Darshan App
-A key to pious India

MGMT 582 – Management of Organisational Data
Group Project
Group 7

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1. Background

In the rich tapestry of spiritual devotion and religious practices, the Darshan App emerges as a radiant guiding star, illuminating the path for the spiritually inclined populace of India. Nestled within the digital realm, Darshan is not just an app. It stands as a testament to innovation, a resplendent platform that beckons with an abundance of invaluable resources and information, poised to empower devotees throughout their spiritual odyssey. It functions as a boundless reservoir of knowledge, bridging the chasm between individuals and their deeply cherished faith. This extraordinary application, like a benevolent sage, facilitates a profound connection with revered deities and the sacred sanctuaries(temples) where they reside.

It is an innovative app that serves as a comprehensive platform, offering a plethora of invaluable resources and information to empower devotees on their spiritual journey. This remarkable app serves as a beacon of knowledge, helping individuals connect with their faith, religious scriptures, deities, and places of worship.

In the current landscape of information technology, Darshan finds itself navigating its operations with the aid of a legacy database system, primarily reliant on Microsoft Excel. As the app has evolved into a veritable treasure trove of spiritual insights and guidance, the limitations of its existing database infrastructure have come into stark relief.

The paradigm shift toward a more expansive and holistic approach to spiritual enlightenment necessitates a database solution that can mirror this transformation. The comprehensive resources that Darshan provides to its users, encompassing everything from deity directories to festival calendars and sacred scriptures, demand a far more sophisticated and versatile database management system. In essence, the legacy system built on Excel has become the chink in the armor of an otherwise visionary endeavor.

The sprawling mosaic of information is, regrettably, trapped within the confines of disparate Excel spreadsheets, inhibiting the seamless experience that Darshan ardently envisions for its users.

2. Introduction

Darshan is a spiritual app that provides users with a variety of resources, including deity directories, festival calendars, and sacred scriptures. The current database system, which is primarily reliant on Microsoft Excel, is no longer adequate to meet the needs of Darshan. The system is inefficient and unable to handle the growing volume and complexity of data. This is preventing Darshan from offering a seamless and user-centric experience.

The objective of this project is to develop a structured database that connects the various gods, festivals, and scriptures, and provides important information on each of them. This database will be dynamic and allow devotees to add their own directory. It will also be structured in a way that allows the company to answer the most commonly asked questions and queries at a moment's notice.

The new database will benefit Darshan in a number of ways:

1. Improved user experience: The database will allow Darshan to offer a more seamless and user-centric experience. Devotees will be able to easily find the information they need, such as the dates of upcoming festivals, the locations of temples, and the contents of sacred scriptures.
2. Increased SEO: Darshan can use the database to improve its SEO ranking. For example, when Darshan writes about a temple or god, it can include information about related festivals, puranas, and other scriptures. This will make the Darshan website more informative and relevant to search engine users.
3. New features: The database will enable Darshan to develop new features, such as a festival calendar and a push notification system. Devotees can use the festival calendar to track upcoming festivals and receive push notifications about important events.

2.1. Key Goals:

- The database can be used to create personalized recommendations for devotees. For example, Darshan could recommend festivals to attend based on a devotee's interests or location.
- The database can be used to develop a knowledge base of spiritual wisdom. Darshan could use the database to create articles, videos, and other content that helps devotees learn more about their faith.
- The database can be used to create a community forum where devotees can connect with each other and share their spiritual experiences.
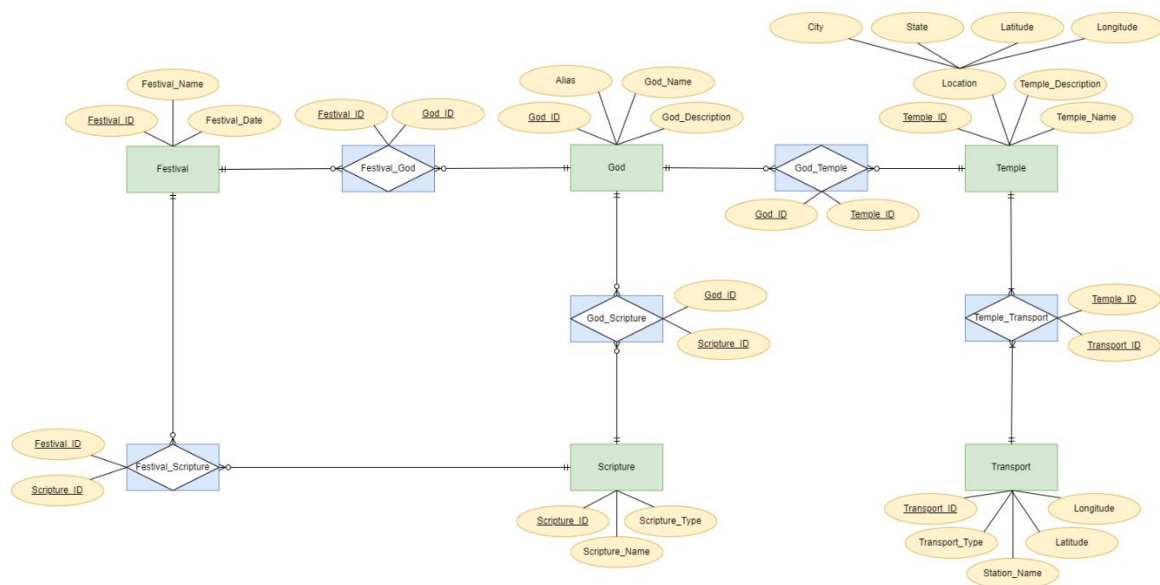
3. Conceptual Data Modelling

