Progressive Rumour Persuade Depreciation With User Experience in Community Chains

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Abstract- *With the soaring development of large scale online social networks, online information sharing is becoming ubiquitous everyday. Various information is propagating through online social networks including both the positive and negative. In this paper, we focus on the negative information problems such as the online rumors. Rumor blocking is a serious problem in large-scale social networks. Malicious rumors could cause chaos in society and hence need to be blocked as soon as possible after being detected. In this paper, we propose a model of dynamic rumor influence minimization with user experience (DRIMUX). Our goal is to minimize the influence of the rumor (i.e., the number of users that have accepted and sent the rumor) by blocking a certain subset of nodes.*

A dynamic using propagation model considering both the global popularity and individual attraction of the rumor is presented based on realistic scenario. In addition, different from existing problems of influence minimization, we take into account the constraint of user experience utility. Specifically, each node is assigned a tolerance time threshold. If the blocking time of each user exceeds that threshold, the utility of the network will decrease. Under this constraint, we then formulate the problem as a network inference problem with survival theory, and propose solutions based on maximum likelihood principle. Experiments are implemented based on large-scale real world networks and validate the effectiveness of our method.

I. INTRODUCTION

With the soaring development and rising popularity of large-scale social networks such as Twitter, Facebook, and Chinese SinaWeibo, etc., hundreds of millions of people are able to become friends [2] and share all kinds of information with each other. Online social network analysis has also attracted growing interest among researchers. On one hand, these online social platforms provide great convenience to the diffusion of positive information such as new ideas, innovations, and hot topics .On the other hand, however, they may become a channel for the spreading of malicious rumors or misinformation. For example, some people may post on social networks a rumor about an upcoming earthquake, which will cause chaos among the crowd and hence may hinder the normal public order. In this case, it is necessary to detect the rumor source and delete related messages, which may be enough to prevent the rumor from further spreading.

However, incertain extreme circumstances such as terrorist online attack, it might be necessary to disable or block related Social Network (SN) accounts to avoid serious negative influences. For instance, in 2016, the families of three out of the forty nine victims from the Orlando nightclub shooting incident filed a lawsuit against Twitter, Facebook and Google for providing "material support" to the terrorism organization of the Islamic State of Iraq and Syria (ISIS) [12]. These companies then took measures to block related accounts, delete relevant posts and fanpages on their social network platforms to prevent the ISIS from spreading malicious information. Additionally, Facebook et al. also have issued relevant security policies and standards to claim the authority to block accounts of users when they are against rules or at risk [13]. Undoubtedly, malicious rumors should be stopped as soon as possible once detected so that their negative influence can be minimized.Most of the previous works studied the problem of maximizing the influence of positive information through social networks. Fast approximation methods were also proposed to influence. maximization problem. In contrast, the negative influence minimization problem has gained much less attention, but still there have been consistent efforts on designing effective strategies for blocking malicious rumors and minimizing the negative influence. Budak et al introduced the notion of a "good" campaign in a social network to counteract the negative influence of a "bad" one by convincing users to adopt the "good" one.

II. OBJECTIVE

Our goal is to minimize the influence of a rumor as much as possible (e.g. minimize the number of activated nodes at the end of propagation process) under the constraint of user experience utility.

III. EXISTING SYSTEM

- Kimura et al. studied the problem of minimizing the propagation of malicious rumors by blocking a limited number of links in a social network.

- Fan et al. investigated the least cost rumor blocking problem in social networks. They introduced the concept of "protectors" and try to select a minimal number of them to limit the bad influence of rumors.
- Budak et al. [9] introduced the notion of a "good" campaign in a social network to counteract the negative influence of a "bad" one by convincing users to adopt the "good" one
- And the negative influence minimization problem has gained much less attention, but still there have been consistent efforts on designing effective strategies for blocking malicious rumors and minimizing the negative influence.

DISADVANTAGES

- In existing System there is no efficient methods to find out the rumor which is spreading on the social networks.
- Social networks have issued relevant security policies and standards to claim the authority to block accounts of users when they are against rules or at risk.
- It does not give proper methods to avoid spreading rumors.

IV. PROPOSED SYSTEM

- In this paper, we investigate the problem of dynamic rumor influence minimization with user experience.
- First, based on existing works on information diffusion in social networks we incorporate the rumor popularity dynamics in the diffusion model.
- We propose a rumor propagation model taking into account the following three elements: First,the global popularity of the rumor over the entire social network, i.e., the general topic dynamics.
- Second, the attraction dynamics of the rumor to a potential spreader, i.e., the individual tendency to forward the rumor to its neighbors.
- And Finally find the information is rumor or non rumor based on the dataset.

Advantages

- Malicious rumors should be stopped as soon as possible once detected so that their negative influence can be minimized.
- Easiest way to find rumors using this DRIMUX technique .
- User experience is an important factor in our proposed System.

V. MODULES DESCRIPTION

- Admin Module
- Add Dataset
- Rumor Influence Minimization
- Rumor Blocking Analysis

Admin Module

- In this project admin will verfiy the registered user and allow them to use this application.
- he create the dataset which is extract from the original information in the social network .
- admin has maintain the all records and user details.
- And he will send the warning mail to the user whom spreading the rumor news.

Add Dataset

- the admin created and uploaded the dataset
- users checks the news which is rumor or non rumor from this dataset .
- This dataset is always updated according to the recent news
- this dataset has contains the data like headline,news,time,date,who create that news etc.

Rumor Influence Minimization

- In this module ,news or information is splited as rumor or non rumor .
- According to the dataset , the user will check the information /news fake or real.
- If the news is rumor,the original new's link is provided by default. We will click that link and view the original content.
- User view their tweets and profiles and reply to the other people's tweet.

Rumor Blocking Analysis

- In this module ,user whom spread the rumor news will get a warning mail from admin.
- And that mail contains the rumor news details spreaded by him/her
- According to this information , chart will be generated and displayed the count of fake news.
- Chart contains username and count of rumor news .Rumor news gets the reply from other peoples.

VI. LITERATURE SURVEY

[1] D. N. Yang, H. J. Hung, W. C. Lee, and W. Chen, " Maximizing acceptance probability for active friending in online social networks," in Proc. 19th ACM SIGKDD Int. Conf. Knowl. Discovery Data Mining, 2013, pp. 713–721.

