



**GREY MATTER INDIA TECHNOLOGIES  
PRIVATE LIMITED**

[www.greymatterindia.com](http://www.greymatterindia.com)

**CASE STUDY**

**COMMUNITY PORTAL FOR HIGH SCHOOL  
AND COLLEGE STUDENTS**

## CLIENT REQUIREMENT

The client envisioned a massive social networking portal aimed towards teenagers and youngsters which would act as an online scrapbook for high school and college students all over. The look and feel would be similar to a college yearbook by providing youth-centric features like friends & bully lists, dating alerts like flirts & secret admirer lists as well as sections like locker room etc... The site would provide a thorough online community experience with extensive customization of profile, access to instant messenger & mail, managing favourites and ranking & blocking of members. Different ranking systems, popularity contests, interesting polls and vote battles that users can host or participate in will be user to actively encourage participation. User activeness will be promoted in the community by providing them with the ability to upload pictures, write blogs and create blurbs. Search options and creation of groups, forums & events to encourage user participation would also be offered by the site.

## CHALLENGES

- Development of a robust framework for the site which is capable enough to manage simultaneous access by millions of users without affecting performance.
- Development and implementation of an extensive list of profile customization options, complex ranking systems and voting contests designed for enhancing user's active participation.
- Synchronization of features like blogs, messenger and mail integrated to function smoothly while being executed simultaneously.
- Implementation of web usability principles in the website design by ensuring easy navigation.
- Enabling the site to operate at top speed even in peak hours and maintaining good load balance.
- Ensuring safe and secure transfer of data.

## TECHNOLOGIES USED

PHP (Server Side Language)	Most appropriately suited to create dynamic web pages. Enables fast extraction of data out of a database for presenting it on the web page
JavaScript and AJAX (Client Side Language)	(Client-side Language) Cross browser support & faster loading time with light web pages that require no plug-in downloads. Scalable Javascript based controls to provide

	flexibility and enhance user experience and involvement.
PostgreSQL	Free highly customizable low maintenance database management system. Consistently stable in high volume environments. Extensive cross-platform compatibility.
Red Hat Linux	License free, sturdy platform with open source code for extensive customization and with powerful multitasking abilities.
Rational Rose Enterprise Edition	Integrated tool best suited for modular architecture and iterative development of software.

## MANPOWER

Project Leader	1
Developers	8
Designers	2
Quality Assurance Testers	2

## PLANNING

GMI followed a four layered approach towards development through their prior experience in developing full-fledged community portals:

- PostgreSQL Database, Tables, stored procedures etc... incorporated within the database layer
- Libraries responsible for accessing data from database reside in the data access layer.
- All the business logic procedures for modules such as User Profiles, Invitations, Forums and Blogs etc... forming the Business Logic Layer.
- The GUI of the website formed by the User Interface layer

## ARCHITECTURE

The website was mainly characterized by social networking nature requiring 'faster to market' transition of concepts which entailed a PHP based design approach involving PostgreSQL. PHP was used to develop modules like User Profiles, Invitations, Forums and Blogs such that direct execution from the UI layer was possible and the corresponding PHP files consisting of the business logic for respective modules like Save (Add/Update), Delete, Get Single Object, Get Multiple Objects for listing were designed to possess the capability to handle much more logic not related to the database. Effective access to the database in an object oriented context was implemented using an interface translating the object logic to relational logic so as to communicate with the relational databases

in an object-oriented manner. Libraries responsible for accessing data from the database and building queries for insert, update, delete and select depending on the business class were contained in the data access layer and all the business layer components were coded to use this library for data accessing process from database. Only the complex retrieval of data from multiple tables was facilitated through stored procedures and everywhere else conditional syntax was implemented to ensure seamless performance of the website. Images, applications and data were called from their respective servers keeping the UI layer free of any business logic and scalability was guaranteed by implementing sub-domains for various areas of the website.

## **DEVELOPMENT HIGHLIGHTS**

The focus of the portal was towards the youth; hence numerous areas of active interest for the teens were included. Daily contests, popularity battles and voting polls were included in the site. Integration of numerous flash tools allows users to portray themselves accurately and creatively through various personalization options for the profile. Creation of different lists for friends, bullies, flirts and secret admirers etc is available to users along with a locker room section with the functionality of storing items of interest. Instant access to a range of fun filled features was provided with faultless management of user status, user statistics and other user-related validations. Optimized query features in the site offer greater freedom in narrowing down information through comprehensive search criteria. Another development highlight was the stringent precautionary measures were taken to ensure maximum security with regards to SQL injections. Web usability guidelines were strictly adhered to during the development and the interface was easily navigable through the judicious use of AJAX, CSS and HTML controls. Search Engine Optimization activities were regularly resorted to with a view to ensuring high visibility for the site over the internet. The site was developed and fully functional within a span of 8 months.

## **CLIENT FEEDBACK**

"I have been extremely impressed with GMI. My project was extremely complicated. I have worked with GMI for over a year now. GMI team was available at all times to answer my questions and the team of programmers made excellent progress and completed each phase of the project in a timely manner. As a result of their excellence, I gave them increasing amounts of work and continue to work with GMI. The reason I initially chose GMI, was the quality of the work I saw. I am very happy I made the decision I did. It was the most important and successful early business decision I've made. Since then, my site has made the Alexa mover and shaker list and is growing by many thousands of users a day. The thing that separates GMI is their reliability, they get the work done and then they continue to support it. GMI team takes the long-term view of

the client realizing that the trick is not completing a project and moving on to the next client but continuing to support the client and earning additional work each time."