Image 1: ERD

Entities:	Associative Entities:
• Temple	• God Temple
• Festival	• God Scripture
• Scripture	• Festival God
• God	• Festival Scripture
• Transport	• Temple Transport

The above Entity-Relationship Diagram (ERD) is a visual representation of the relationships between the entities as follows:

- A festival can have many scriptures
- A festival can celebrate a lot of gods

- A scripture can be associated with many festivals
- A scripture can be associated with many gods

- A god can be associated with many temples
- A god can be celebrated in various festivals
- A god can be associated with many scriptures

- A temple can have many gods
- A temple can be reached by various transport options

- A transport station can be the starting point of many temples

4. Relational Data Model

The image presents a clear and concise representation of the relational schema, complete with referential integrity constraints and functional dependencies.

- This schema serves as a foundational blueprint for organizing and structuring the database, ensuring that data relationships are maintained with precision and accuracy.
- The Referential integrity constraints guarantee the consistency and reliability of data by enforcing rules that govern the relationships between tables, while functional dependencies provide valuable insights into how attributes within the schema relate to one another.

T1: Festival(Festival_ID, Festival_Name, Festival_Date)

T2: Festival_Scriptures(Festival_ID, Scripture_ID)

T3: Scriptures(Scripture_ID, Scripture_Name, Scripture_Type)

T4: God_Festival(God_ID, Festival_ID)

T5: God_Scriptures(God_ID, Scripture_ID)

T6: God(God_ID, God_Name, Alias, God_Description)

T7: God_Temple(God_ID, Temple_ID)

T8: Temple(Temple_ID, Temple_Name, Temple_Description, State, City, Latitude, Longitude)

T9: Temple_Transport(Temple_ID, Transport_ID)

T10: Transport(Transport_ID, Transport_Type, Station_Name, Latitude, Longitude)

Image 2: Relational Schema

5. Normalization

Below is a snippet of the data that we received from our client.

Table in 0 NF

It can be observed that the data is in 0 NF because the *God*, *Festivals Celebrated* and *temple coordinates* have more than one value for each tuple. So, we break down the table to achieve 1 NF.

Table in 1NF

All tuples in this table are strictly indivisible and there are no partial dependencies, however there are some transitive functional dependencies that need to be eliminated to achieve 3NF.

Functional dependencies

1. **Temple_Id** → Temple_Name, City, State, Description, Temple_Lat, Temple_Lng, God_Id, Festival_Id
2. **Festival_Id** → Fest_Name
3. **God_Id** → God_Name

We see that 1 is a full dependency, however 2 and 3 are transitive. So, we further break down the temples to achieve 3 NF and the final relational schema is as below:

T1: Festival(Festival_ID, Festival_Name, Festival_Date)

T2: Festival_Scriptures(Festival_ID, Scripture_ID)

T3: Scriptures(Scripture_ID, Scripture_Name, Scripture_Type)

T4: God_Festival(God_ID, Festival_ID)

T5: God_Scriptures(God_ID, Scripture_ID)

T6: God(God_ID, God_Name, Alias, God_Description)

T7: God_Temple(God_ID, Temple_ID)

T8: Temple(Temple_ID, Temple_Name, Temple_Description, State, City, Latitude, Longitude)

T9: Temple_Transport(Temple_ID, Transport_ID)

T10: Transport(Transport_ID, Transport_Type, Station_Name, Latitude, Longitude)