Incentivising eco-friendly initiatives by offering economic incentives and integrating social features using Web Development

Prajkta P. Dandavte, Prathamesh U. Deshpande, Samarth P. Deshpande, Vedant M. Deshpande, Pankaj D. Devale, Jay S. Devi.

Department of Engineering, Sciences and Humanities (DESH), Vishwakarma Institute of Technology, Pune, 411037, Maharashtra, India

Abstract **—** The impact of social media today is undeniable. From Facebook to Instagram, huge social media conglomerates control the flow of information to the people. Very rarely have dedicated social media been used for a big impact on a social cause. Social media has been portrayed as just another medium for mindless entertainment that can serve no greater purpose in the wider world. However, social media has immense power in the modern, world and thus it should be harnessed to tackle the biggest issues and challenges of our time. In this project, the aim is to record individuals' eco-friendly activities, assign them a score based on this, gamify the process by having it be visible to their contacts, hence motivating everybody in the social circle to undertake activities that combat global warming, climate change and similar large-scale challenges that challenge the entire human race.

Keywords *— climate change, global warming, mental conditioning, social causes, social media, social networks.*

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I. INTRODUCTION

The impact of climate change and global warming is not only visible and harmful on the local level but is also detrimental on the global level. Many industrial and infrastructural developments, deforestation, use of plastic, vehicular emissions, contamination of pollutants in water bodies like PFAS; soil and atmospheric pollution have devastated the natural environment causing severe ill health effects on human beings. Many organizations and NGOs are slowly finding several alternatives and inventions to reduce the outcomes of these environmental issues. We think that people should be made aware and educated of the effective and optimal use of our natural resources and energy to safeguard Mother Nature and also to revisit our traditional practices in preserving the resources to attain sustainability at all levels. This is the dire need for environmental awareness on every aspect of the environment and conservation of natural resources and biodiversity to produce socially responsible citizens for our country. So, for this our motive is to use social media to spread awareness and increase the practices to save our mother Earth. As we all know in today's era social media is an ever-present facet of life that connects us. Almost every advertisement whether newspaper, radio, podcast, magazine, television or elsewhere, gets its social media presence in a way. 'You can like us on Facebook, check us out on Instagram' or perhaps 'watch our channel on YouTube' are just some of the hooks that people use to socialize themselves or show the activities we do on social media. As of January 2019, there have been around 7.5 billion people on earth, of which around 3.4 billion were the users which were active on social media. Moreover there, there are almost a million new users to some style of social media daily or a brand-new user every ten seconds; 300 hours of video are uploaded on YouTube alone every minute. To summarize, social media has the power to attract individuals to group activities or groups for the activity the individual to practice that activity. So, the aim of this social media made using Web Development, is in fact to do the work of spreading awareness about practicing eco-friendly activities with help of the most effective medium in this era which is social media.

W. Akram, R. Kumar's research, and the resulting paper are an excellent introduction to the effects of social media and the power it possesses in the digital world [1]. It helps us get a better understanding of how social media can impact us to a large extent without us knowing. The paper includes specific examples like Facebook, Twitter, Pinterest, and Instagram and explains in detail their purpose. The crux of the paper lies in its explanation of both the positive as well as negative impacts social media causes. It explains both sides well and gives credence to the idea of using social media positively. The main point that Andie Phoon's Paper describes is how pervasive social media is between the demographics of 12-24[3]. It uses data from other studies to show that 22% of teenagers between the ages of 18 and 24 log on to their favourite social media site more than 10 times per day, and more than half of adolescents log on to a social media site more than once per day, demonstrating how prevalent social media usage is among adolescents. Seventy-five per cent of teenagers already own cell phones, and this number is growing every day as smartphones become more affordable. Twenty-five percent use their phones for social networking, 54 percent for texting, and 24 percent for instant online chatting services. It further describes the effect of social media on various types of relationships. Linda C. Angell and Robert D. Klassen's paper explains how to increase the importance of environmental issues in the mainstream consciousness [2]. It starts by explaining the actions various companies undertook to reverse or repair the damage previously caused in part due to their products, for example, Pepsi, 3M, DuPont, etc. Then it goes in-depth about the operations systems that make these processes possible. Finally, it suggests ways to set up a system for companies to manage their environmental responsibilities. The impact of social media on teens is a topic well explored in the paper by Duaa Ali Al-Sabti, Ajay Vikram Singh, S.K. Jha [4]. It explores the effects of social media, both positive and negative, specifically on teens. It further explores topics like social media and society, social media and business and highlights important points about the change that social media has brought about in these contexts. The paper by Neli Blagus and Slavko Zitnik explores data collection by websites by analyzing what data is accessible using APIs [5]. It compares this data to compare several social media platforms. It also analyses this data to gain insight into the particular usage statistics of a certain social media platform. Observations like Twitter users post more, while Facebook and YouTube users comment more, can be gleaned from the above data and have been included in the study. Research by Qingya Wang et al. [7] describes the effects of social media particularly on college students, it gives important statistics and background like 25% of the time spent online by college students is spent on social media sites. Sanna Ketonen-Oksi Jari J. Jussila Hannu Kärkkäinen's research paper [8], paints a picture of the entire social media landscape regarding the extent of the data collection, and management and processing. It describes the explosive growth of Web 2.0 and the privacy concerns it brings. Considerable research has been done in marketing based on social media, in the business environment (Rapp et al. 2013) [9] which describes the relationship between the seller, retailer and the consumer in the context of social media and online communication. It describes the communication on social media through a commercial lens. The research by Shelley Boulianne was based on the broad effects of social media [10] which describe the depth to which social media can influence social factors and politics in everyday life, as they hold a very important position as information aggregators, thus they control a large section of mainstream attention.