Friending recommendation has successfully contributed to the explosive growth of online social networks. Most friending recommendation services today aim to support passive friending, where a user passively selects friending targets from the recommended candidates. In this paper, we advocate a recommendation support for active friending, where a user actively specifies a friending target. To the best of our knowledge, a recommendation designed to provide guidance for a user to systematically approach his friending target has not been explored for existing online social networking services. To maximize the probability that the friending target would accept an invitation from the user, we formulate a new optimization problem, namely, Acceptance Probability Maximization (APM), and develop a polynomial time algorithm, called Selective Invitation with Tree and In-Node Aggregation (SITINA), to find the optimal solution. We implement an active friending service with SITINA on Facebook to validate our idea. Our user study and experimental results reveal that SITINA outperforms manual selection and the baseline approach in solution quality efficiently.

[2] J. Leskovec, L. A. Adamic, and B. A. Huberman, "The dynamics of viral marketing," in Proc. 7th ACM Conf. Electronic Commerce, 2006, pp. 228–237.

We present an analysis of a person-to-person recommendation network, consisting of 4 million people who made 16 million recommendations on half a million products. We observe the propagation of recommendations and the cascade sizes, which we explain by a simple stochastic model. We analyze how user behavior varies within user communities defined by a recommendation network. Product purchases follow a 'long tail' where a significant share of purchases belongs to rarely sold items. We establish how the recommendation network grows over time and how effective it is from the viewpoint of the sender and receiver of the recommendations. While on average recommendations are not very effective at inducing purchases and do not spread very far, we present a model that successfully identifies communities, product, and pricing categories for which viral marketing seems to be very effective.

[3] A. McCallum, A. Corrada-Emmanuel, and X. Wang, "Topic and role discovery in social networks," in Proc. 19th Int. Joint Conf. Artif. Intell., 2005, pp. 786–791.

Previous work in social network analysis (SNA) has modeled the existence of links from one entity to another, but not the language content or topics on those links. We present the AuthorRecipient-Topic (ART) model for social network analysis, which learns topic distributions based on the direction-sensitive messages sent between entities. The model builds on Latent Dirichlet Allocation (LDA) and the Author-Topic (AT) model, adding the key attribute that distribution over topics is conditioned distinctly on both the sender and recipient—steering the discovery of topics according to the relationships between people. We give results on both the Enron email corpus and a researcher's email archive, providing evidence not only that clearly relevant topics are discovered, but that the ART model better predicts people's roles.

[4] M. E. J. Newman, "The structure of scientific collaboration networks," in Proceedings of National Academy of Science, 2001, pp. 404–409.

The structure of scientific collaboration networks is investigated. Two scientists are considered connected if they have authored a paper together and explicit networks of such connections are constructed by using data drawn from a number of databases, including MEDLINE (biomedical research), the Los Alamos e-Print Archive (physics), and NCSTRL (computer science). I show that these collaboration networks form "small worlds," in which randomly chosen pairs of scientists are typically separated by only a short path of intermediate acquaintances. I further give results for mean and distribution of numbers of collaborators of authors, demonstrate the presence of clustering in the networks, and highlight a number of apparent differences in the patterns of collaboration between the fields studied.

A social network is a collection of people, each of whom is acquainted with some subset of the others. Such a network can be represented as a set of points (or vertices) denoting people, joined in pairs by lines (or edges) denoting acquaintance. One could, in principle, construct the social network for a company or firm, for a school or university, or for any other community up to and including the entire world.

Social networks have been the subject of both empirical and theoretical study in the social sciences for at least 50 years partly because of inherent interest in the patterns of human interaction, but also because their structure has important implications for the spread of information and

disease. It is clear, for example, that variation in just the average number of acquaintances that individuals have (also called the average degree of the network) might substantially influence the propagation of a rumor, a fashion, a joke, or this year's flu.

A famous early empirical study of the structure of social networks, conducted by Stanley Milgram , asked test subjects, chosen at random from a Nebraska telephone directory, to get a letter to a target subject in Boston, a stockbroker friend of Milgram's. The instructions were that the letters were to be sent to their addressee (the stockbroker) by passing them from person to person, but that they could be passed only to someone whom the passer knew on a first-name basis. Because it was not likely that the initial recipients of the letters were on a first-name basis with a Boston stockbroker, their best strategy was to pass their letter to someone whom they felt was nearer to the stockbroker in some sense, either social or geographical: perhaps someone they knew in the financial industry, or a friend in Massachusetts.

A moderate number of Milgram's letters did eventually reach their destination, and Milgram discovered that the average number of steps taken to get them there was only about six, a result that has since passed into folklore and was immortalized by John Guare in the title of his 1990 play, *Six Degrees of Separation* . Although there were certainly biases present in Milgram's experiment—letters that took a longer path were perhaps more likely to get lost or forgotten, for instance —his result is usually taken as evidence of the "small-world hypothesis," that most pairs of people in a population can be connected by only a short chain of intermediate acquaintances, even when the size of the population is very large.

Milgram's work, although cleverly conducted and in many ways revealing, does not, however, tell us much about the detailed structure of social networks, data that are crucial to the understanding of information or disease propagation. Many other studies have addressed this problem (discussions can be found in refs.. Foster *et al.* , Fararo and Sunshine , and Moody and White , for instance, all conducted studies of friendship networks among middle- or high-school students, Bernard *et al.* did the same for communities of Utah Mormans, Native Americans, and Micronesian islanders, and there are many other examples to be found in the literature. Surveys or interviews were used to determine friendships.

Although these studies directly probe the structure of the relevant social network, they suffer from two substantial shortcomings that limit their usefulness. First, the studies are labor intensive, and the size of the network that can be mapped is therefore limited—typically to a few tens or hundreds of people. Second, these studies are highly sensitive to subjective bias on the part of interviewees; what is considered to be an "acquaintance" can differ considerably from one person to another. To avoid these issues, a number of researchers have studied networks for which there exist more numerous data and more precise definitions of connectedness. Examples of such networks are the electric power grid , the Internet and the pattern of air traffic between airports . These networks, however, suffer from a different problem: although they may loosely be said to be social networks in the sense that their structure in some way reflects features of the society that built them, they do not directly measure actual contact between people. Many researchers, of course, are interested in these networks for their own sake, but to the extent that we want to know about human acquaintance patterns, power grids and computer networks are a poor proxy for the real thing.

Perhaps the nearest that studies of this kind have come to looking at a true acquaintance network is in studies of the network of movie actors . In this network, which has been thoroughly documented and contains nearly half a million people, two actors are considered connected if they have been credited with appearance in the same film. However, although this is genuinely a network of people, it is far from clear that the appearance of two actors in the same movie implies that they are acquainted in any but the most cursory fashion, or that their acquaintance extends off screen. To draw conclusions about patterns of everyday human interaction from the movies would, it seems certain, be a mistake.

