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Targeted Advertising Using Location – Based Behavioral Data & Social Data

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Absract: ***Advertising is the key factor of any social sites. The explosive growth of social networks increases the prolific availability in customer tastes and preferences. This data can be exploited to serve the customers better and offer them the advertisements to the customers. To provide relevant advertisements to consumers, its important to consider the location of the consumer as well. The consumers will be highly contented if the offers shown to them are easily accessible in nearby areas. we propose a model combining the idea of social and spatial data to provide targeted advertisements. Social data is acquired through user's Facebook profile and location of the user is found with the help of Beacons. In these we are also using the concept of GPS (Global Positioning System). GPS helps for providing the service globally, in which we can provide multiple services to multiple users. The***
GPS system operates independently of any internet reception, though these technologies can enhance the usefulness of the GPS positioning information.
Keywords: Targeted; Advertisements; IOT; mining; recommendation; social networks; GPS.

I. INTRODUCTION

Mobile phones are existing or being everywhere today They are not only used as means of communication, but since the advent of smart phones, one can also perform web search, video streaming, image sharing and status updates on the social media. They have dismantled the location barriers entirely. As a result, personalized content can be suggested to the user considering their social conduct as well as their surroundings. The effectiveness of targeting a small portion of customers for advertising has long been recognized by businesses. Users, today, are flooded with irrelevant and extraneous advertisements and offers, which might result in dissatisfaction of the customer. If the process of recommending advertisements to users, which they find pertinent, could be ameliorated, it would open plethora of new opportunities for businesses, and increase customer retention. The explosive growth of social networks has led to prolific availability in customer tastes and preferences. Users today share everything, be it their preferences in food or in clothes with the help of social networks on a regular basis. This data can be exploited to serve the customers better and offer them the advertisements they would be delighted to see. To provide relevant advertisements to consumers, systems have to consider their location as well. The consumers will be highly contented if the offers shown to them are easily accessible in nearby areas.BLE devices are gaining popularity due to their cost efficient and energy saving model. Beacon is the best available option when it comes to indoor location positioning, communication and analytics. This technology easily edges out Wi-Fi and NFC with its combination of flexibility, accuracy and a low-cost infrastructure. The widely available and diversified assortment of online social networks, most recent social network-based recommendations have concentrated on limited kinds of online social. There does not exist any model that combine the idea of social and spatial data to provide effective results. Some systems do not consider user preferences, others do not take into account the location.

There are several devices in use today for providing the location of a person. In this paper, we present the idea of using a 'beacon' or a 'Bluetooth Low Energy Device' for accessing the location of user. The beacon devices are an indoor
proximity system which transmit a signal using Bluetooth Low Energy, or BLE for short – the signal contains a unique identifier for that beacon. When a BLE-enabled device (like a smart phone), comes in the range of the beacon signal, an action can be triggered in the device orsome contextually relevant message can be sent or notifications can be triggered, provided the device has its 'Bluetooth' service operational. The working of this project in which we uses the concept of GPS,which provides the high geographic range. GPS stands for “GLOBAL POSITIONING SYSTEM”. GPS is a satellite-based navigation system made up of a network of
24 satellites placed into orbit. GPS satellites circle the earth twice a day in a very precious orbit & transmit signal information to earth.GPS receiver take the information & use trilateration to calculate the users exact location.

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II. LITRETURE SURVEY

A. Targeted Advertising Using Behavioural Data and Social Data Mining[1]

In this paper author proposed ,a model combining the idea of social and spatial data to provide targeted advertisements. Social data is acquired through user's.Facebook profile and location of the user is found with the help of Beacons.

B. A Review of the Role of Sensors in Mobile Context-Aware Recommendation Systems[12]

In this paper, author proposed, the importance of considering the context of the situation in which the recommendation process takes place, in order to offer more relevant & precise recommendation. Recent approaches also have highlighted the importance of considering the context of the situation in which the recommendation process takes place, in order to offer more relevant & precise recommendation.

C. GPS: Which Indoor Location Technology will your Business Benefit from [14]

In this paper, author proposed, When a BLE-enableddevice (like a smart phone), comes in the range of the beacon signal, an action can be triggered in the device or some contextually relevant message can be sent or notifications can be triggered, provided the device has its 'Bluetooth' service operational. BLE devices are gaining popularity due to their cost efficient and energy saving model. Beacon is the best available option when it comes to indoor location positioning, communication and analytics. This technology easily edges out Wi-Fi and NFC with its combination of flexibility, accuracy and a low-cost infrastructure.

D. Gateway to the Internet of Things [3]

In this paper, author proposed, To provide relevant advertisements to consumers, systems have to consider their location as well. The consumers will be highly contented if the offers shown to them are easily accessible in nearby areas. There are several devices in use today for providing the location of a person. In this paper, we present the idea of using a 'beacon' or a 'Bluetooth Low Energy Device' for accessing the location of user. The beacon devices are an indoor proximity system which transmit a signal using Bluetooth Low Energy, or BLE for short – the signal contains a unique identifier for that beacon .

E. Personalized Recommendations Based on Users' Information-Centered Social Networks.[2]

In this paper, author proposed the widely available and diversified assortment of online social networks, most recent social network-based recommendations have concentrated on limited kinds of online sociality. There does not exist any model that combine the idea of social and spatial data to provide effective results. Some systems do not consider user preferences, others do not take into account the location. In this model, we discuss the idea of combining both to recommend best offers to customers.

