Impact of Enhancing the Monitoring between Student and Alumni via Smart Alumni System in Smart Cities

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Abstract— Smart Alumni System (SAS) is increasingly attracting the attention of Graduates & Post Graduate students by their affordances and reach. Smart Alumni System is an association of graduates (alumni) or more broadly of former students. In the alumni of universities, colleges, schools, fraternities and sororities often form groups with alumni from the same organization. These systems of ten organize social events; publish newsletters or magazines raise funds for the organization. We define SAS as web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system. The nature and nomenclature of these connections may vary from site to site. While we use the term SAS to describe this phenomenon of academic memories. Smart Alumni System provides Batch & Division wise Community management system. This system may be a sub part of Campus Management system, College web portal. This system is envisaged to be completed in two phases. The initial phase will be the creation of a simple system that will be used to capture data from current final year students before the end of term. The second phase of development will extend the functionality of the system to allow past alumni to register.

Key words: SAS, Web based, Alumni, Web Portal, Development

I. INTRODUCTION

The paper studies that emerging technologies for the mentoring and retention of information technology graduates. Social networking software can bridge the generational divide that exists between current IT professionals (alumni) and information science graduates. Really the mentoring program is using social networking software to maintain mentorship instead of traditional communication tool [8]. According to a recent study [3] by the Center for Marketing Research at the University of Massachusetts-Dartmouth, 98% of the responding colleges have a Face book page and 84% have a T witter account. The surveys [10] from the Pew showed that between 85% and 99% of college students use Face book.

Social networking is a powerful tool for people to meet and interact based on common interests. On the other hand, data mining is another powerful tool used to understand the vast amounts of data that are produced by social interactions, in order to enhance the services being provided. It is time to design and use social network-style alumni system. Mentoring programs, including e-mentoring programs, which allow for networking, including online social networking should be a key component in the recruitment and retention of our students and in strengthening university programs.

Alumni are one of the most important assets to any university. They are the people who represent the university in the real world. Many alumni networks were initially started from regional groups of alumni brought together for university fundraising activities. Later, these networks slowly gained added importance in the development of the universities because of their enormous outreach potential that benefits the university and helps current studen ts in their career paths. The alumni groups have been in existence for decades and they are constantly changing with time. There have been very big changes in the recent years with the development of the internet and social networking that forces the alumni system to undergo huge changes. Therefore, it is really important for universities to focus on the alumni networks and find ways to enhance their growth and development.

This paper offers an inter-mix of traditional alumni systems and social networking sites. A brief study on both systems is undertaken and the important features of these systems are incorporated into the new proposed system. Data mining is then used to pre-process large and complex datasets to extract non-obvious patterns of correlations by removing unrelated data (noise) to discover hidden non-obvious patterns that represent valuable knowledge discoveries. For example, data mining can help map current students to alumni mentors. Data mining is a process of observing patterns in the data and summarizing the findings in terms of usable information. When carrying out the data mining operations on the system, some essential associations are revealed which should be studied in the development of more useful university alumni systems. This system informs the main areas of any university to seek donations, mentor students, and improve interactions and determine from which parts of the world people are more interested to join the university. This paper describes SAS and explains the important features of strengthening e-mentor program via SAS and mapping students and mentors by using data mining techniques.

It is envisioned that such alumni systems are beneficial not only to the universities but also to alumni and current students. It could serve as a platform for current students to interact with their senior alumni and receive mentoring from them with regards to career paths, real world expectations and so on. From the alumni point of view, benefits of participating in

alumni groups allow them to stay in contact and meet their fellow classmates, professors and university personnel, even after several years beyond graduation. It also allows alumni to share professional or personal advice, explore mutual interests and exciting new opportunities in a collaborative way.

This paper is organized as follows. In Section 2, communication tools for current mentoring are described and challenges and motivation are discussed for SAS and e-mentoring system. The principles and concepts for smart alumni system are presented in Section 3. In Section 4, the mentoring via SAS is proposed and implementation is provided in Section 5. Conclusion and future work are presented in Section 6.