In this paper, It present a study of a genuine network of human acquaintances that is large—containing over a million people—and for which a precise definition of acquaintance is possible. That network is the network of scientific collaboration, as documented in the papers scientists write.

[5] L. Fu, W. Huang, X. Gan, F. Yang, and X. Wang, "Capacity of wireless networks with social characteristics," IEEE Trans. Wireless Commun., vol. 15, pp. 1505–1516, Feb. 2016.

This paper studies the throughput capacity of wireless networks with social characteristics. We propose a simple model to reflect both the social relations between nodes and power-law node degree distribution, and then examine their impact on capacity. We show the fact that two features above lead to traffic locality and improve capacity. Moreover, multicasting may be employed to further enhance performance when information is desired to be published from the source to

all its contacts, of which the number follows power-law distribution. In addition, we propose the corresponding capacity-achieving communication schemes, which optimally exploit the underlying structure. Our study is an attempt to understand how social relations may impact on network capacity from a theoretical perspective, and provides fundamental insight on the design and analysis of real wireless networks.

[6] A. Montanari and A. Saberi, "The spread of innovations in social networks," in Proc. National Academy of Sciences of the United States of America PNAS, Aug. 2010, pp. 20 196–20 201.

Which network structures favor the rapid spread of new ideas, behaviors, or technologies? This question has been studied extensively using epidemic models. Here we consider a complementary point of view and consider scenarios where the individuals' behavior is the result of a strategic choice among competing alternatives. In particular, we study models that are based on the dynamics of coordination games. Classical results in game theory studying this model provide a simple condition for a new action or innovation to become widespread in the network. The present paper characterizes the rate of convergence as a function of the structure of the interaction network. The resulting predictions differ strongly from the ones provided by epidemic models. In particular, it appears that innovation spreads much more slowly on well-connected network structures dominated by long-range links than in low-dimensional ones dominated, for example, by geographic proximity.

[7] X. Rong and Q. Mei, "Diffusion of innovations revisited: From social network to innovation network," in Proc. 22Nd ACM Int. Conf. Inf. Knowl. Manag., 2013, pp. 499–508.

The spreading of innovations among individuals and organizations in a social network has been extensively studied. Although the recent studies among the social computing and data mining communities have produced various insightful conclusions about the diffusion process of innovations by focusing on the properties and evolution of social network structures, less attention has been paid to the interrelationships among the multiple innovations being diffused, such as the competitive and collaborative relationships between innovations. In this paper, we take a formal quantitative approach to address how different pieces of innovations socialize with each other and how the interrelationships among innovations affect users' adoption behavior, which provides a novel perspective of understanding the diffusion of innovations. Networks of innovations are constructed by mining large scale text collections in an unsupervised fashion. We are particularly interested in the following questions: what are the meaningful metrics on the network of innovations? What effects do these metrics exert on the diffusion of innovations? Do these effects vary among users with different adoption preferences or communication styles? While existing studies primarily address social influence, we provide a detailed discussion of how innovations interrelate and influence the diffusion process.

[8] C. Budak, D. Agrawal, and A. E. Abbadi, "Limiting the spread of misinformation in social networks," in Proc. 20th Int. Conf. World Wide Web, 2011, pp. 665–674.

In this work, we study the notion of competing campaigns in a social network. By modeling the spread of influence in the presence of competing campaigns, we provide necessary tools for applications such as emergency response where the goal is to limit the spread of misinformation. We study the problem of influence limitation where a "bad" campaign starts propagating from a certain node in the network and use the notion of limiting campaigns to counteract the effect of misinformation. The problem can be summarized as identifying a subset of individuals that need to be convinced to adopt the competing (or "good") campaign so as to minimize the number of people that adopt the "bad" campaign at the end of both propagation processes. We show that this optimization problem is NP-hard and provide approximation guarantees for a greedy solution for various definitions of this problem by proving that they are submodular. Although the greedy algorithm is a polynomial time algorithm, for today's large scale social networks even this solution is computationally very expensive. Therefore, we study the performance of the degree centrality heuristic as well as other heuristics that have implications on our specific problem. The experiments on a number of close-knit regional networks obtained from the Facebook social network show that in most cases inexpensive heuristics do in fact compare well with the greedy approach.

[9] E. Serrano, C. A. Iglesias, and M. Garijo, "A novel agent-based rumor spreading model in twitter," in Proc. 24th Int. Conf. World Wide Web, 2015, pp. 811–814.

Viral marketing, marketing techniques that use pre-existing social networks, has experienced a significant encouragement in the last years. In this scope, Twitter is the most studied social network in viral marketing and the rumor spread is a widely researched problem. This paper contributes with a (1) novel agent-based social simulation model for rumors spread in Twitter. This model relies on the hypothesis that (2) when a user is recovered, this user will not influence his or her neighbors in the social network to recover. To

support this hypothesis: (3) two Twitter rumor datasets are studied; (4) a baseline model which does not include the hypothesis is revised, reproduced, and implemented; (5) and a number of experiments are conducted comparing the real data with the two models results.

[10] D. Kempe, J. Kleinberg, and E. Tardos, "Maximizing the spread of influence through a social network," in Proc. 9th ACM SIGKDD Int. Conf. Knowl. Discovery Data Mining, 2003, pp. 1175–1180.

Models for the processes by which ideas and influence propagate through a social network have been studied in a number of domains, including the diffusion of medical and technological innovations, the sudden and widespread adoption of various strategies in game-theoretic settings, and the effects of "word of mouth" in the promotion of new products. Recently, motivated by the design of viral marketing strategies, Domingos and Richardson posed a fundamental algorithmic problem for such social network processes: if we can try to convince a subset of individuals to adopt a new product or innovation, and the goal is to trigger a large cascade of further adoptions, which set of individuals should we target? We consider this problem in several of the most widely studied models in social network analysis. The optimization problem of selecting the most influential nodes is NP-hard here, and we provide the first provable approximation guarantees for efficient algorithms. Using an analysis framework based on submodular functions, we show that a natural greedy strategy obtains a solution that is provably within 63% of optimal for several classes of models; our framework suggests a general approach for reasoning about the performance guarantees of algorithms for these types of influence problems in social networks. We also provide computational experiments on large collaboration networks, showing that in addition to their provable guarantees, our approximation algorithms significantly out-perform nodeselection heuristics based on the well-studied notions of degree centrality and distance centrality from the field of social networks.

INPUT DESIGN:

In the input design, user-oriented inputs are converted into a computer based system format. It also includes determining the record media, method of input, speed of capture and entry on to the screen. Online data entry accepts commands and data through a keyboard. The major approach to input design is the menu and the prompt design. In each alternative, the user's options are predefined. The data flow diagram indicates logical data flow, data stores, source and destination. Input data are collected and organized into a group of similar data. Once identified input media are selected for processing.

