



**GREY MATTER INDIA TECHNOLOGIES
PRIVATE LIMITED**

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CASE STUDY

PPC ADVERTISING MANAGEMENT SYSTEM

CLIENT REQUIREMENT

The client needed an online exhaustive PPC management system via which the users could manage their PPC activities. The system was envisioned to offer comprehensive features to link PPC accounts to Google, Yahoo, MSN, Ask Jeeves and other search engines to optimize product visibility. User participation in bidding for PPC accounts of different search engines and controlling their bidding budget through a unique single system was also enabled with the monitoring of the effectiveness of PPC advertising and accounts also made available. The US of the system was the dual convenience of offering Bid and ROI automation wherein Bid automation would include jamming, surfing and shadowing while ROI automation would allow clients to set the desired ROI metrics like CPA, CPC and CPT.

CHALLENGES

- Development of a thorough PPC management system designed to handle all PPC marketing and advertising needs.
- Synchronization of the backend maintenance of the online system through a dependable framework and linking user PPC profiles to different search engines on the net.
- Implementation of modules to determine and track the effectiveness of PPC advertising and accounts along with providing updated information on metrics.
- Allowing user participation in bidding and management of their bidding budget.
- Incorporation of 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 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.
MySQL Engine	A versatile low maintenance database management system which acts as a cross-platform compatible database component of the LAMP platform.

Red Hat Linux	License free, sturdy platform with open source code for extensive customization and with powerful multitasking abilities.
Apache Web Server	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
Designers	1
Quality Assurance Testers	2

PLANNING

The enormous structure of the website and the challenges involved necessitated the adoption of a four-tier approach that consisted of

- MySQL Server Database, Tables, stored procedures etc... incorporated within the database layer
- The libraries responsible for accessing data from database are contained in the data access layer.
- All the business logic procedures for modules such as User PPC Profiles, Ads, 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 rich user data and featured extensive capabilities for online advertising management which entailed a PHP based design approach involving MySQL Server. PHP was used to develop modules like Ad Zones, User PPC Profiles, Uploads and other modules 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. 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 successful development of the concept led to the conceiving of a system that managed the wide array of PPC advertising related activities, successfully handling user accounts, advanced analytics and bid & ROI automations. Customizable search engines, different indexing facilities, complex conversion tracking, intricate billing details and enhanced management of quota units was included in the personalized account features. The productivity of the bid automation was increased by incorporating various keyword-related enhancements like keyword research, bidding, scheduling, day parting and geo targeting. Advanced analytics was included which provided detailed reports on all aspects of PPC management and an exhaustive competitor analysis. In addition to a vBulletin forum the system also excelled at offering advanced ROI automation options. The site was fully developed and 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 has always been responsive to our feedback and offers a dedicated and highly qualified staff. We would highly recommend them and we certainly expect to work with GMI in the future."