

Vrukshpaal: Tree Plantation Application

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Abstract - The application is based around the immediate and required need for the current generation to protect, safeguard and ensure a safe and secure future for the generation to come. The main ideology of Vrukshpaal is to maintain a green environment and to involve more people to fulfill this aim not only at an individual level but also for businesses and schools. It motivates the users to plant trees in various ways to contribute to the environment in spite of their busy schedule by donating money and planting whichever species they want to. It also provides a platform to organize volunteering events as well as educational programs to spread awareness about the importance of planting trees.

Key Words: Vrukshpaal, One Tree Planted, Individual, Businesses, Schools, Species, Leaderboard.

1. INTRODUCTION

Vrukshpaal is an application designed using Java Swing and uses MariaDB at the backend. It has various sets of users that can access and utilize the facilities provided by the application.

Vrukshpaal is a platform which brings people having busy schedules close to the environment by donating or planting the species they want, volunteering for plantation events as well as planting species on behalf of their loved ones on various occasions. In corporate world, Vrukshpaal helps employees to fulfil their social duties in order to maintain greenery in the environments

Schools are aware about the issues faced due to deforestation and industrialization. Because of these issues, various schools have already started to create awareness among their students. Vrukshpaal also provides a platform for helping the schools arrange various educational programs for increasing the knowledge about maintaining and creating a green environment among students and organize volunteering events for students to give back to the environment.

2. MOTIVATION

As the world aspires to develop new technologies and to expand boundaries in almost every sector at a rapid rate,

it seems to slow its pace when it comes to climate change and preserving the ecosystem where trees inevitably hold a major part of our answer. This can be seen by mass destruction of trees, deforestation, that have been sacrificed for urbanization, industrialization and various reasons.

Trees help purify the air we breathe, conserve and improve the water quality, and provide habitat to wildlife [1] and hence, proving its importance. Trees provide so many benefits to our everyday lives.

As IT Engineers, we feel that connecting nature and technology can help bring a change in the world by making a one-stop-destination to contribute towards the environment, especially for those who don't have time.

Through this project, we will be able to give back to nature on an individual, school and organizational level.

3. LITERATURE

3.1 Survey of Existing System

One Tree Planted is a 501 C3 non-profit organization based in Vermont to help with global reforestation.[2] Their goal is to help individuals, businesses and schools to give back to the environment by either donating monetarily or volunteering to plant trees. They also work with various reforestation partners all over the world that help them achieve their reforestation goals. Currently, they operate mainly in six regions: North America, Latin America, Africa, Asia, Europe and The Pacific. [2] The application is divided into three parts:

1. Individual: Individuals can help achieve reforestation goals by donating monetarily towards a project of their choice. Users can also set up recurring donations over a period of time. They have an option of creating a fundraiser, which they can share with their friends and family to spread awareness. They can also become a One Tree Planted tree ambassador [3] where they can organize and lead their own tree plantation event. Along with this, they can also volunteer at different volunteering events.

2. Businesses: One Tree Planted helps businesses achieve their Corporate Social Responsibility goals by providing an option of becoming a business partner [4]. The

organization then helps the business by organizing various events for the company employees or providing an option for the businesses to donate to any of the organization's projects.

3. Schools: One Tree Planted provides a free T.R.E.E.S. (Teaching Reforestation, Environmental Engagement, and Sustainability) program designed for students and teachers.[5] They provide various resources such as educational materials including books, videos, activity kits, posters, guides, etc. The teachers can spread awareness about reforestation and inculcate the program in their curriculum. There is also an option of creating a class or school fundraiser for a project of their choice.

3.2 Limitations of Existing System or Research Gap

One Tree Planted makes it easier for individuals, businesses and schools to contribute towards their global reforestation goals. There are a few features which could be added to increase the functionality.

At the individual level, additional features could be added like gifting a tree to a friend or family on a special occasion or festivities. An option of setting up a recurring donation on a special occasion every year, occasion subscription, could be provided as well.