F. Context-Aware Recommender Systems for Learning: a Survey and Future Challenges[15]

In this paper, author proposed, There are not many systems in use currently which employ the combination of spatial and social data to provide recommendations to user. Many paradigms have been proposed to incorporate contextual information in the recommendation process. A first recommendation via context-driven querying and search approach uses contextual information to query or search a certain repository of resources (e.g., restaurants) and presents the best matching resources (e.g., nearby restaurants that are currently open) to the user. A second contextual preference elicitation and estimation approach is a more recent trend in context-aware recommender system research. This approach attempts to model and learn contextual user preferences.

G. Social Tagging for Personalized Location-Based Services[7]

In this paper, author proposed a data mining framework that utilizes the concept of social network for the targeted advertising of products by observing cohesive subgroups from the user's social network account and based on that infer the probability of liking a particular product category from transaction records.

H. Automatic Keyword Extraction from Individual Documents[9]

In this paper, *au*thor proposed, how the current generation of location-based services (LBSs) fail to provide personalized recommendations and only suggest the nearby the point of interests (POIs). To overcome such a limitation, they realized a social

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recommender system able to identify user preferences and information needs, thus suggesting personalized recommendations related to possible POIs in the surroundings. Seth and Zhang discussed a social network based approach to personalized recommendation of participatory media content, such as blogs and proposed and evaluated such a system based on a Bayesian user-model.

I. A Social Network Based Approach to Personalized Recommendation of Participatory Media Content.[8]

In this paper, author proposed, how the current generation of location-based services (LBSs) fail to provide personalized recommendations and only suggest the nearby the point of interests (POIs). To overcome such a limitation, they realized a social recommender system able to identify user preferences and information needs, thus suggesting personalized recommendations related to possible POIs in the surroundings.

J. Introducing Context into Recommender Systems."Proceedings of AAAI workshop on Recommender Systems in E-Commerce[13]

In this paper, author proposed, many recommender systems have appeared today based on advertising products by obtaining users' preferences in forms of ratings and reviews either explicitly (stated directly by the users) or implicitly (inferred from previous transaction history or Web logs). Personalization and recommender systems can potentially reduce the omnipresent information overload in our networked world, though a promising and possibly complementary approach is to utilize context, but this has been rarely applied in personalization systems so far.

III. COMPATATIVE STUDY OF LITERATURE SURVEY

NAME OF PAPER	AUTHOR	DESCRIPTION
Targeted advertising using behavioural data and social data mining	Vrinda Bhatia & Varun Hasija 2016	Combining the idea of social & spatial data to provide targeted advertisement.
A Review of the Role of Sensors in Mobile Context-Aware Recommendation Systems	Sergio harri, Ramon Hermoso, Raquel Trillolado Year 2015	The importance of considering the situation in which the recommendation process take place.
GPS: Which Indoor Location Technology will your Business Benefit from	Devika Girish Year july-2015	When a BLE device ,comes in the range of BEACON signal, an action can be triggered
Gateway to the internet of Things	Beacon Gateway Year 2015	Provide relevant advertisement to consumers.
Personalized Recommendations Based On Users' Information-Centered Social Networks	Lee Danielle Year 2013	Widely available & diversified assortment of online social network.
Context-aware recommender systems-for learning	Verbert Katrien Year 2012	Search approach uses contextual information to query or search certain repository of resources.
Social tagging for personalized location based services	Biancalana Year 2011	Utilize the concept of social network for the targeted advertising of products.
Autimatic keyword extraction for individual document	Rose stuart Year 2010	Helps for identify user performance & information needs.

IV. PROBLEM DEFINATION

A. User Behaviour Analysis Efficiency Problem.

B. Problems With Location base Marketing.

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V. OBJECTIVE

A. Location based marketing i.e location oriented.
B. To Improve Behaviour analysis by Using Association & Apriori technique or algorithm.
C. Association algorithm –provide information about same object. Apriori technique- provide the internal link of several object.
D. User Location Used To Calculate Location Based Marketing & also helps for accessing the location of user by using GPS satellite.
E. A similar Model or stack Can be used in Providing the Information for better Service available in Users Vicinity according to there needs.

