



Faculty of Graduate Studies and Research
Project Report – ENSE 805

Land Locator

Land searching got so easy

This project helps users to rent and lease a land for agricultural activities and allows them to update a post for land on rent or lease.

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1 ABSTRACT:

The “land locator” website is useful for food producers and researchers to rent or lease a land by providing their preferences in the search form listed on main page. It will display all the listings according to their entered preference so they can figure out and get detailed information about those places with ultimate ease. They can create connections with builders from the contact number provided in the list. All listings are added by landowners or builders to provide their property to rentals or leasers. This is how this platform works. This website is highly responsive and dynamic as it follows Model-View-Template (MVT) approach. It is built in Django framework with PostgreSQL database. As this platform is developed in short period of time, the important functionalities such as search, add listing and authentication are completely working, yet some of them are important to be build such as google map location URL and built-in calculator.

2 KEYWORDS:

- Client-server systems
- Collaborative work
- Agriculture
- Software prototyping

3 INTRODUCTION:

3.1 UNSD goals:

The “Land Locator” is a website that is mainly follows two United Nations Sustainable Development goals- goal (2) zero hunger and goal (12) responsible consumption and production. The sub goal 2.3 states double the productivity and incomes of small-scale food producers by 2030. The sub goal 12.2 states sustainable management and use of natural resources. (“UNSD goals”)

3.2 community orientations:

The main aim of this project is to increase the agricultural activities such as gardening, farming, experiments and practices on plants. The north star customers of this platform

are gardeners, farmers, bee-keepers, landowners and landscapers and the carry over customers are botanists and horticulturists. These days, many platforms like landsofamerica.com, landwatch.com, loopnet.com and so on provides lands on sale and rent. They do not provide it on lease. To overcome this problem, I decided to develop this website which allows users to lease or rent a land for their work. Additionally, major communities are living in the high-rise buildings. So, they do not have enough space of gardening if they want to do it. So, by this platform they can search locations of plots for their agricultural work. This allows users to consume chemical-free food which is planted and grown by themselves and ultimately keeps them away from the hazardous food infections such as food poisoning. Moreover, it increases the incomes of government and worker both which ultimately boost the economy of the nation. This is not limited with the unused agricultural land, but gardens and parks can also be listed by the builders for various purposes.

3.3 project working:

In this website, users can search the listings of the farm or park according to their preferences such as state, price and acres by filling it in the search form. They can explore all the listings in the featured listing page. They can get detailed information of listings by clicking more info button which display the listing with its images, name, location, whether it is on rent or lease, acres, square feet and contact number of the owner. All these details are entered by the land owner at the time of filling a form for adding a list. So, if any user wants to create contact with owner, then the contact number is available and inquiry form is also generated by them. User can meet land owners personally or on the virtual platforms like zoom, skype, etc., and discuss the required procedures for renting or leasing a land. it represents the relationships orientation.

3.4 Technological configuration:

To build this tool, I used python's built-in Django framework which follows model-view-template approach. PostgreSQL and PgAdmin are used for the database configuration with the main framework. Lastly, for client-side development, HTML, CSS, JavaScript and Bootstrap is used.

3.5 Project URL:

GitHub repository link: <https://github.com/tejalpatel0310/Land-Locator>

4 METHODS:

4.1 Project requirement:

The functional and technical requirement analysis and gathering was done. It includes designing of templates such as login, register, home, about, search, add listing, dashboard and logout along with the technology configuration. Also, the scope of the gathered information was decided. The scope of it includes the main functionality such search and update a post.

4.2 Stakeholder analysis:

There are various users who use the web application are as follow:

- Landowners/builders: the owners of the park, farm and garden can update a listing of their land on rent or lease and keep a track of it.
- Land seekers: farmers, gardeners, bee-keepers, landscapers, botanists, horticulturists, communities living in high-rise buildings and whose work is mainly related to agricultural activities.
- Administrator: a person who keeps the track of all the activities of the website and manages users and listings.