In this software, importance is given to develop Graphical User Interface (GUI), which is an important factor in developing efficient and user-friendly software. For inputting user data, attractive forms are designed. User can also select desired options from the menu, which provides all possible facilities.

Also the important input format is designed in such a way that accidental errors are avoided. The user has to input only just the minimum data required, which also helps in avoiding the errors that the users may make. Accurate designing of the input format is very important in developing efficient software. The goal or input design is to make entry as easy, logical and free from errors.

Input design is a part of overall system design. The main objective during the input design is as given below:

To produce a cost-effective method of input.

- To achive the highest possible level of accuracy.
- To ensure that the input is acceptable and understood by the user.

INPUT STAGES:

The main input stages can be listed as below:

- Data recording
- Data transcription
- Data conversion
- Data verification
- Data control
- Data transmission
- Data validation
- Data correction

INPUT TYPES:

It is necessary to determine the various types of inputs. Inputs can be categorized as follows:

- External inputs, which are prime inputs for the system.
- Internal inputs, which are user communications with the system.
- Operational, which are computer department's communications to the system?

- Interactive, which are inputs entered during a dialogue.

INPUT MEDIA:

At this stage choice has to be made about the input media. To conclude about the input media consideration has to be given to;

- Type of input
- Flexibility of format
- Speed
- Accuracy
- Verification methods
- Rejection rates
- Ease of correction
- Storage and handling requirements
- Security
- Easy to use
- Portability

Keeping in view the above description of the input types and input media, it can be said that most of the inputs are of the form of internal and interactive. As Input data is to be the directly keyed in by the user, the keyboard can be considered to be the most suitable input device.

ERROR AVOIDANCE

At this stage care is to be taken to ensure that input data remains accurate form the stage at which it is recorded up to the stage in which the data is accepted by the system. This can be achieved only by means of careful control each time the data is handled.

ERROR DETECTION

Even though every effort is make to avoid the occurrence of errors, still a small proportion of errors is always likely to occur, these types of errors can be discovered by using validations to check the input data.

DATA VALIDATION

Procedures are designed to detect errors in data at a lower level of detail. Data validations have been included in the system in almost every area where there is a possibility for the user to commit errors. The system will not accept invalid data. Whenever an invalid data is keyed in, the system immediately prompts the user and the user has to again key in the data and the system will accept the data only if the data is correct. Validations have been included where necessary.

The system is designed to be a user friendly one. In other words the system has been designed to communicate effectively with the user. The system has been designed with popup menus.

USER INTERFACE DESIGN

It is essential to consult the system users and discuss their needs while designing the user interface:

USER INTERFACE SYSTEMS CAN BE BROADLY CLASIFIED AS:

1. User initiated interface the user is in charge, controlling the progress of the user/computer dialogue. In the computer-initiated interface, the computer selects the next stage in the interaction.
2. Computer initiated interfaces

In the computer initiated interfaces the computer guides the progress of the user/computer dialogue. Information is displayed and the user response of the computer takes action or displays further information.

USER_INITIATED INTERGFACES

User initiated interfaces fall into tow approximate classes:

1. Command driven interfaces: In this type of interface the user inputs commands or queries which are interpreted by the computer.
2. Forms oriented interface: The user calls up an image of the form to his/her screen and fills in the form. The forms oriented interface is chosen because it is the best choice.

COMPUTER-INITIATED INTERFACES

The following computer – initiated interfaces were used:

1. The menu system for the user is presented with a list of alternatives and the user chooses one; of alternatives.
2. Questions – answer type dialog system where the computer asks question and takes action based on the basis of the users reply.

Right from the start the system is going to be menu driven, the opening menu displays the available options.

Choosing one option gives another popup menu with more options. In this way every option leads the users to data entry form where the user can key in the data.

ERROR MESSAGE DESIGN:

The design of error messages is an important part of the user interface design. As user is bound to commit some errors or other while designing a system the system should be designed to be helpful by providing the user with information regarding the error he/she has committed.

This application must be able to produce output at different modules for different inputs.

OUTPUT DESIGN:

In the output design, the emphasis is on producing a hard copy of the information requested or displaying the output on the CRT screen in a predetermined format. Two of the most output media today are printers and the screen. Most users now access their reports from a hard copy or screen display. Computer's output is the most important and direct source of information to the user, efficient, logical, output design should improve the systems relations with the user and help in decision-making.

As the outputs are the most important source of information to the user, better design should improve the system's relation and also should help in decision-making. The output device's capability, print capability, print capability, response time requirements etc should also be considered form design elaborates the way output is presented and layout available for capturing information. It's very helpful to produce the clear, accurate and speedy information for end users.

Outputs from computer systems are required primarily to communicate the results of processing to users. They are also used to provide a permanent copy of the results for later consultation. The various types of outputs in general are:

- External Outputs, whose destination is outside the organization,.
- Internal Outputs whose destination is within organization and they are the
- User's main interface with the computer.
- Operational outputs whose use is purely within the computer department.
- Interface outputs, which involve the user in communicating directly with

OUTPUT DEFINITION

1) **The outputs should be defined in terms of the following points:**

- Type of the output
- Content of the output
- Format of the output
- Location of the output
- Frequency of the output
- Volume of the output
- Sequence of the output

It is not always desirable to print or display data as it is held on a computer. It should be decided as which form of the output is the most suitable.

For Example

- Will decimal points need to be inserted
- Should leading zeros be suppressed.

Output Media:

In the next stage it is to be decided that which medium is the most appropriate for the output. The main considerations when deciding about the output media are:

The suitability for the device to the particular application.

- The need for a hard copy.
- The response time required.
- The location of the users
- The software and hardware available.

Keeping in view the above description the project is to have outputs mainly coming under the category of internal outputs. The main outputs desired according to the requirement specification are:

The outputs were needed to be generated as a hot copy and as well as queries to be viewed on the screen. Keeping in view these outputs, the format for the output is taken from the outputs, which are currently being obtained after manual processing. The standard printer is to be used as output media for hard copies.

VII. SOFTWARE TESTING

UNIT TESTING:

Unit testing involves the design of test cases that validate that the internal program logic is functioning properly, and that program inputs produce valid outputs. All decision branches and internal code flow should be validated. It is the testing of individual software units of the application .it is done after the completion of an individual unit before integration. This is a structural testing, that relies on knowledge of its construction and is invasive. Unit tests perform basic tests at component level and test a specific business process, application, and/or system configuration. Unit tests ensure that each unique path of a business process performs accurately to the documented specifications and contains clearly defined inputs and expected results.

