



**GREY MATTER INDIA TECHNOLOGIES
PRIVATE LIMITED**

www.greymatterindia.com

CASE STUDY

**PAY PER CLICK ADVERTISING MANAGEMENT
SYSTEM**



CLIENT REQUIREMENT

The online system will be an exhaustive PPC management system through which users can manage their PPC advertising activities.

The system will offer comprehensive features to link PPC accounts to Google, Yahoo, MSN, Ask Jeeves and other search engines to optimize product visibility.

Users will be able to participate in bidding for PPC accounts of different search engines and control their bidding budget through the unique single system.

The system will feature options for users to track the success of their PPC advertising and accounts.

The system will offer two unique conveniences - Bid automation and ROI automation. Bid automation will include jamming, surfing and shadowing. Through ROI automation, the client will be able to set the desired ROI metrics like CPA, CPC and CPT.

CHALLENGES

Developing a thorough PPC management system designed to handle all Pay Per Click marketing and advertising needs.

Linking user PPC profiles to different search engines on the net and synchronizing the backend maintenance of the online system through a dependable framework.

Implementing modules for tracking the success of PPC advertising and accounts along with providing updated information on metrics.

Allowing users to participate in bidding and managing their bidding budget.

Incorporating complex features such as Bid automation and ROI automation.



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 (Client-side Language)	Crossover browser support with ability to create sophisticated user interfaces. Faster loading time with light web pages that require no plug-in downloads.
MySQL Engine	Versatile, low-maintenance database management system. Cross-platform compatible database component of the LAMP platform.
Red Hat Linux	License-free, sturdy platform with powerful multi-tasking abilities. Open source code allowing for extensive customization.
Apache Web Server	Ideal for serving static as well as dynamic content on the web in a safe and secure manner. Supports a variety of features while offering extendable core functionality.

MANPOWER

Project Leader	1
Developers	3
Designer	1
Quality Assurance Testers	2



PLANNING

Keeping in mind the enormous structure of the website and the challenges involved, a four-tier development approach was adopted, consisting of:

The Database layer containing MySQL Server Database, Tables, stored procedures and so on.

The Data Access layer containing the libraries responsible for accessing data from database.

The Business Logic layer consisting of all business logic procedures for modules like User PPC Profiles, Ads, Forums and Blogs etc.

The User Interface Layer which forms the Graphical User Interface of the website.

ARCHITECTURE

PHP and MySQL Server formed the basis of development as the site was rich with user data and featured extensive capabilities for online advertising management. Ad Zones, User PPC Profiles, uploads and other modules were developed in PHP such that they can be executed directly from the UI layer. These PHP files consisted of all Business logics used for respective modules like Save (Add/Update), Delete, Get single object, get multiple objects for listing and were designed to be capable of handling many more logics which were not related to the database. The Data Access layer contained the libraries responsible for accessing data from database and built a generic query for insert, update, delete and select, depending on the business class. All business layer components were coded to use this library for data accessing process from database. Stored procedures were used only for complex retrieval of data from multiple tables and were entirely avoided with conditional syntax to ensure smooth performance of the website. The UI layer was kept free of any business logic with images, applications and data being called from their respective servers. Sub-domains were used for the different areas of the website to guarantee scalability.



DEVELOPMENT HIGHLIGHTS

The system managed the entire gamut of PPC advertising related activities, successfully handling user accounts, advanced analytics and bid & ROI automations, among others. Personalized account features included customizable search engines, different indexing facilities, complex conversion tracking, intricate billing details and enhanced management of quota units. Various keyword-related enhancements like keyword research, bidding, scheduling, day parting and geo targeting were incorporated to increase the productivity of Bid Automation. Advanced analytics included detailed performance reports for all aspects of PPC management and an exhaustive competitor analysis. The system excelled at offering advanced ROI automation options in addition to a vBulletin forum. The site was developed and fully functional within a span of 4 months.

CLIENT FEEDBACK

“Throughout the entire project, the GMI team has been very, very attentive to work. The company was always responsive to our feedback, and offered a dedicated and highly qualified staff. We would highly recommend them and we certainly expect to work with GMI in the future.”