VI. PROPOSED SYSTEM

The proposed work is planned to be carried out in the following manner

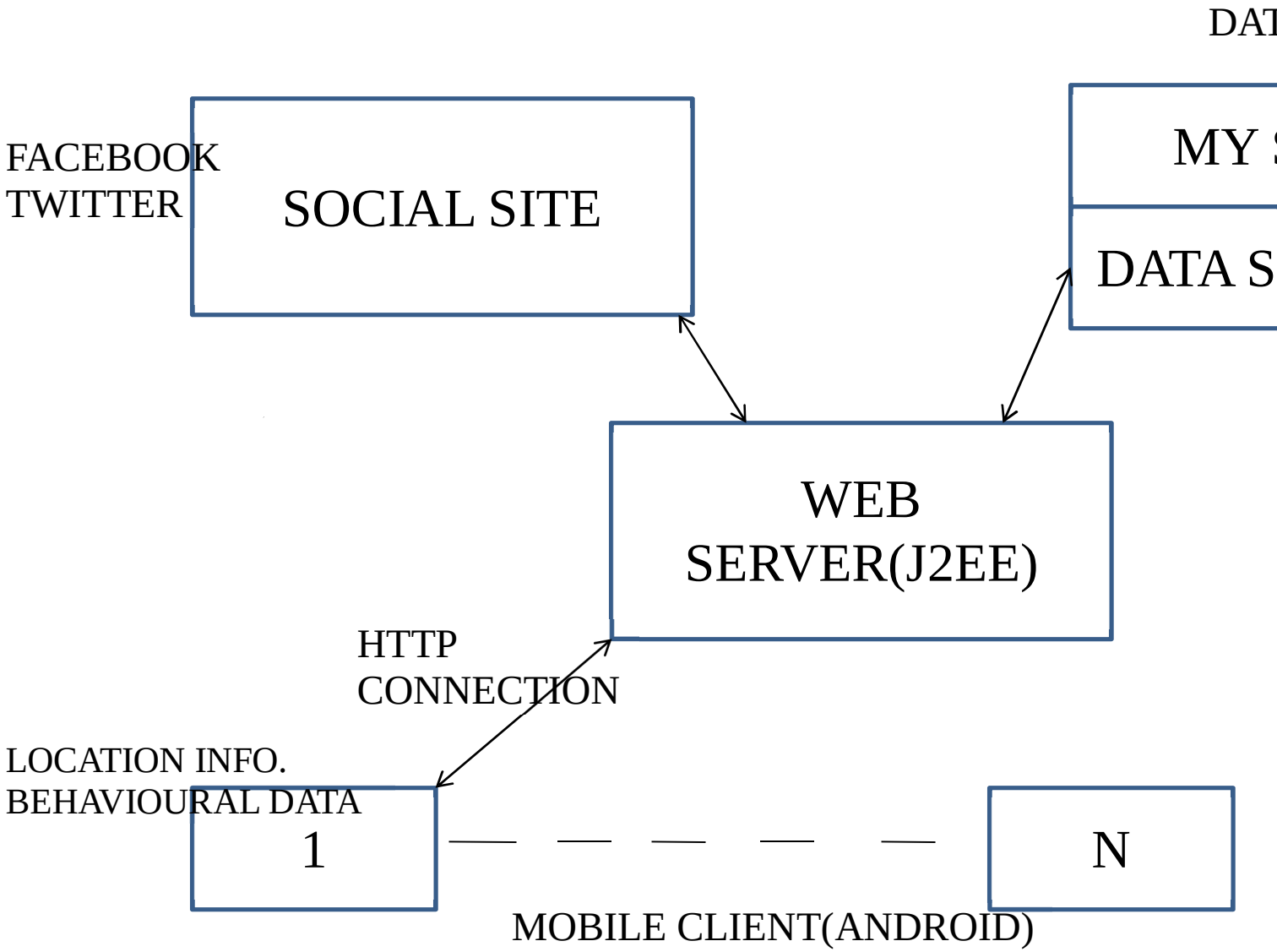

Fig: Basic System Architecture

Social sites refers to those networks whose provideservices to the user such as facebook ,twitter, & linkedin. This social site is connected with web server such as J2EE(Java Second Enterprise Edition). In the architecture 1to N represents the number of users. These number of users can send request to the web server and then web server accessinformation from the data base i.e data server. According to user request web server access information from the data server (database). In the architecture number of clients & database server is indirectly connected through the web server. After accessing the information from database, web server replies

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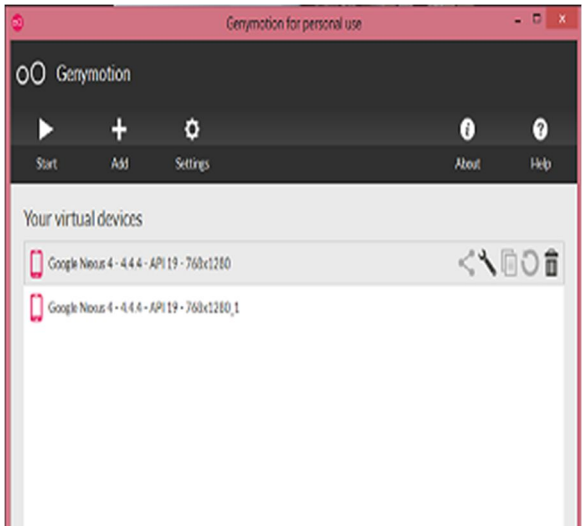
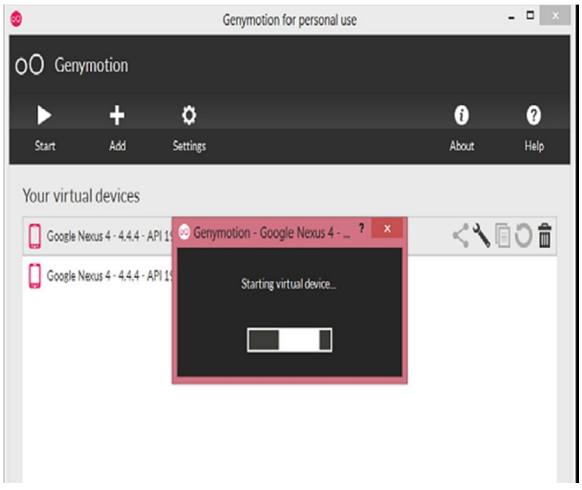
the appropriate response to the number of customer according to their needs and requirement. Web Server address always be unique because as per client request web server replies the unique response to each and every client(mobile). Web server contains the IP address,port number and project name (topic name). IP address always unique. There are two type of port number is used. Port number of web server is 19666 which is used for sending the request from client to server. Port number of database is 3306, which is used for accessing the information from database (MY SQL) to server. Web serve provide service to the user by using HTTP connection.

VII. MODULE IMPLEMENTATION

A. Implementation of collecting all user data from user & social.
B. Implementation of rapid keyword extraction, apriori. association technique for calculate user behavior.
C. Implementation of find targeted advertisement user behavior anakysis.
D. Implementation of find location based targeted advertisement.