4.3 Process:

In the initial phase, I completed the whole documentation process which includes community characteristics orientations, technology configuration inventory, drafting an emerging picture, business case, stakeholder analysis, project scope statement, project requirement template and activity-based schedule template. This helped me to implement the architectural diagrams.

For the development of this project, I used the incremental process model and agile methodology. The elements of the incremental process models are analysis, design, code and test in which combining agile model helped to complete the project within deadlines. In first increment, the design of templates was delivered along with the low fidelity prototype. After that, search function, authentication and authorization were added by the next increment. also, coding and testing of add a listing function was done in that time. Add listing feature was implemented in the last increment with most viable product delivery. The agile model helped to develop the functionalities in given time period. Initially the increment which is working and tested is added in to demo project. After development of all applications in the project which are responsive, dynamic and tested is added in the final project. So, the basic version of the project is copied into the main project after successfully building code and design configuration.

4.4 project workflow:

Audience who wants to rent or lease a land can explore this portal without authentication but if landowner who wants to update a post, then he can only update after logging in. The detailed work flow information is described through this chart.

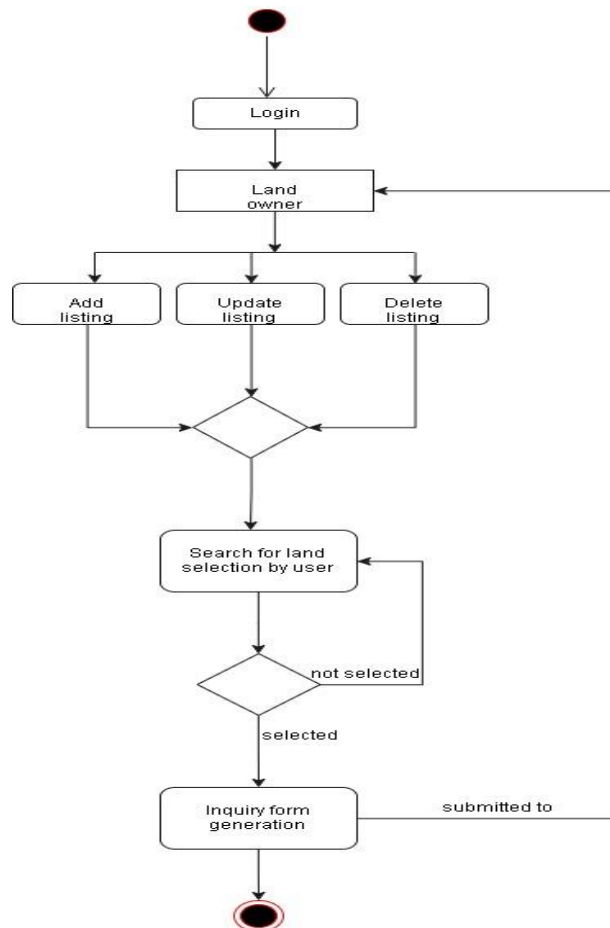


Figure 1: project workflow

5 RESULT AND DISCUSSION:

The bazaar approach is used in this project as the existing software is modified with needed functionalities. This platform will surely ease out the land searching as users can explore all the plots, farms and parks, which are not in use and uploaded by its owners, with utmost

details on rent or lease. The development of the platform is resulted in the working prototype which is dynamic and highly responsive.

