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HIGH-PERFORMANCE SOCIAL MEDIA PLATFORM

Case Study



Thapovan

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The client was looking for a technology partner to create a highly scalable, widely available and functionally rich social media platform.

The Client

The client is an innovative multimedia social networking company that successfully blends social networking with the media to enable their users to communicate with millions of users across the world, exchange views, listen to commercially hosted shows, play games and make friends. The client has one of the largest voice and video chat community in use on the Internet today and the portal provides various functions to support the above activities.

The Business Challenge

The client was looking for an application development partner to create a state-of-the-art solution for their unique social media platform. The platform was required to handle several million users with concurrent use by several thousand users from across the globe. The various applications that form part of the platform needed to provide outstanding user experience and response speed. The platform needed to handle a variety of rich media including images, voice and video.

The specific functions that needed to be accomplished by the platform included:

- User Management – ability to manage 25 million active users.
- Chat Rooms and Groups – Create chat areas and group chat rooms.
- Search – Powerful tools for searching users, chat rooms and groups.
- Embedded workstation function to provide programming guides and access to popular chat rooms/groups and other members.
- Integrated e-mail blasting and marketing functions.
- Powerful administration functions including message casting, screening and reporting.

The client was also interested in a partner who could:

- Offer reliable, long term partnership.
- Provide highly cost-effective, best of breed solutions.
- Leverage multiple cutting-edge technologies.
- Provide outstanding problem solving skills.
- Respond quickly to issues and operational challenges.

The Engagement

The client chose the Thapovan team for its demonstrated experience in building high-performance applications and for its reliable and trusted partnership.

The engagement included the following:

- Combination of onsite and offshore service model.
- Gathering of business requirements and technical specifications.
- Design and development of core applications and modules.
- Seamless interaction with the client's development team.
- Performance analysis, benchmarking and solution identification.
- New feature design and development.
- Project based and routine quality assurance management.
- Ongoing application maintenance and change management.

The following are some of the key highlights of the solution:

Groups Application: A complex, function-rich, web application was built over a First Servlet Architecture (FSA), which is used for offline mode of communication between various users, where each group corresponds to a chat room. The application supports a variety of functions including creating a group/room, join/un-joining a group, uploading photos/videos, posting messages, and rating/reviewing a group.

People Application: A powerful social networking web application was created, where the users could create their profile, upload photos, upload videos, add comments on photos/videos of other profiles, and add friends.

Search Application: A highly intuitive and efficient web application was made available to search the groups or profiles using keywords or tag search. The search is implemented via Lucene: An open-source, high-performance, full-featured text search engine library.

Messenger Embedded Application: A smart web application which is embedded within a client-side Messenger application, used to show an Electronic Programming Guide, popular and rated rooms and top rated member profiles using proprietary ranking and rating logic.

Administration Application: An intranet application was designed for use by the client's internal administrative team to manage and administer the extensive social media platform. The application includes, a Message Cast System to manage promotional campaigns, a Screening application to monitor and filter unwanted content, and a Reporting System to support a wide range of preset and ad-hoc reports.

Technology Environment

Thapovan was responsible for identifying and implementing the most appropriate technology for the various applications in order to meet the performance, cost and usability objectives set by the client.

Major Technology Components:

Language:	Java (JDK 1.5.0)
Webserver:	Apache, JRUN, Jetty
Database:	SQL Server 2005, 2008
Search Engine API:	Lucene 3.0.1
Caching Technology:	Memcached from Danga
Architecture:	MVC – 2
Frameworks:	FSA (First Servlet Architecture using WebMacro)

Key Technical Tools Used:

- Memcache – Free, open source, high-performance, distributed memory object caching system was used to reduce database load and to improve performance.
- Apache Lucene – High-performance, full-featured text search engine library was written entirely in Java. This engine was used for enhancing text based searches resulting in outstanding response times.
- Flex for sidekick – Was used for embedding web pages in client-side apps.
- JSON was used for easy retrieval of the data in the PHP pages.
- XAJAX in PHP – Was used for communicating to the server without refreshing the page, resulting in better user experience.
- Distributed Database – The use of a distributed database provided better performance, fault tolerance and failover.
- SSON – Single Sign On provided for a better user experience.
- Session tracker was used for auto logout of inactive sessions.
- Tag Cloud was implemented on the website homepage to list the most searched categories.

Results Achieved

The client achieved the following major benefits from the partnership:

- A complete state of the art social media platform.
- An application with rich functionality, high-performance, high availability, ease of administration.
- A solution that is cost effective and provides a significantly better ROI.
- Excellent customer adoption and user base growth.
- Joint development led to better products that were brought to market faster.
- Efficient use of technology that led to a wonderful user experience.