1) Module 1:





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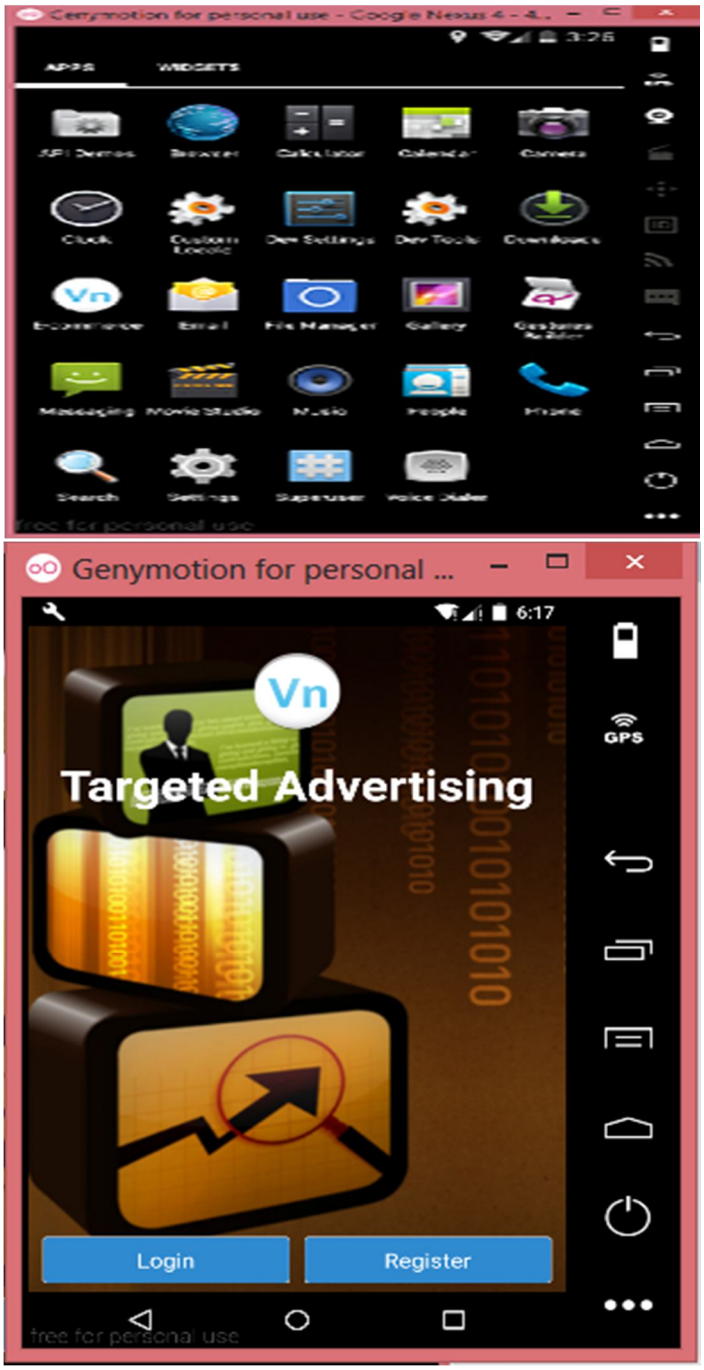

2) Module 2

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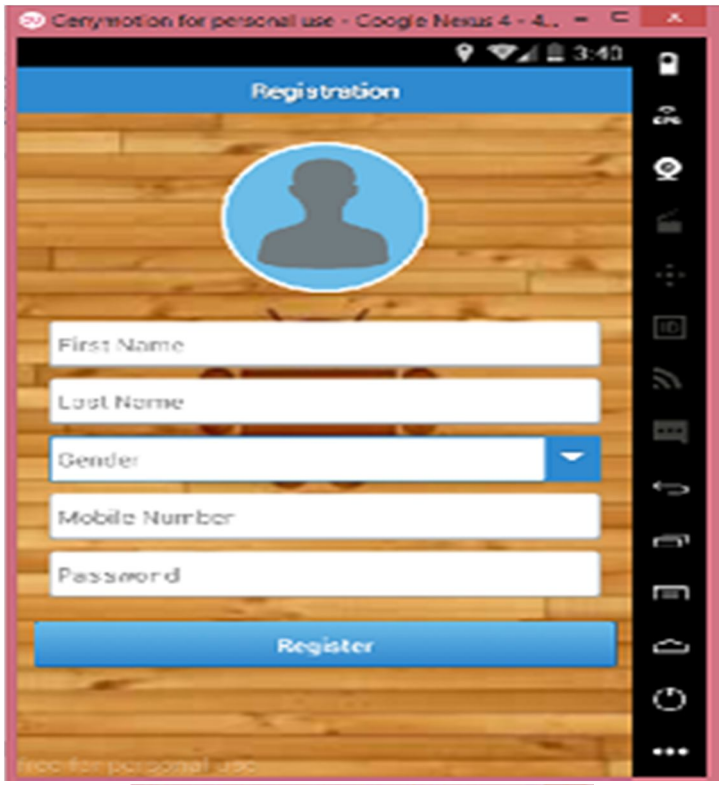

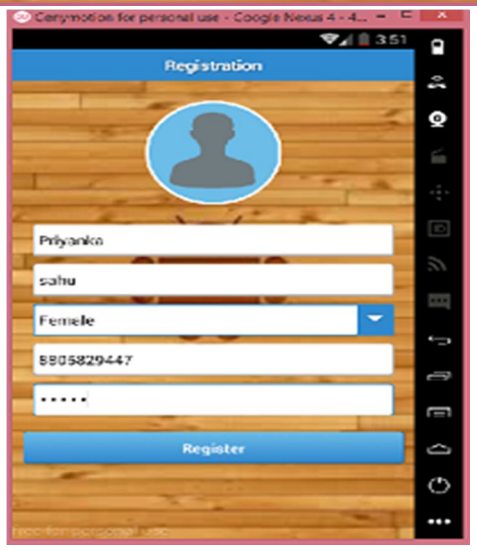

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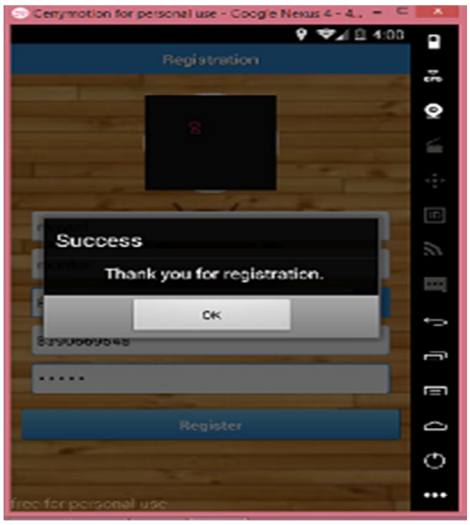