5.1 High fidelity prototype:

1. Home Page:

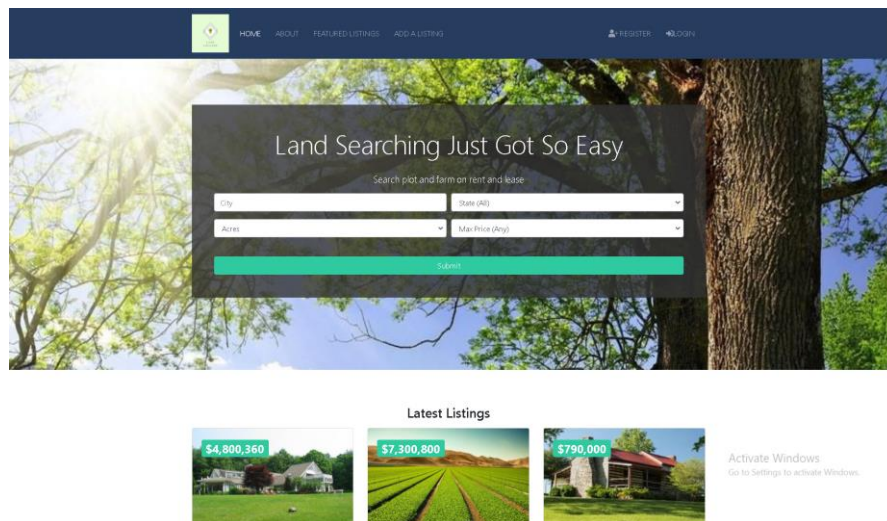


Figure 2: homepage(1)

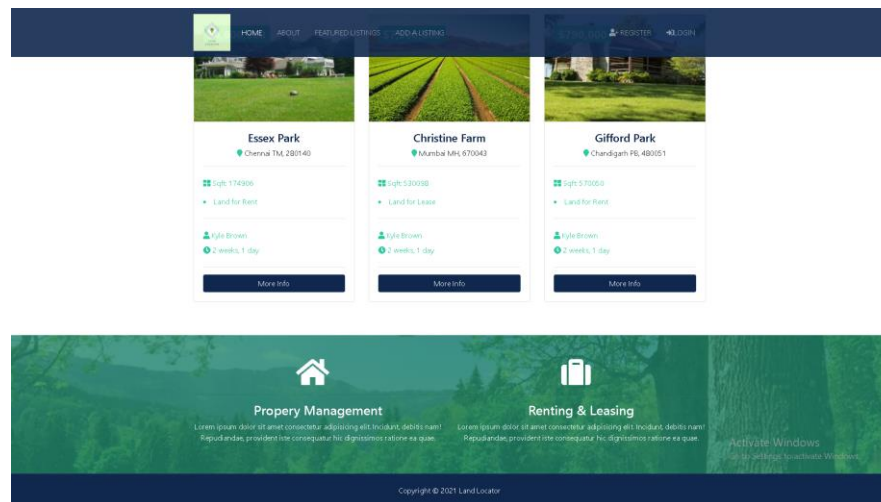


Figure 3: homepage(2)

2. Featured listing page:

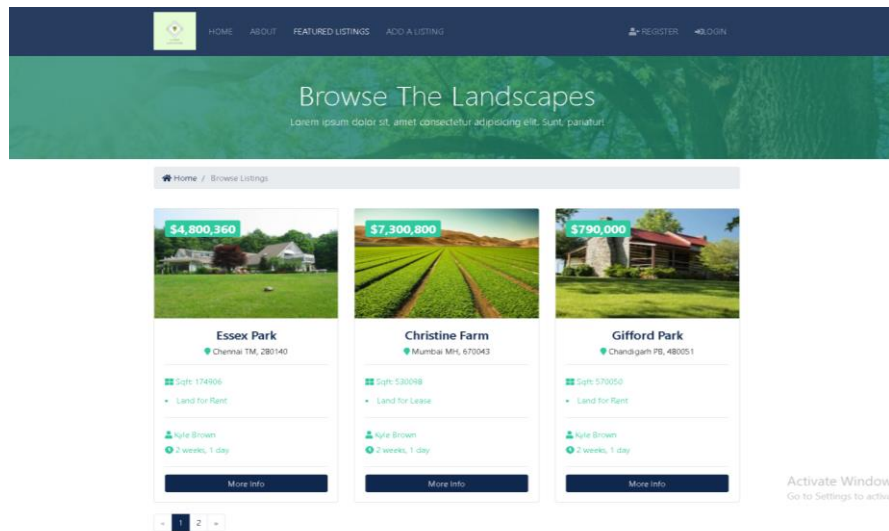


Figure 4: Featured listing page

3. Add a listing page:

The screenshot shows the 'Add Your Listing' form. The form is titled 'Add Your Listing' and contains the following fields: Title, Address, City, State, Zipcode, Price, Size, Lot size, Sale type (dropdown menu), Photo main (Choose File), Photo 1 (Choose File), Photo 2 (Choose File), Photo 3 (Choose File), Is published (checkbox), List date (text input), and Complete (checkbox). A green 'Submit' button is at the bottom of the form. The footer of the page reads 'Copyright © 2021 Land Locator'.