INTEGRATION TESTING:

Integration tests are designed to test integrated software components to determine if they actually run as one program. Testing is event driven and is more concerned with the basic outcome of screens or fields. Integration tests demonstrate that although the components were individually satisfaction, as shown by successfully unit testing, the combination of components is correct and consistent. Integration testing is specifically aimed at exposing the problems that arise from the combination of components

FUNCTIONAL TESTING:

Functional tests provide a systematic demonstration that functions tested are available as specified by the business and technical requirements, system documentation, and user manuals.

Functional testing is centered on the following items:

Valid Input : identified classes of valid input must be accepted.
Invalid Input : identified classes of invalid input must be rejected.
Functions : identified functions must be exercised.
Output : identified classes of application outputs must be exercised.
Systems/Procedures: interfacing systems or procedures must be invoked.

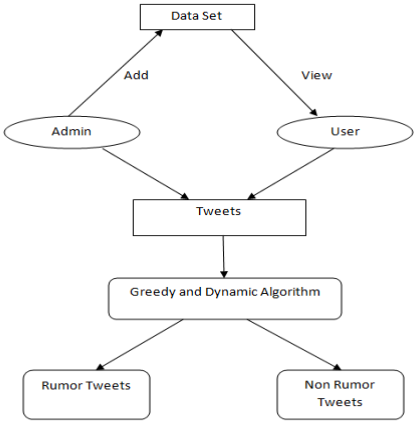
Organization and preparation of functional tests is focused on requirements, key functions, or special test cases. In addition, systematic coverage pertaining to identify

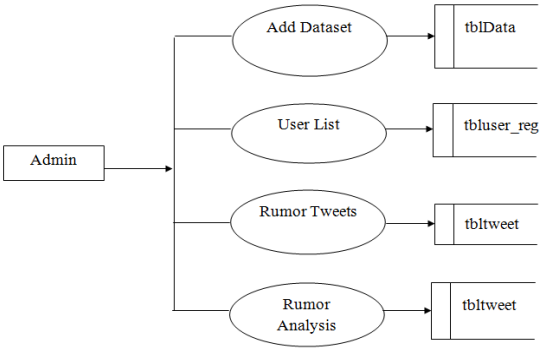
Business process flows; data fields, predefined processes, and successive processes must be considered for testing. Before functional testing is complete, additional tests are identified and the effective value of current tests is determined.

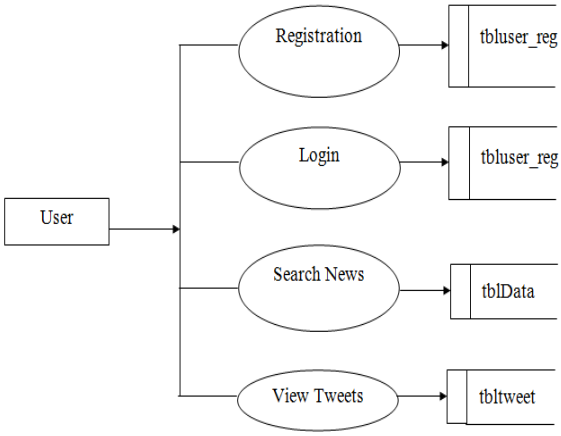
SYSTEM TESTING:

System testing ensures that the entire integrated software system meets requirements. It tests a configuration to ensure known and predictable results. example of system testing is the configuration oriented system integration test. System testing is based on process descriptions and flows, emphasizing pre-driven process links and integration points.

Architecture design:







DATABASE DESIGN

Database design is the most important part of the system design phase. To store the data, we require a well-maintained database. The following are the structure of database table that are used in our project.

Table name: tbluser_reg
Purpose: To store the user details

Column Name	Data Type
id	int
name	nvarchar(MAX)
gender	nvarchar(MAX)
email	nvarchar(MAX)
numb	nvarchar(MAX)
address	nvarchar(MAX)
city	nvarchar(MAX)
password	nvarchar(MAX)
profile	nvarchar(MAX)
acode	nvarchar(MAX)

Table name: tbltweet
Purpose: To store the tweet of all users.

Column Name	Data Type
id	nvarchar(MAX)
name	nvarchar(MAX)
headline	nvarchar(MAX)
news	nvarchar(MAX)
time	nvarchar(MAX)
date	nvarchar(MAX)
status	nvarchar(MAX)
count	nvarchar(MAX)

Table name: tbldata
Purpose: To store the dataset of news.

Column Name	Data Type
id	nvarchar(MAX)
channel	nvarchar(MAX)
headline	nvarchar(MAX)
news	nvarchar(MAX)
time	nvarchar(MAX)
date	nvarchar(MAX)
people	nvarchar(MAX)
link	nvarchar(MAX)

Table name: tblreply
Purpose: To store the reply status of tweets.

Column Name	Data Type
pid	nvarchar(MAX)
pname	nvarchar(MAX)
headline	nvarchar(MAX)
news	nvarchar(MAX)
uid	nvarchar(MAX)
uname	nvarchar(MAX)

SYSTEM SPECIFICATION

3.1. HARDWARE CONFIGURATION:

- System : Pentium IV 2.4 GHz.
- Hard Disk : 40 GB.
- Floppy Driv : 1.44 Mb.
- Monitor : 15 VGA Colour.
- Mous : Logitech.
- Ram : 256 Mb.

3.2. SOFTWARE CONFIGURATION:

- Operating system : WindowProfessional.
- Front End : Visual Studio 2010.
- Back End : SQL Server 2008 R2.
- Coding Language : Asp.Net(c#)

FEASIBILITY STUDY:

Preliminary investigation examine project feasibility, the likelihood the system will be useful to the organization. The main objective of the feasibility study is to test the Technical, Operational and Economical feasibility for adding new modules and debugging old running system. All system is feasible if they are unlimited resources and infinite time. There are aspects in the feasibility study portion of the preliminary investigation:

- Technical Feasibility
- Operation Feasibility
- Economical Feasibility

Technical Feasibility

The technical issue usually raised during the feasibility stage of the investigation includes the following:

- Does the necessary technology exist to do what is suggested?
- Do the proposed equipments have the technical capacity to hold the data required to use the new system?
- Will the proposed system provide adequate response to inquiries, regardless of the number or location of users?
- Can the system be upgraded if developed?
- Are there technical guarantees of accuracy, reliability, ease of access and data security?