The main hurdle in getting people to undertake eco-friendly activities has been the lack of a real incentive. Thus, our solution addresses this issue in 2 ways. Firstly, there is the social component, which will promote healthy competition to carry out eco-friendly activities between social groups like friends. Secondly, the score of an individual can be tracked and economic incentives like cash backs, discounts, and giveaways can be used in conjunction with corporate partners who can choose to provide these benefits in exchange for climate-conscious branding. This ensures a win-win condition in which companies get very topical branding and eco-friendly activities are carried out.

II. METHODOLOGY/EXPERIMENTAL

Some tools that we used are-

- For frontend
- HTML - HTML allows the users to create and structure sections, headings, links, paragraphs, and more on websites using various tags and elements. HTML provides the basic structure of a webpage.
- CSS - CSS use to give proper design effects to the HTML web structure that have created in HTML code.
- JavaScript - It is commonly used for creating a web page. It allows the addition of dynamic behavior to the web page and special effects to the web page on the website. It is mainly used for validation purposes. It helps to execute complex actions and also enables the interaction of the website with visitors.
- Bootstrap - It is a front-end framework that helps to build a mobile responsive website more quickly and easily.
- For backend
- PHP - It is known as a general-purpose scripting language that can be used to develop a dynamic and interactive website. It is generally used to handle server-side scripting.
- MySQL - It is a popular open-source database management system commonly used in web applications due to its speed, flexibility, and reliability. It employs SQL or structured query language for accessing and processing data contained in a database.
- XAMPP – XAMPP is a convenient package that handles setting up an initial development environment for our project. It uses other open-source projects like Apache Server, PHP, and FileZilla FTP.

A. *System Architecture*

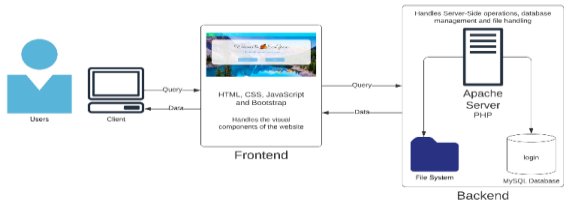

Figure 1 Diagram describing system architecture

III. Results and Discussions

The motivation of this project is to search how social media can increase the use of green technology for environmental sustainability at a reduced cost to people and the environment. In the research, 12 green energy professionals responded how social media could enhance green practices within a firm, encourage green culture externally to people, and increase green technology use. People also described the cost-benefit of using green technology. The results from the study appear that social media is an efficient information systems platform to reach millions of people and educate them on the cost-benefit of using more green technology to help and encourage the environment

This single theoretical case study outcome shows that social media are effective for increasing the use of green technology, intensifying and also magnifying Green business practices, and spreading Green culture in people and society. Also, the findings designate or specify that the benefits of the world going Green far surpassed the costs of going Green. The coding from the nodes and sub-nodes of this research revealed that many sources said social media has a positive effect and positive impact on improving business processes, increasing people base, and increasing green technology use and that there is a positive benefit-to-cost ratio in using Green technology. Only some people said that there is little or no positive impact or positive effect. Also, the results from the coding appear that many of the references implied that social media has a positive effect and positive impact on improving business processes, increasing customer base, and intensifying and magnifying green technology use and that there is a positive benefit-to-cost ratio in using Green technology. Only some references implied that there is little or no positive impact or effect.

The purpose of this qualitative case investigation was to explore how social media can grow the use of green technology for environmental maintenance at a reduced cost to people and the environment.

IV. Future Scope

In India, there is an increasing trend of eco-friendly activities and it will continue from now onwards so the website will be extremely useful to raise awareness in the coming years. Indian population is currently uninformed and as we

see Indian people are more into green products and eco-friendly activities so there is a chance that websites like this can expand in future.

Companies and NGOs nowadays have taken green marketing as a competitive advantage so a platform like this can get good usage in these companies and NGOs. There are many activities schools and colleges in this domain so the website can be used there too. Such activities are promoted through colleges by the Government of India so they can be used to organize eco-friendly awareness campaigns and events.

V. Conclusion

In conclusion, we think that our project will help in the following ways

Involving people in eco-friendly projects. Increasing social participation by using techniques commonly used in social media. Development of Green technology will be achieved in which the technology is environmentally friendly and is created and used in a way that conserves natural resources and the environment. Help raise awareness for the general public about methods to combat climate change.

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