II. LITERATURE REVIEW

Chia, Jonesa, and Grandhama (2012) state that alumni are people who represent the university in the real world. Alumnus, plural alumni, is the term used to designate a graduate student (former student) of a university. The term originates from the Latin verb "alere ", which means to nurture, develop and maintain (Wikipedia, 2013).

For Barnard (2007), a grouping of alumni has great potential to contribute financially, socially and strategically to enhance credibility of an educational institution that aspires to thrive in a rapidly changing and competitive market. The author add s that an integrated network of relationships could give the institution the opportunity to create a win-win situation.

III. OBJECTIVES

The main objective of this system is to allow old and new students of a university or college to communicate with each other. Here, the pass-outs can still keep updates about their college, events held, alumni meets and other activities taking place.
1) To keep a roster of all Alumni of all department of engineering.
2) Maintaining the updated and current information of all Alumni of department of engineering.
3) To encourage, foster and promote close relations between the centre for post graduate studies and its alumni and among the alumni themselves.
4) To promote a sustained sense of belonging to the Alma Mater among the Alumni by being in regular contact with them.
5) To promote, in the Alumni Body, an interest in the affairs and well-being of the educational institution.
6) To provide and disseminate information regarding their Alma Mater, its graduates, Faculties and students to the Alumni.
7) To assist and support the efforts of Association in obtaining funds for development.
8) To provide a forum for the Alumni for exchange of ideas on academic, cultural and social issues of the day.

IV. FEATURES OF SMART ALUMNI SYSTEM

The Smart Alumni System is a combination of the traditional alumni system and social networking sites. Unlike traditional systems, SAS will be interactive in nature and have room for multiple levels of interaction among different categories of university related personnel, and will focus more on the common goals of the involved personnel or the university itself.
The challenges faced by current alumni systems are:
− To attract alumni to access system like other social networks;
− To collect useful data related to alumni from social networks and other open resources;
− To keep privacy and security a top priority for this system; and to get current students involved.

All of the above challenges can be addressed through a Smart Alumni System. There are different stake -holders in the system, ranging from the alumni who have studied in the university to visitors or prospective students who want to know more about the university. All members in the system will be divided into four main categories: university, alumni, current students, faculty and visitors along with the administrators. Each of the members will have some features, which are specific to their individual group (of users) and some general features which tend to be common to all users.
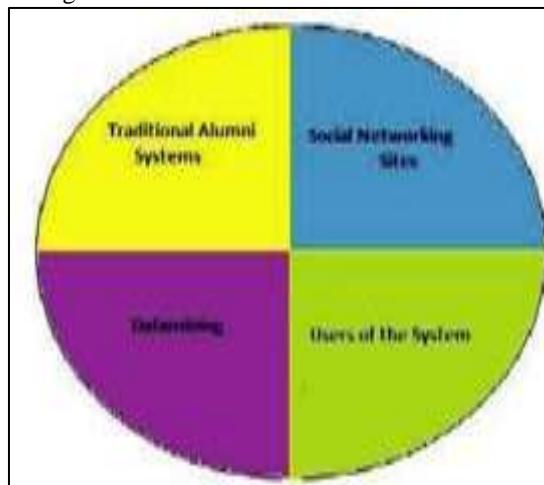