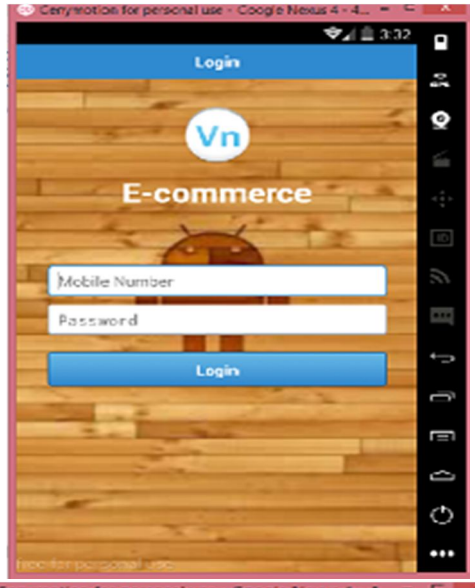

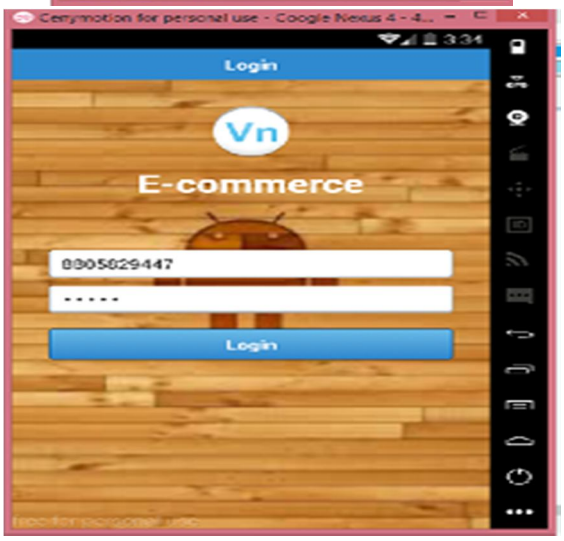

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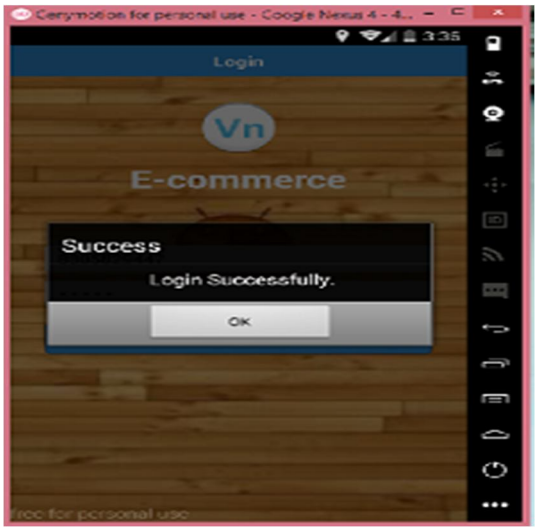

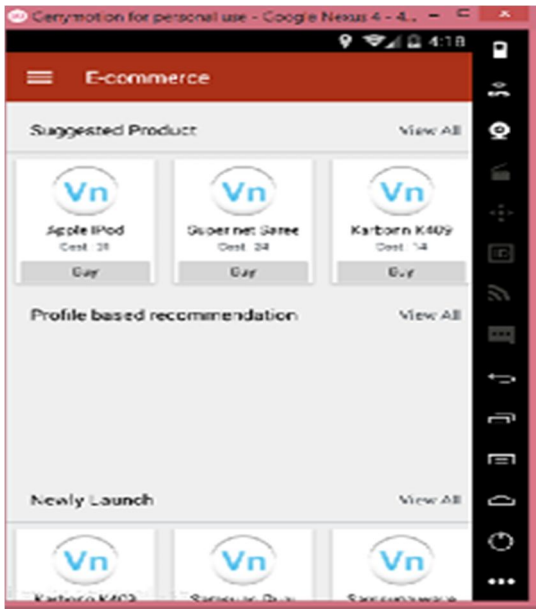

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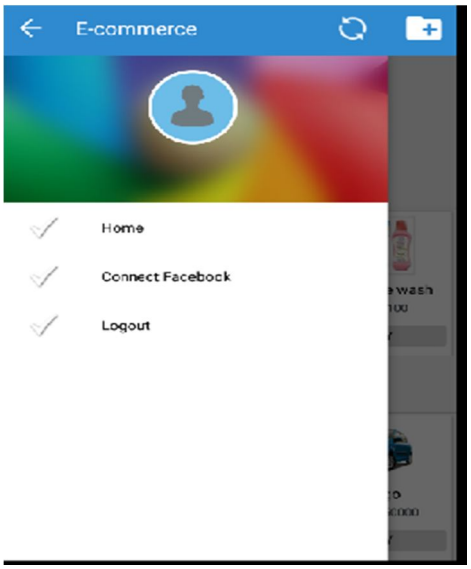

