M.Sc. Degree Project Proposal/Synopsis

Project Title: **MongoAdmin : GUI-Interface for MongoDB**

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Introduction:

It is well described by the database community that NoSQL as a movement rather than the technology. NoSQL is a Next Generation Databases which is being nonrelational, is a distributed, open-source and horizontally scalable. The original aim of this movement was a modern web-scale database which will be: schema-free, easy replication support, simple API, eventually consistent with a huge amount of data. NoSQL database management systems are useful when working with a huge quantity of data and the data's nature does not require a relational model for the data structure. The data could be structured, but it is of minimal importance and what really matters is the ability to store and retrieve great quantities of data, and not the relationships between the elements. This is particularly useful for statistical or real-time analyses for growing list of elements (such as Twitter posts or the Internet server logs from a big group of users).

There are mainly 3 categories of NoSQL DB:

     1. Document DB

     2. Data Structure Oriented DB

     3. Column Oriented DB

MongoDB:

MongoDB is a cross-platform NoSQL database, which is the fastest-growing new database in the world. MongoDB provides a rich document-oriented structure with dynamic queries. NoSQL is written in C++. It stores data as Documents so it is also known as "Document-Oriented Database". These database systems are developed to store large amount of data. It is focuses on Speed, Power, Flexibility and ease of use. MongoDB stores documents in JSON format, where JSON is a format originally designed for representing JavaScript objects, but now available in many languages. So on one hand, one can think of MongoDB as object databases. Major applications designed using by MongoDB include MTV Networks and UIDAI Aadhaar India's unique identification project.

Problem Statement:

Several GUIs have been created by MongoDB's developer community parallel to help visualize the data. Some popular ones are: Mongo3, RockMongo and phpMoAdmin. Still the MongoDB community is working on designing a well sophisticated GUI and has urged the members to design such a tool. This project is one such activity in which our target is to design a GUI for MongoDB administration similar to phpMyadmin and/or pgAdmin. Much of the database administration is done from command line tools such as the mongo shell. We have planned to make use of PHP to design the proposed GUI.