Fig. 1: Components of Smart System
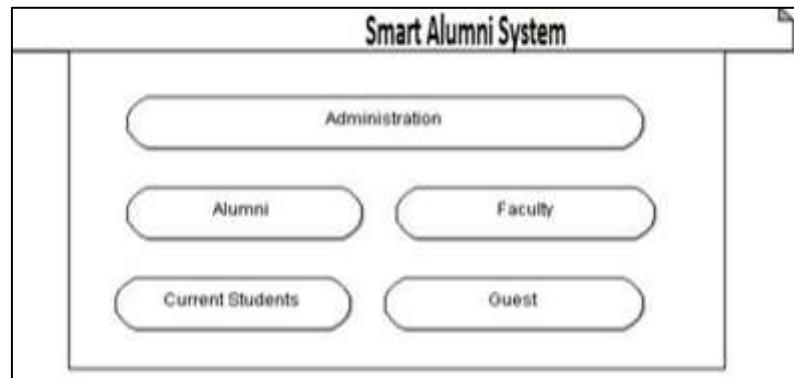
Fig. 2: Stakeholder of Smart Alumni System

V. PROPOSED SYSTEM ARCHITECTURE

Alumni data can be searched for three types of patterns: alumni not interested in mentoring activities, alumni undecided about their mentoring interested and alumni interested in mentoring. The first category of alumni need not be contacted. For the second category a communication can be sent to further encourage them for participating in the mentoring activities. For the alumni who have expressed interest and availability to mentor, their profiles are matched with the profiles of the students based on various attributes/fields like interests, occupation, current city etc.
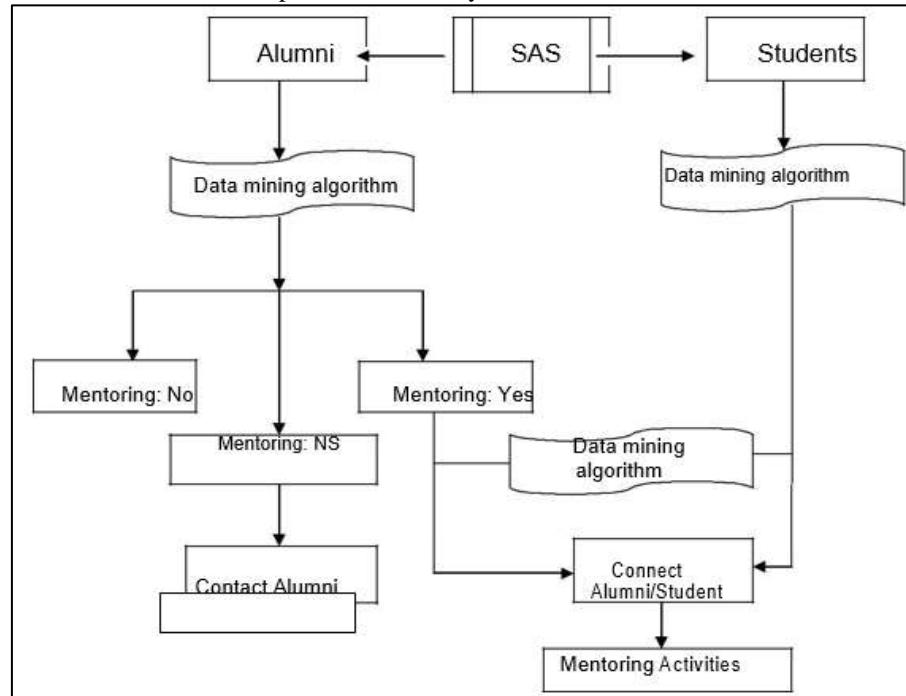
Fig. 3: Schematic for mentoring process

Data mining routines allows a better matching of the alumni with the current student profiles and tends to make the mentoring feature more fruitful. An alumnus who assumes the role of a mentor can help current students on technical or non-technical matters, and can guide them in their career paths. For finding mentoring related data mining, the association algorithm is used. The current students who need mentors have to make a request for a mentor in the SAS. The alumni interested in mentoring the students need to express their willingness, at registration or at a later point. Upon availability of data from both current students and alumni, the association algorithm tries to pair an alumnus with a current student based on their interests and background .The procedures for mentorship can be seen in Fig. 4. With regards to mentoring, all the fields in the profile are ranked according to match between mentors and the students. The fields considered include: their department, interests, hometown, career interests, and employer the alumnus is associated with, in that particular order of priority.