Earlier no system existed to cater to the needs of 'Secure Infrastructure Implementation System'. The current system developed is technically feasible. It is a web based user interface for audit workflow at NIC-CSD. Thus it provides an easy access to the users. The database's purpose is to create, establish and maintain a workflow among various entities in order to facilitate all concerned users in their various capacities or roles. Permission to the users would be granted based on the roles specified. Therefore, it provides the technical guarantee of accuracy, reliability and security. The software and hard requirements for the development of this project are not many and are already available in-house at NIC or are available as free as open source. The work for the project is done with the current equipment and existing software technology. Necessary bandwidth exists for providing a fast feedback to the users irrespective of the number of users using the system.

Operational Feasibility

Proposed projects are beneficial only if they can be turned out into information system. That will meet the organization's operating requirements. Operational feasibility aspects of the project are to be taken as an important part of the project implementation. Some of the important issues raised are to test the operational feasibility of a project includes the following: -

- Is there sufficient support for the management from the users?
- Will the system be used and work properly if it is being developed and implemented?
- Will there be any resistance from the user that will undermine the possible application benefits?
- This system is targeted to be in accordance with the above-mentioned issues. Beforehand, the management issues and user requirements have been taken into consideration. So there is no question of resistance from the users that can undermine the possible application benefits.

The well-planned design would ensure the optimal utilization of the computer resources and would help in the improvement of performance status.

Economic Feasibility

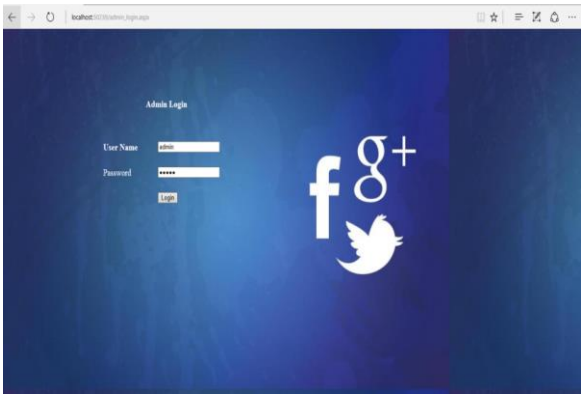
A system can be developed technically and that will be used if installed must still be a good investment for the organization. In the economical feasibility, the development cost in creating the system is evaluated against the ultimate benefit derived from the new systems. Financial benefits must equal or exceed the costs.

The system is economically feasible. It does not require any addition hardware or software. Since the interface for this system is developed using the existing resources and technologies available at NIC, There is nominal expenditure and economical feasibility for certain.

