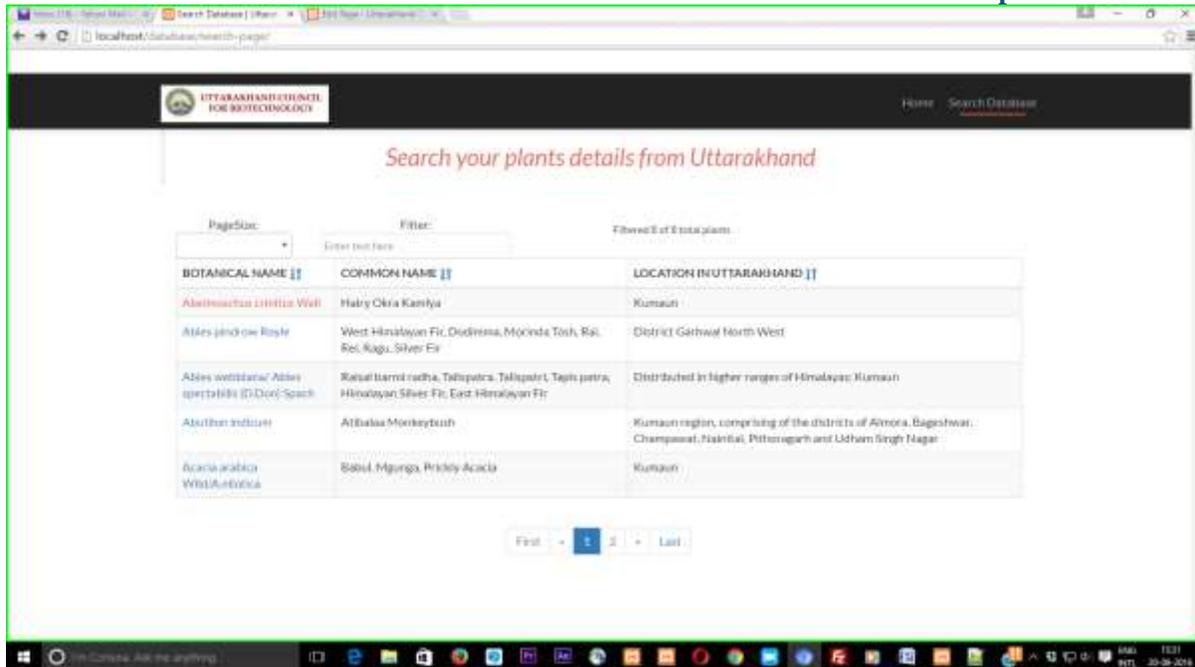


Fig 3. Screen shot of search page

3.7 Linked wordpress plant details: The links in the search page direct the users to the wordpress pages containing the required details of the medicinal plants. The screen shot of the wordpress page containing plant details is shown in figure 4.

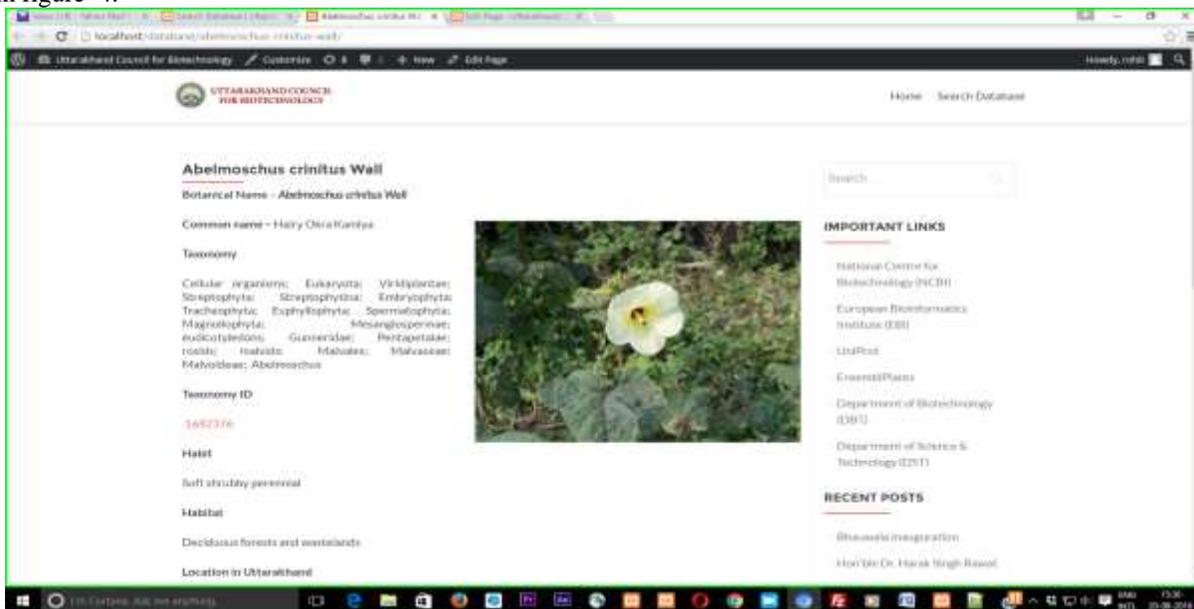


Fig 4. Screen shot of plant details page

RESULTS AND DISCUSSION

This work is an attempt to develop a medicinal plant database in wordpress incorporating angular javascript in custom page template form[4]. The medicinal plant database website runs beautifully and satisfactorily on local XAMPP server under URL <http://localhost/database>. This work also reveals that the wordpress has the tendency to incorporate various scripts that are inherently absent but may be extensively useful in different fields of interest. This work has eliminated the need of hiring and dependency on professional developers reducing the time, cost and complications involved. Also the wordpress is secured platform and easy recoverable after hacks, therefore regular updation, security assessment and wordpress security guidelines are sufficient to maintain a secure medicinal plants database platform.

REFERENCES

1. <https://en.wikipedia.org/wiki/Wordpress> , 20 August 2016.
2. <https://en.wikipedia.org/wiki/AngularJS> , 20 August 2016.
3. <http://angularcode.com/angularjs-datagrid-paging-sorting-filter-using-php-and-mysql/>, 20 August 2016