VI. SCREEN DESIGNS

Here we will show some system interfaces that have been designed, and named by its function in the system.
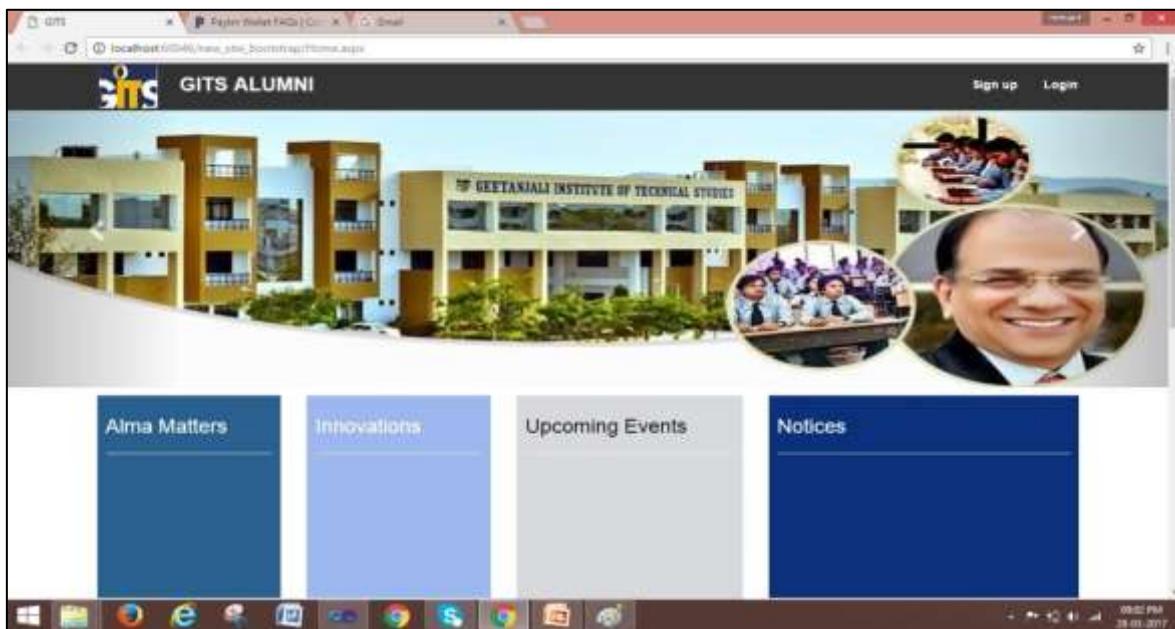
Fig. 1: Home Page (Header)
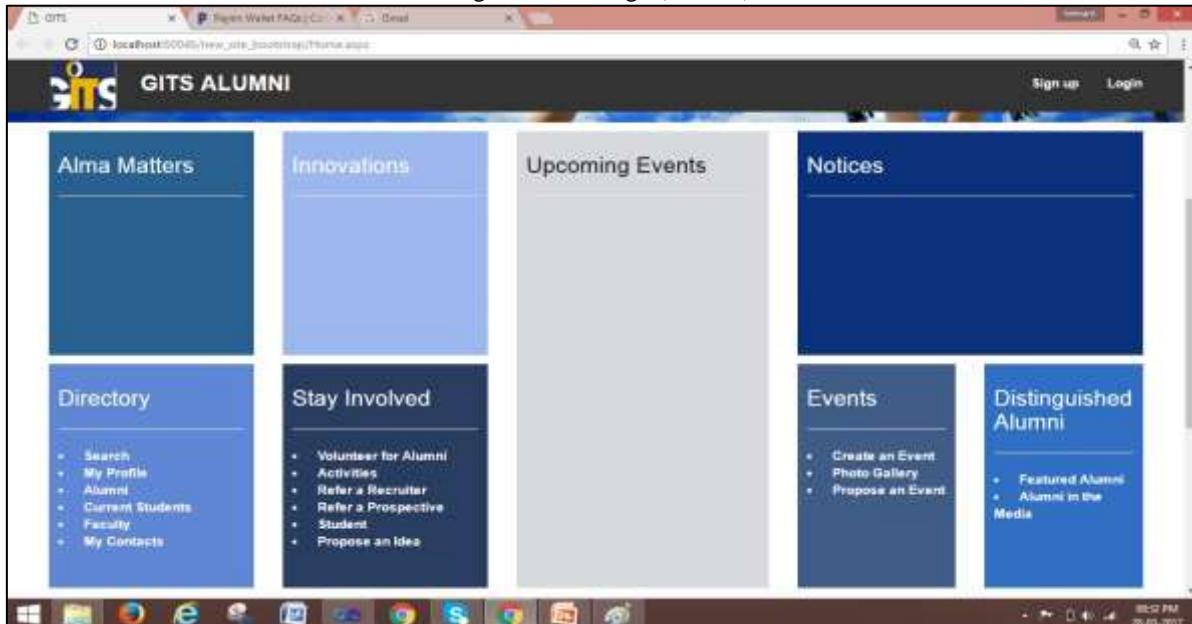