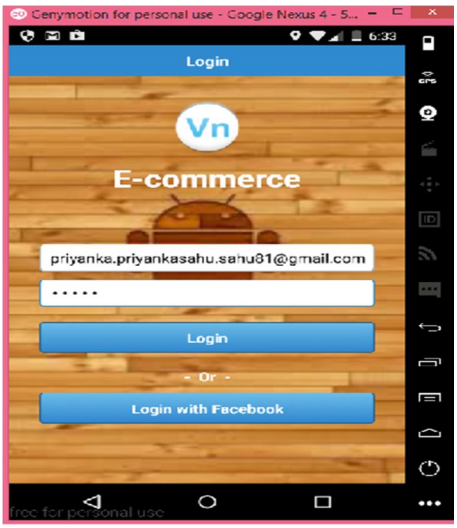

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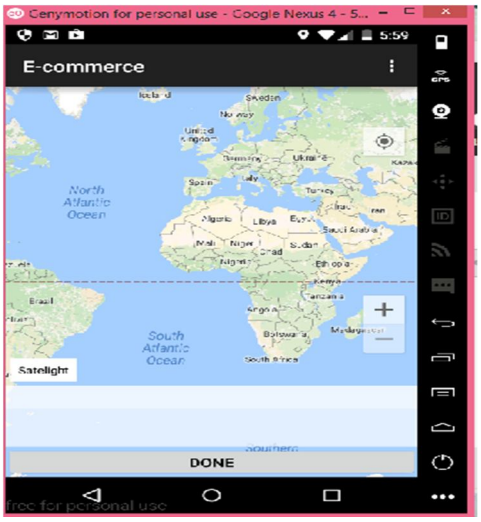

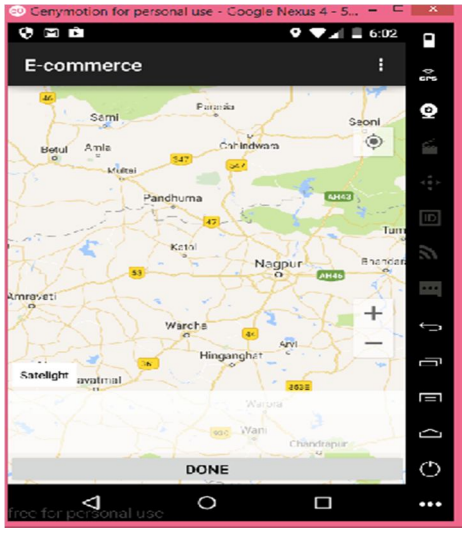

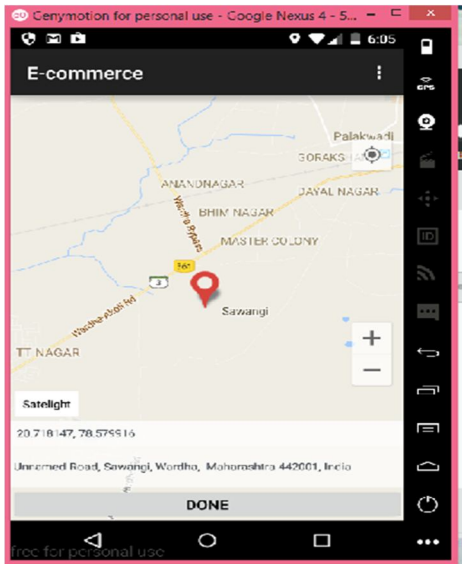

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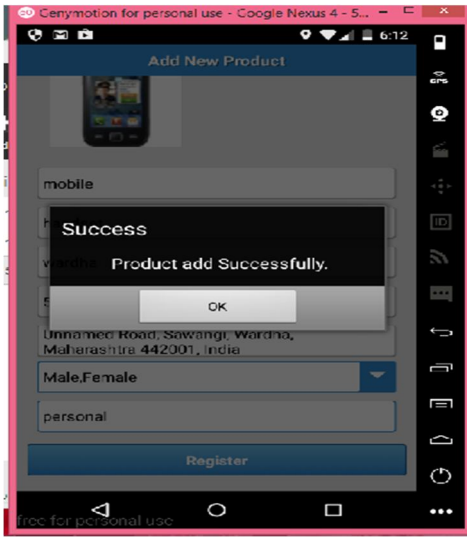