Figure 5: Add a listing page

4. Registration and Login page:

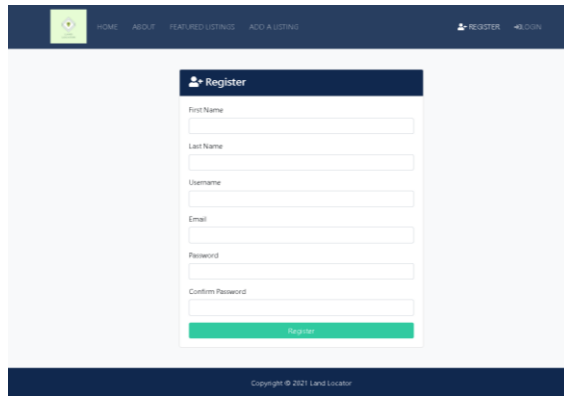
The screenshot shows a web application's registration page. At the top, there is a dark blue navigation bar with a logo on the left and links for 'HOME', 'ABOUT', 'FEATURED LISTINGS', 'ADD A LISTING', 'REGISTER', and 'LOGIN' on the right. The main content area has a light gray background. A dark blue header for the 'Register' form is centered. Below it, the form contains input fields for 'First Name', 'Last Name', 'Username', 'Email', 'Password', and 'Confirm Password'. A green 'Register' button is at the bottom of the form. A footer at the very bottom reads 'Copyright © 2021 Land Locator'.

Figure 6: Registration page

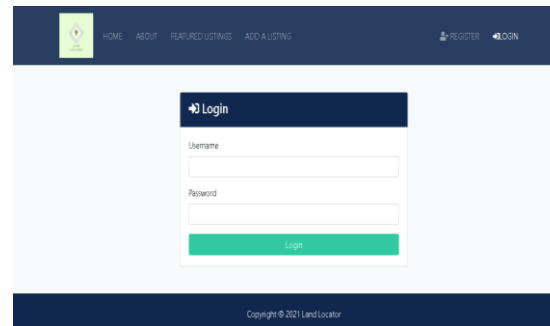
The screenshot shows a web application's login page. It has the same dark blue navigation bar as the registration page. The main content area features a dark blue header for the 'Login' form. Below the header, there are input fields for 'Username' and 'Password', followed by a green 'Login' button. The footer at the bottom reads 'Copyright © 2021 Land Locator'.

Figure 7: login page

6 CONCLUSION:

To recapitulate, while developing this platform, I learnt a new technology, methods and approaches which provides me the abundance of knowledge, confidence, experience and management skills. This is the working project with user needed functionalities yet some are need to be developed.

6.1 Future scope:

Though it is challenged to work within limited time period, I developed important functionalities in this software. But still some of functionalities that can be explored in this project are:

- Inquiry submission: the template of the form is designed but modelling and linking it with database is remaining.
- Edit and delete listings: this function is needed to be implement as it is vital for modifications of listings.
- Reviewing user experience: after using this platform, reviews of user experience matter a lot as it notifies the developers to modify the platform according to the user needs.
- Reviewing landscapes: reviewing and ratings of landscapes clarifies the users about the demand of particular place.

- Built-in calculator: this calculator calculates the estimated price of rent or lease according to the number of square feet and price per square foot entered by owners. This feature provides the exact estimated cost in few seconds without any mistake so that user do not need to calculate on their own.
- Locations attached with google map: by attaching google map locations URLs, anyone can easily find out the specific place.

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