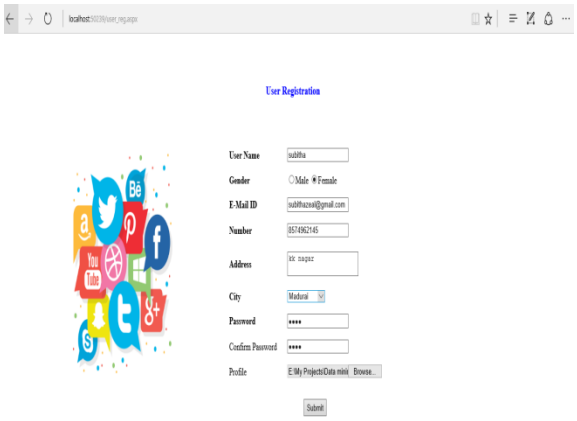
Screeshots

Home Page

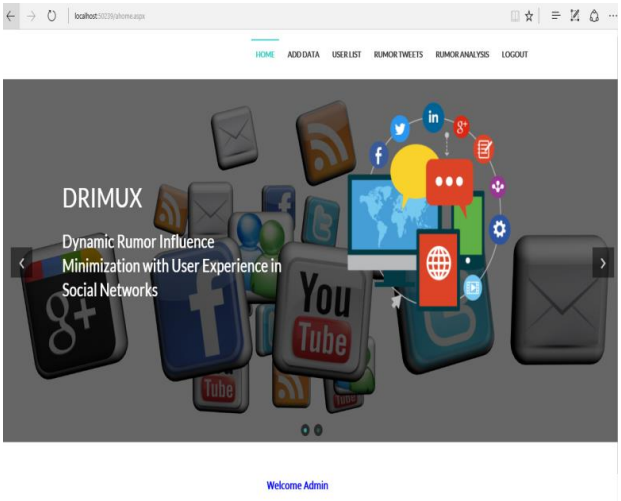
Admin Login

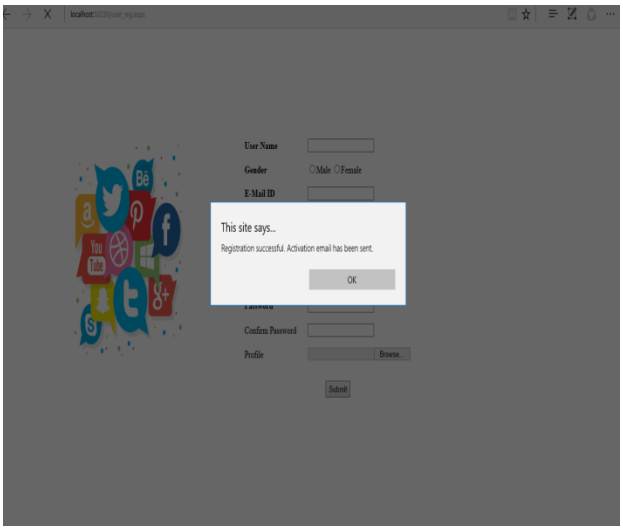


User Registration

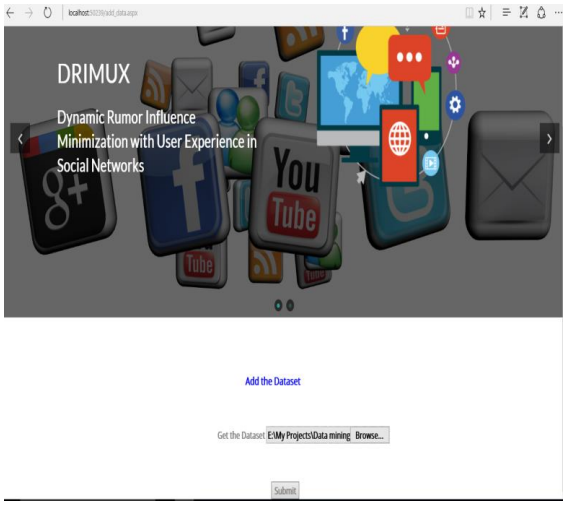


Admin Home

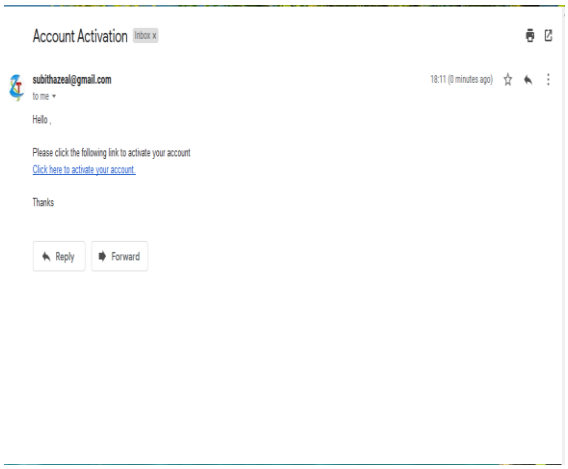




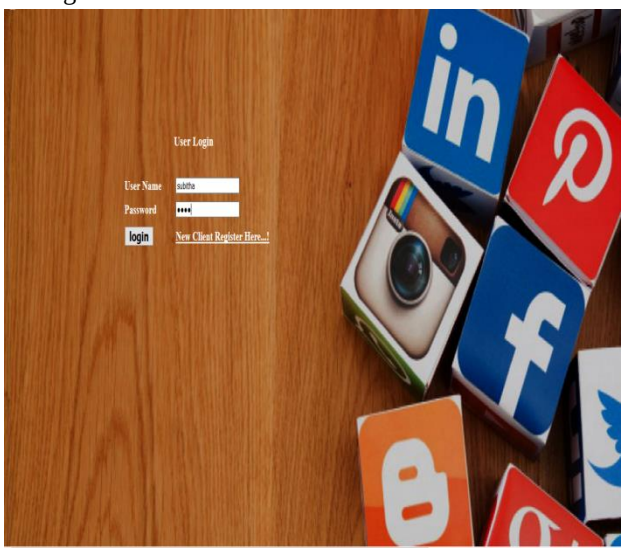
Add Dataset



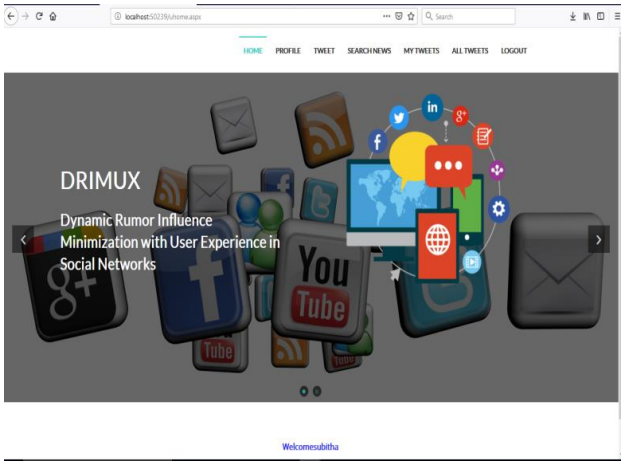
Account Activation Mail



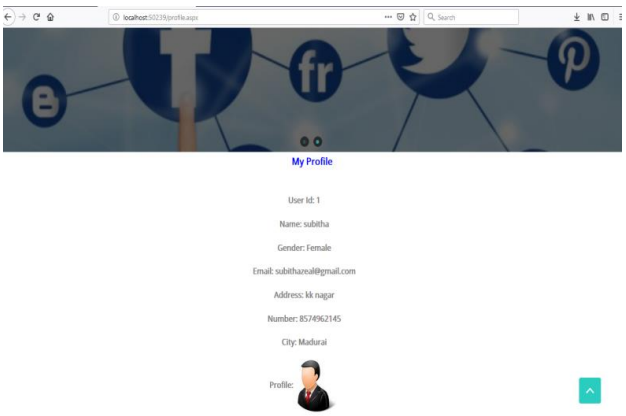
User Login



UserHome Page

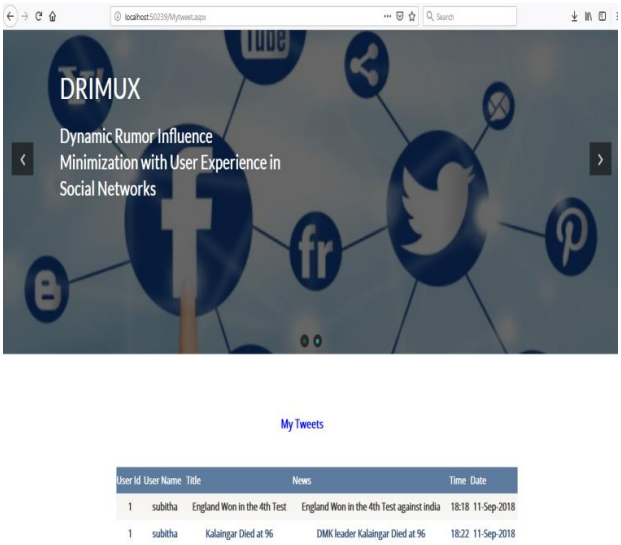


User tweets



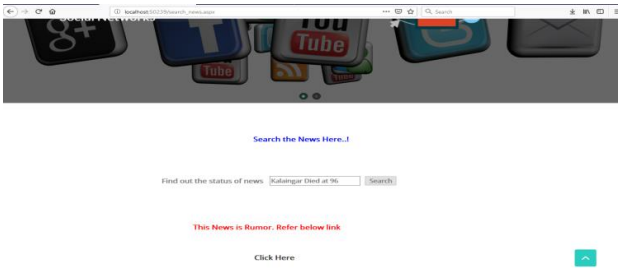
Tweet s

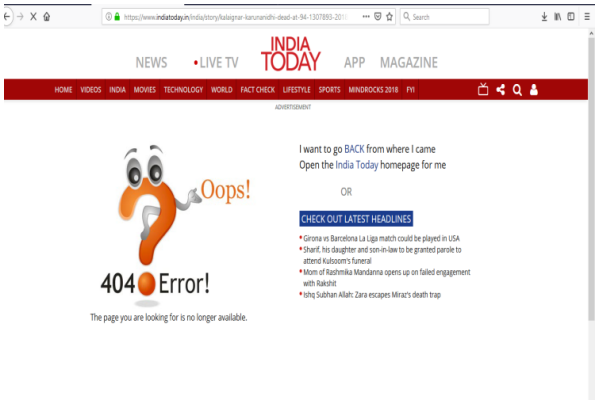
My tweets



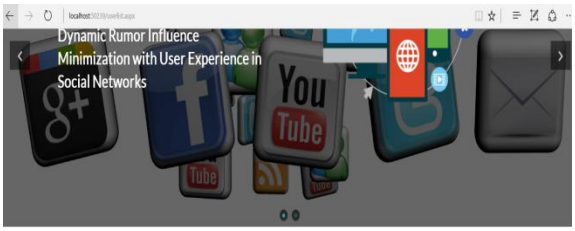
Login as other user

Search news:

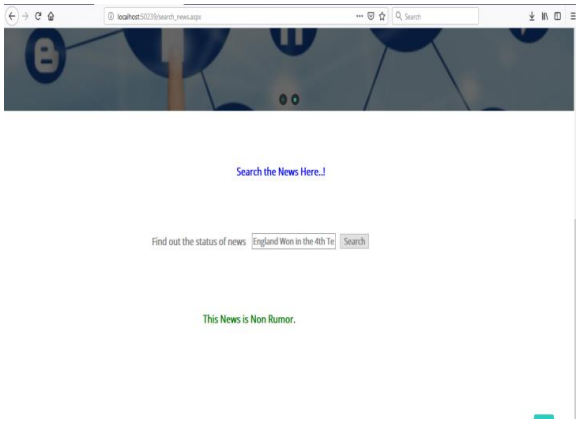




User List



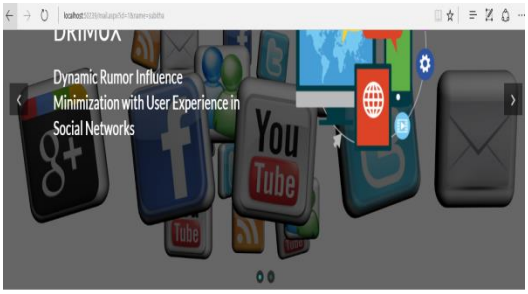
Check the news

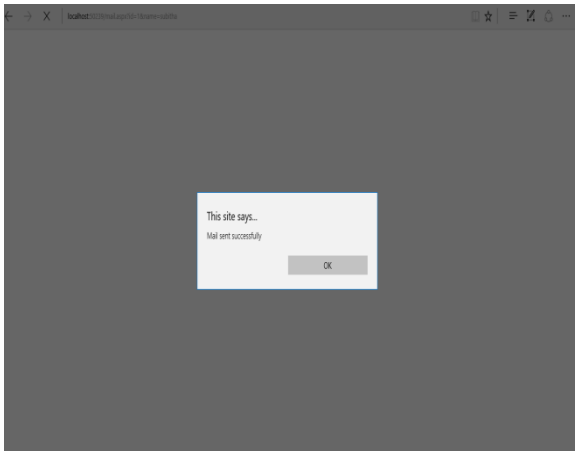


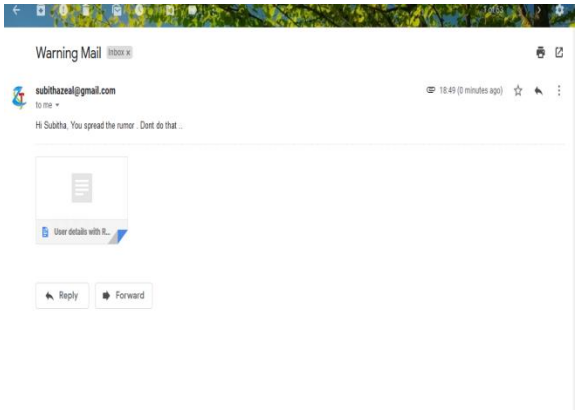
Rumor Tweet

Reply tweet

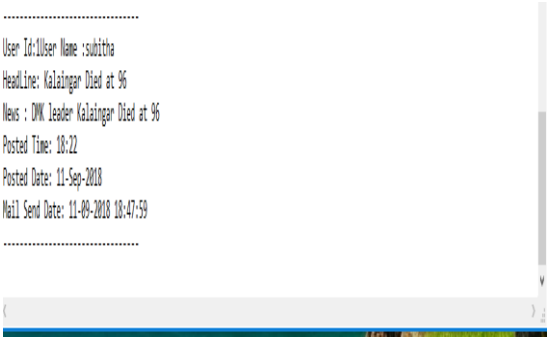
Warning Mail







Attachement



Rumor Analysis

ALGORITHM

We propose the greedy algorithm and dynamic blocking algorithm based on different nodes selection schemes and the maximum likelihood principle.

Greedy Algorithm: At time t0 when we detect the rumor, we immediately select K nodes and block them, trying to minimize the likelihood of nodes getting activated at $t1$.

Input: Initial Edge matrix A0.
Initialization: $VB = \emptyset$.
for $i = 1$ to K do
u = argmax
$v \in V$
$[f(t1|\mathbf{s}(t0);Ai-1)-f(t1|\mathbf{s}(t0);Ai-1\backslash v)]$
$Ai := Ai-1\backslash u$,
$VB = VB \cup \{u\}$.
end for
Output: VB.

Dynamic Blocking Algorithm: Different from the greedy blocking algorithm, the dynamic blocking algorithm blocks the K nodes in separated steps.
Input: Initial Edge matrix A0.
Initialization: $VB(t) = \emptyset$.
for $j = 1$ to n do
for $i = 1$ to kj do
$\Delta f = f(tj\ |\mathbf{s}(tj-1);Ai-1)-f(tj\ |\mathbf{s}(tj-1);Ai-1\backslash v)$,
u = argmax
$v \in V$
$\{\Delta f\}$,
$Ai := Ai-1\backslash u$,
$VB(tj) = VB(tj) \cup \{u\}$.
end for
end for
Output: $VB(t)$.

Comparisons with Previous Algorithms

Classic Greedy: Greedy algorithm based on descendant order of nodes degree and is used as the baseline algorithm.

Proposed Greedy: the order is determined by the maximum likelihood function. By blocking a node, we can generate a new propagation matrix and reach a new maximum survival likelihood value.

Dynamic Algorithm: This algorithm adjusts to each propagation status, and gradually includes new targeted nodes as long as the cost is within the scope of tolerable user experience.

VIII. FUTURE ENHANCEMENT

In Future this could be further enhanced to design sophisticated rumor blocking algorithms considering the connectivity of the social network topology and node properties. We intend to separate the entire social network into different communities with different user interests and then analyze the rumor propagation characteristics among communities. This application could be further modified according to latest technology and apply on demand services.

IX. CONCLUSION

In this project, we investigate the rumor blocking problem in social networks. We propose the dynamic rumor influence minimization with user experience model to formulate the problem. A dynamic rumor diffusion model incorporating both global rumor popularity and individual tendency is presented based on the Ising model. Then we introduce the concept of user experience utility and propose a modified version of utility function to measure the utility. Experiments implemented on real world social networks show the efficacy of our method.

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