Fig. 2: Home Page (Middle section)
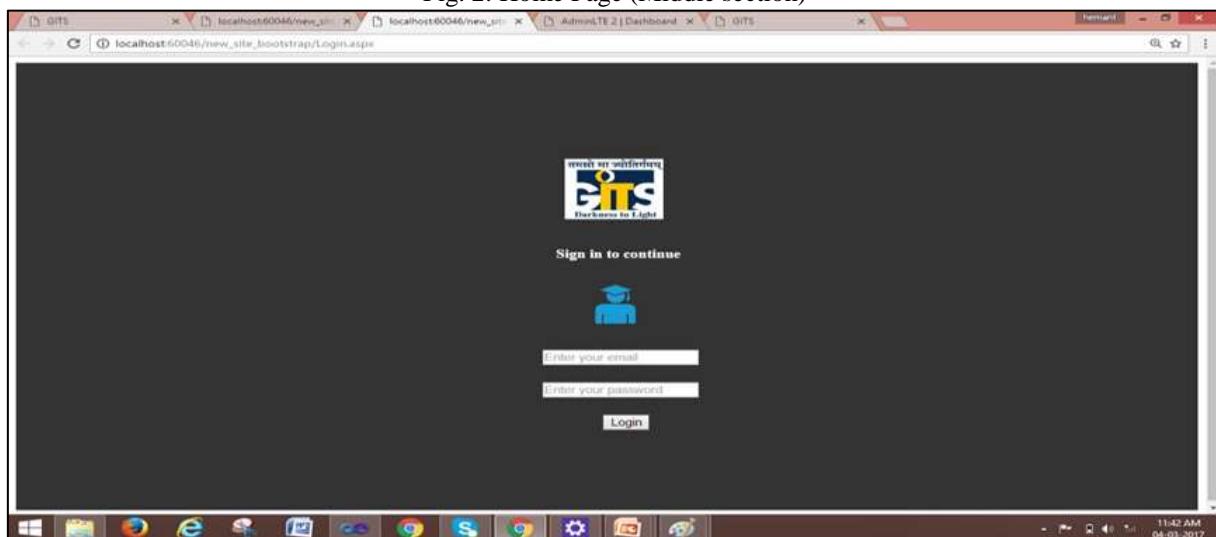
Fig. 3: Login Page
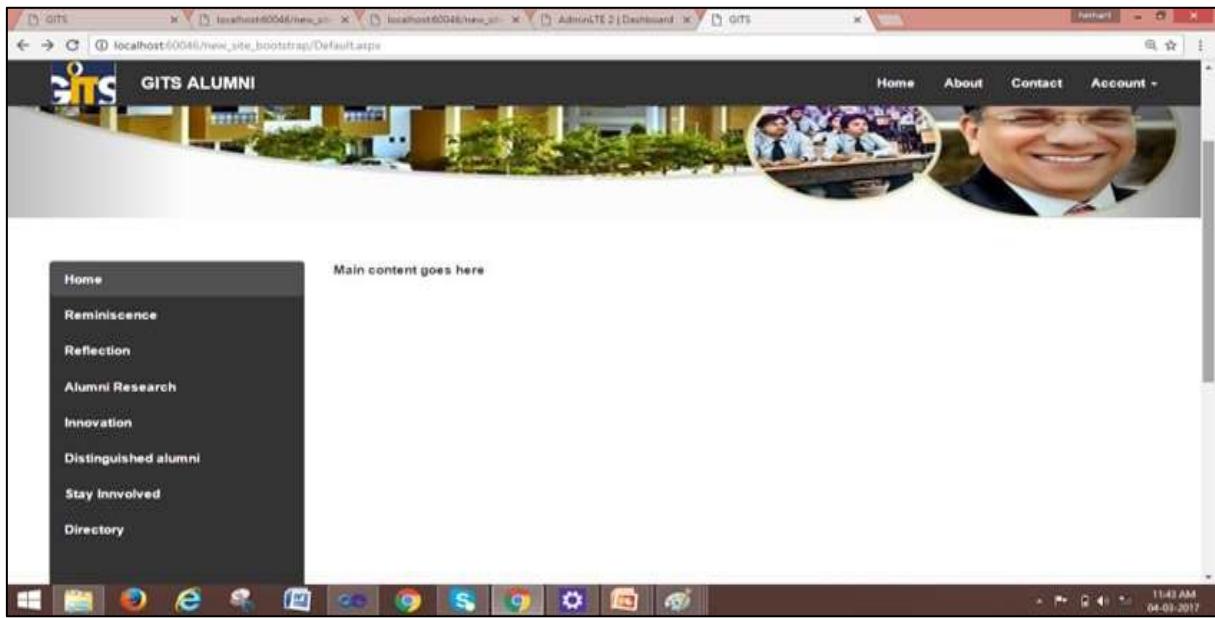
Fig. 4: Alumni Module

