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Research Article

SOCIAL MEDIA NETWORKS AND MATHEMATICS – A COMPARISON

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ABSTRACT

We all know that, Mathematics plays a vital role in each and every field. Social Media Networks also has become a part of our life, in recent years. In this paper, we would like to make a discussion on the positive and the negatives of using social media networks and then we make a comparison between Mathematics and the social media networks.

Key Words:

Social Media Networks, Facebook,
Mathematics, Graph Theory.

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INTRODUCTION

Social media networks is very much helpful to connect to our friends. Nowadays, whenever friends meet, they first confirm whether they use social media networks like facebook, whatsapp etc. Many find it as a God's gift, since they are able to connect even to their childhood friends.

Communication-In Earlier Years

In previous years, there were not much communication facility. People were not able to get connected to their friends and relatives often. They felt it as a big process even to communicate for a little time. The cost of communication also was very expensive. Even for making a phone call, they found it as a tedious process. In earlier years, students were not able to clarify their doubts. They have to wait till the next day to come, for clarifying their doubts.

Communication-In Recent Years

Nowadays, Technology is moving on its rising slope. We find many communication networks. Within seconds, we are able to share our status, photos, messages. In addition, we are also able to have group chats. In no time, we are able to communicate with many recipients at a time, with the help of groups.

Not only for friendly chats, it is helpful in official chats also. Many companies form a group with their employees and using

that they are able to share their communication content with ease.

Education also gets improved with the help of these communication networks. Many students, form a group with the class mates, and use the group to share their ideas, home work, discuss their doubts and many other.

Social media networks

There are many social media networks. Using the social media networks, we are able to communicate by text, voice, pictures, videos and so on. Many find it comfortable to use face book and whatsapp. Each application has its own properties. We would like to make a comparison on mathematics with whatsapp. Before going on to the comparison, let us see a few words about social media networks and whatsapp.

Advantages of social media networks

- User friendly
- Connect to friends easily
- Share our thoughts and status
- Know our location
- Educational links and pages
- Used during emergency cases
- Helping hands can come forward even if they not friends

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Advantages of social media networks

- Gets addicted
- People may view our profile without permission
- Health issues

Whatsapp

It is an application, which can be downloaded, either in mobile or in desktop. Once we download, we can start using giving our personal data like phone number. It is an user friendly application. There are no restrictions on the number of messages or pictures shared.

It also gives us privacy statements, like hiding the profile picture, hiding the status etc. It also gives the option to check whether the recipient has viewed the message or not. We can also see whether the person whom we text are online or not. We can block the users if they are not in our interest list. It has many advantage of this type.

Advantages of Whatsapp

- User friendly
- Less time for communication
- Good privacy service
- Online calling facility
- Can set lock to the application

Disadvantages of whatsapp

- Messages can be sent only when the number is in our phone book
- Unknown persons also can communicate
- We can't send message to our own number
- Health issues
- Misuse of profile pictures

Graph Theory

As we all know, showing any data in pictures gives clear understanding than the usage of words. In general, pictorial representation has been referred as graphs. Graph Theory pays a major role in each and every field. In Computer Science Engineering, it has its vast application. It plays a major role in both software and hardware usage. For Example, in software, it is used in data flow diagram, graphical design, network designing. In hardware, it is used in data structure, image processing, web designing etc.

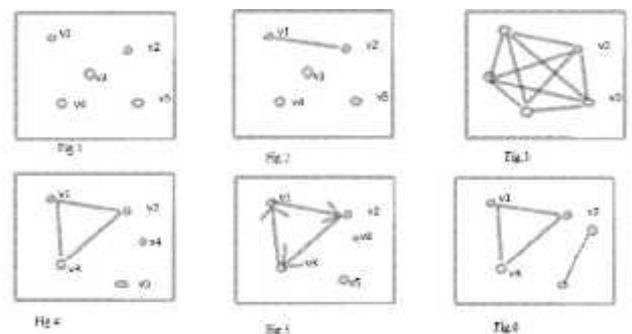
Graph theory terminology

- Graph
- Edge
- Null graph
- Complete graph
- Regular graph
- Cycle graph
- Directed graph
- Disconnected graph

Whatsapp&Graph Theory-Comparison

Communication needs both sender and receiver. Whatsapp uses two types of communications, like, single sender many receiver. Many sender single receiver, Many sender many receiver and so on.

- In whatsapp, first it shows the contact of the persons who are all using whatsapp like us. It can be compared with the set of all vertices. Let us for our example consider there are 5 persons using whatsapp. Then, the graph consists of 5 vertices as shown in Fig.1.
- When all the persons are idle, there is no communication and we can compare it to a null graph, as shown in Fig.1
- When two persons are in chat, it means they are connected. In graph theory, we compare it as edge. When two vertices are joined, we say there is an edge in a graph. For example, we consider an edge between v_1 and v_2 , as shown in Fig.2.
- When all the persons need to communicate at a time in whatsapp, a group is formed and used. It can be compared to a complete graph. A complete graph is a graph in which every pair of vertices are connected by an edge, as shown in Fig 3.
- Two vertices which are incident with a common edge are said to be adjacent. In a complete graph given in Fig.3, every vertices are adjacent.
- In whatsapp, in a group chat, every person is communicable to every other persons. It again can be referred to a complete graph as shown in Fig.3.
- Again referring to a group chat of 5 persons, every person is communicable to 4 other persons. In Graph Theory, it can be referred to a regular graph, in which every vertices is some same degree. Fig.3 is again an example of such regular graph.
- Once again, referring to a group chat of 5 persons, suppose one person communicating with the second person, and in turn second person to the third person, who in turn communicates to the first person, then there is only communication between three persons and the other two persons are idle. This can be referred to cycle graph with 3 vertices as shown in Fig.4.
- Again taking note of the situation stated above, it can be referred to a directed graph as shown in Fig.5.
- Once again comparing to the above said situation, consider the remaining other two persons communicating among themselves, in the graph. This can be described to a dis-connected graph, as shown in Fig.6



CONCLUSION

Thus the whatsapp application has been discussed and also, compared with the concepts of Graph Theory.

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