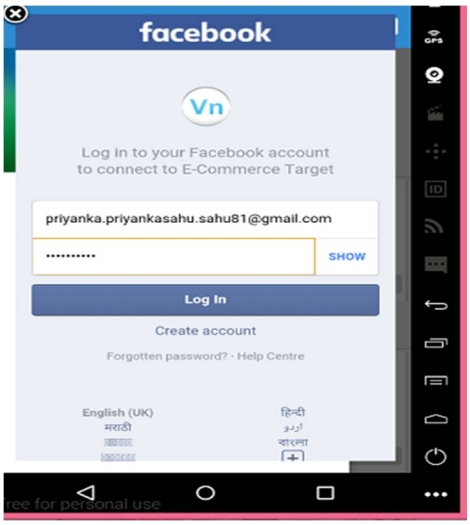

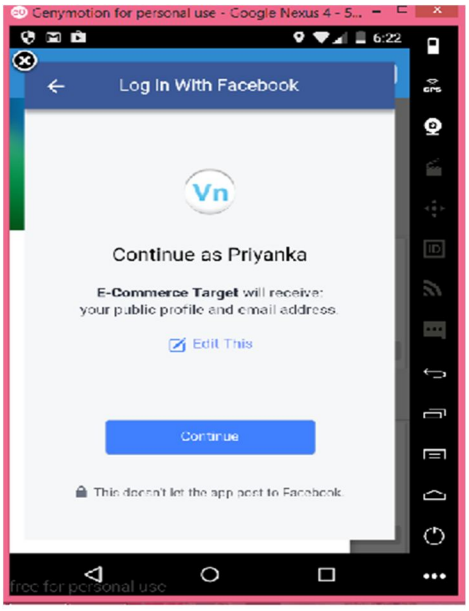

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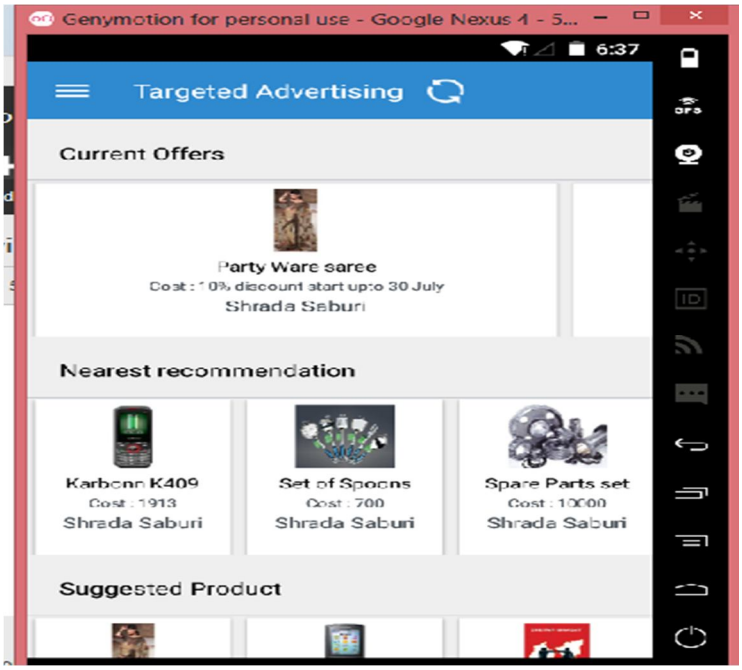

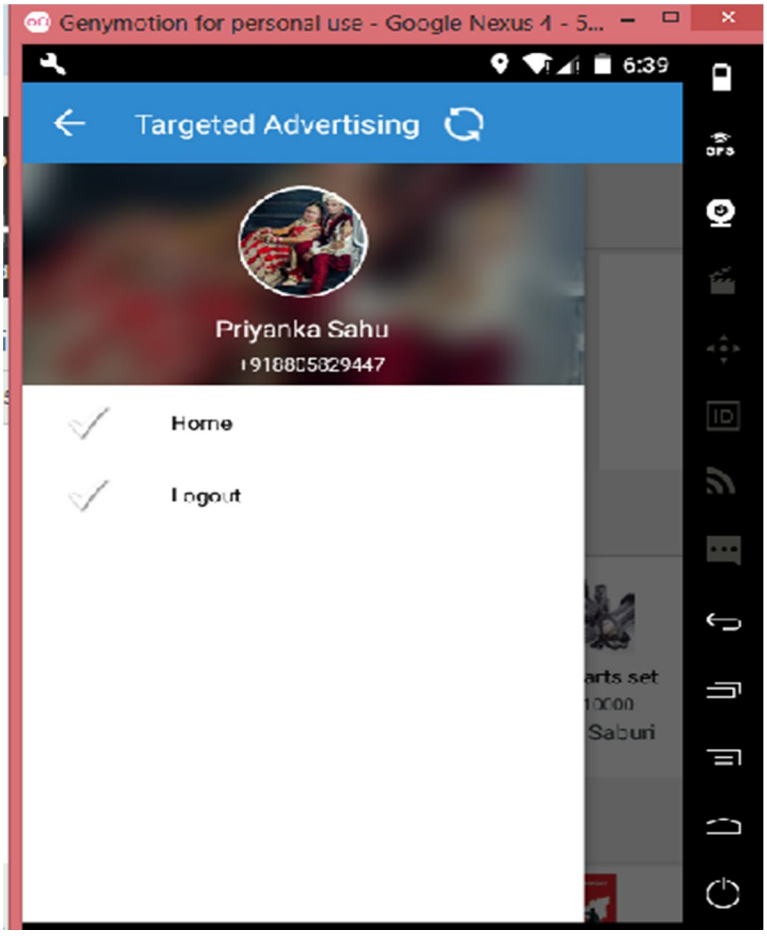

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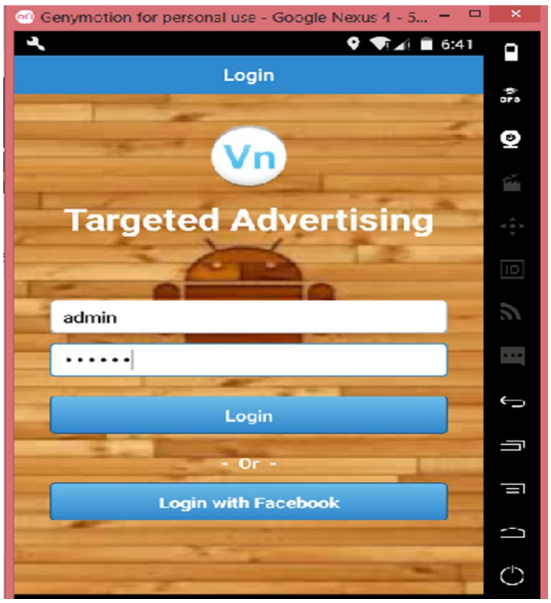