VII. CONCLUSION & FUTURE SCOPE

The project "SMART ALUMNI SYSTEM" has been developed as per the requirement specification. It has been developed in ASP.NET, the complete system is thoroughly tested with the availability of data and throughput reports which are prepared manually. Design procedure and output reports are presented in this project report. This design is so flexible that any new modules can be incorporated easily.

The development of software or system includes so many people like user system developer, user of system and the management, it is important to identify the system requirements by properly collecting required data to interact with supplier and customer of the system. We have gained a lot of practical knowledge from this project, which we think, shall make us stand in a good state in the future.

A Smart Alumni System is an online networking system where the membership is not confined just to the alumni but is extended to the current students, faculty and other members associated with the university. In this paper, a Smart Alumni System (or SAS) that is far more outreaching then traditional alumni systems has been designed and implemented. This project has demonstrated that traditional systems can be re-engineered with aspects of social networking keeping in view the potential benefits and success of social networking websites in capturing user attention and involvement. Inspired by user functionalities in social networking media, a framework for SAS is outlined. Further, it has been shown that data mining principles can be applied to user data obtained from alumni data to enhance the functionality of the SAS.

The proposed Smart Alumni System has been implemented using ASP.net with C#. The implemented system provides a platform for communication and active interaction between alumni as well as current students, faculty, and other personnel affiliated with the university. Each stakeholder is classified into user sub-groups of a specific kind whose permissions and functionalities are pre-defined. Users of different kind are allowed to interact among themselves and also with users from different sub-groups in order to achieve common objectives or mutually beneficial tasks. It has been shown that proposed Smart Alumni System can benefit from data mining principles in order to provide an enriched experience and interactive functionalities to users of the system.

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