Urban Farming Network

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Abstract— This report describes the proposed application which provides a platform to encourage and motivate people for using unused lands in the bay area for urban-farming. The app aims to educate and facilitate users to form a group, get permission from county/city and start farming. Share produce and promote the work.

***Keywords*—MEAN Stack, Urban Farming Network, San Jose State University**

I. Problem Statement

The people interested in urban farming do not have a platform to interact with the landowner for farming on their land. Also, landowners who might want to convert their unused land for utilization and commence the agricultural activities may find it difficult to find farmers who are readily available to work on their land.

So, there exists the communication gap between land owners and farmers. Moreover, users don't have an appropriate platform to promote their produce among the community with good outreach. Hence, farmers have to transport their produce to the marketplace in order to sell it locally. This adds the transportation overhead and also problems related to getting the produce to market every time to sell it.

Secondly, farmers who do not own lands but are interested in farming do not have many options as to where to work. The lack of awareness of unused lands which can be utilized for urban farming by such farmers prevails in such conditions.

II. Introduction

This is the final project report for CMPE 272 Enterprise Software Platforms Fall 2017 Project under Professor Rakesh Ranjan's guidelines. With his directions, we came up with the web application solution for the solving the communication gap and other constraints which are currently being faced as described in the problem statement.

III. Solution

The proposed web application platform to solve all the communication gaps and implement the features which help solve all the above-mentioned problems.

A MEAN Stack web application where the landowner could use the platform to register his/her land for farmers to be able to find the empty vacant lands. Also, landowners can display the intrinsic details of their lands on this platform which can be leveraged by farmers in deciding the kind of land and environment they want to work upon. The landowners and farmers can also open discussions in the forums and can also negotiate on the terms of using the land with farmers or any other interested personnel. The farmers can also negotiate on the terms of the proposal along with other members who he invites to collaborate in one land.

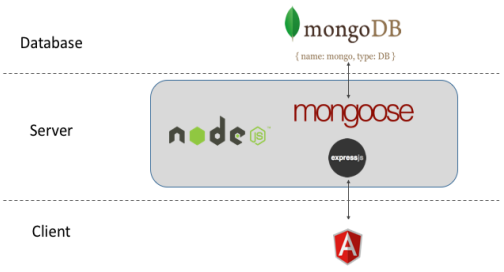
The interested person who wants to use this unused lands can sign up as a farmer to search for unused lands from the map. He can then collaborate with other users or simply send the proposal as one person to the land owner. He can send it to multiple land owners as well. After any one of the land owner accepts his sent proposal, they can collaborate and start their work. He can also collaborate with multiple land owners to work on their farms.

The guest visitors can access the forums, check the maps data for unused lands without the need of any signup.

IV. Implementation

The proposed project is implemented on the MEAN stack architecture. Mongoose DB for storing all data related to the application, Angular 5 by google for front-end user interface and Node JS for server-side setup. The web application is deployed to Amazon S3 instance with the domain www.urbanfarmingnetworks.com.

A. Architecture



B. Application in Action

1) *User signs up as farmer or landowner*
2) *User searches for land if farmer*
3) *User adds land if owner*
4) *User sends collaboration proposals as farmer to interested lands.*
5) *User accepts collaboration proposal as landowner from interested farmers*
6) *All the involved users in a collaboration can discuss*
7) *User can explore forums, and maps for unused lands without signup*

V. Conclusion

At first, the main challenge was to get the data of unused lands from the county. We did not have any domain knowledge about urban farming and its process. We had a meeting as well as call conference with the agricultural in-charge in Department of Agriculture to request the data for unused lands and understand the process. The head gave us the contact information about the NGO's who are functional currently in this area and have their own lands converted to urban farms. We explored the Urban Agricultural Incentive Zone in the department of the Agricultural website of San Jose to further understand the process and properly sum up the content to educate people on our website. Finally, we got the survey data of unused lands from the department website which we could leverage and use it on our website to display the unused lands.

This project was a good learning experience for all the members as we got to know concepts about the whole new domain which is very beneficial to the community. Also, we could build a platform to solve the challenges which are currently being faced by the community due to lack of such a platform.

Acknowledgment

We thank Professor Rakesh Ranjan for his efforts in motivating the team to go ahead with such a great project which is really beneficial to the community.

References

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