Businesses are required to become partners before they can arrange any events or donate towards a project. Direct options to donate and arrange for volunteering events, without the requirement of becoming a partner, will make it more efficient and easier for the businesses to contribute to the environment. Also, an option to raise funds on a corporate level could also be added.

One Tree Planted provides resources which teachers can use to teach to students in their schools. A more effective option would be to appoint a specialized teacher or educator who could themselves teach and spread awareness among the students. The schools can then arrange for various educational programs or lectures. We could provide a feature where schools can arrange for volunteering events for their students as well.

Keeping in mind all these additional features, we designed our project accordingly.

4. ARCHITECTURE/Framework

The basic flow of our project goes as follows: On launching the interface, the home page comes into picture. It consists of the:

1) Leaderboard:

This section displays the names, species of the plant and the amount in Rupees donated by users at the individual level. It displays the data in decreasing order of the amount donated and is displayed in a tabular form.

2) Plant a tree:

This section introduces us to the different user types namely:

a) Individual:

On entering as an individual, one may need to sign up if not already a member, else sign in. They will be directed to a frame that will have following facilities:

I. Donate:

On fulfilment of details in this frame, the confirmation page appears.

II. Occasion Subscription:

On filling all required details given, the user will see the confirmation page.

III. Gift a Tree:

After filling all text fields given, the confirmation page can be seen.

IV. Volunteer:

On submitting the details filled, one can see the confirmation page.

b) Business:

On choosing business user type, the business representative will be asked to sign up if not already a member, else sign in. On doing so another frame with facilities as follows will be shown:

I. Tree Fund:

After filling all text fields in the form, the confirmation page can be seen.

II. Recurring Donation:

On submitting the details filled, one can see the confirmation page.

III. Volunteer:

On fulfilment of details in this frame, the confirmation page appears.

c) Schools:

When a user selects the user type as school, he/she will first be asked to sign in and if they are not already a member, they'll have to sign up. After that a frame consisting of the following facilities will be seen on screen:

I. Educational Programs:

On completion of filling the form, the user will be able to see the confirmation page.

II. Volunteer:

After filling up all details in the form, the confirmation page is visible on the screen.

3) Species information:

This section is an informative section which displays different kinds of species available and various features of those species. It was designed to help users make an informed choice about the species they wish to donate, plant or gift.

5. RESULT

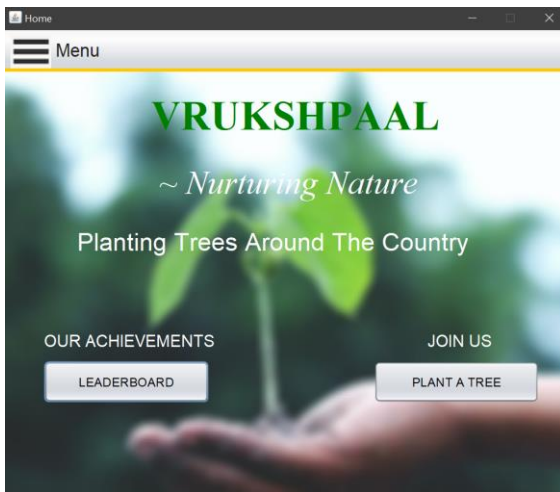


Fig. -1: Home page



Fig. -2: Categories



Fig. -3: Leaderboard

6. CONCLUSIONS

Vrukshpaal, an application meant and developed to create an environment to help and assist to promote the growth and protection of the environment was successfully developed and created to the specifications and requirements as set and thus defined by us at the start of the project. Vrukshpaal was developed into an efficient product that can be used immediately.

In the future, this project can be implemented as a website or an app, with additional features such as an integrated payment portal, email and text message confirmations, etc. An e-commerce section can be included for buying various species of plants that can be nurtured at home and promoting greener homes.

REFERENCES

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