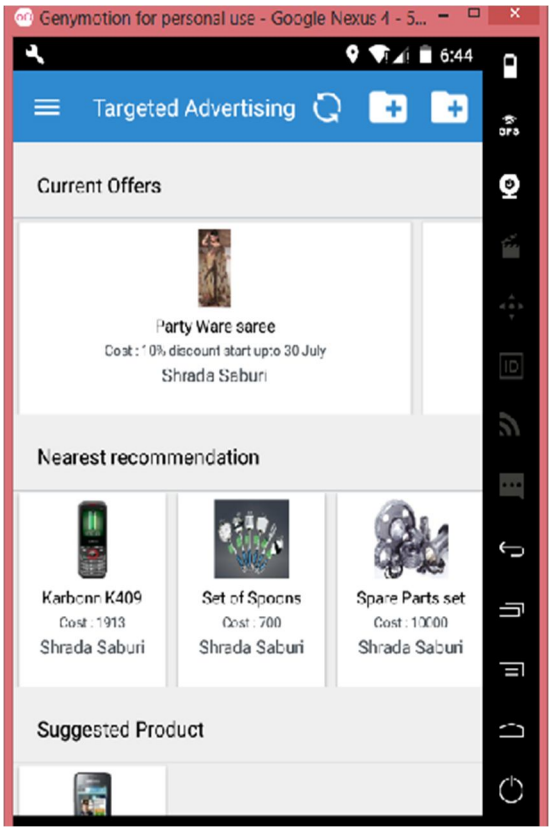

VIII. CONCLUSION

A novel idea for the targeted advertising of products. Personalization process is completed using the information obtained from the user's social network. Spatial information is obtained using Bluetooth Low Energy devices. The systems for targeted advertising existing today provide suggestions considering only user's interests. To solve this problem, we have proposed a model which uses combination of social and spatial data. Such models are capable of obtaining user's preferences and based on their current location, they provide more appropriate advertisements model or a similar stack can be used in providing the information for better medical

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services available in user's vicinity according to his/her needs and in the case of ticket counters at airports to provide the best deal available.

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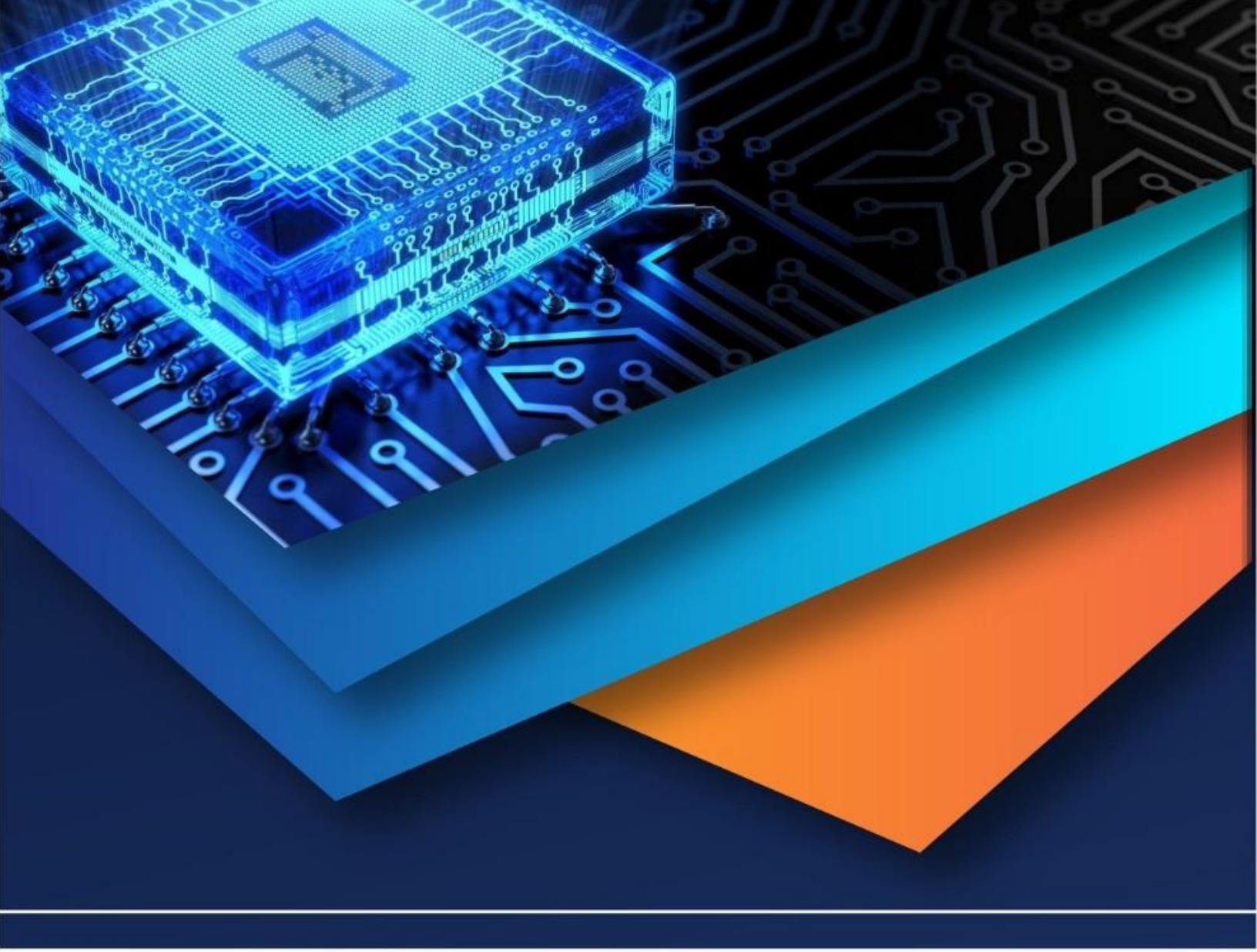

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