ASA SALES FORECASTING

Team No 15

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DESIGN SPECIFICATION DOCUMENT

Date: 10/01/2021

DESIGN SPECIFICATION

1.1 ARCHITECTURAL DESIGN

The 3-tier schema is an extension of the 2-tier architecture. 3-tier architecture has the following layers ; Presentation layer (your PC, Tablet, Mobile, etc.),Application layer (server) and Database Server. This DBMS architecture contains an Application layer between the user and the DBMS, which is responsible for communicating the user's request to the DBMS system and send the response from the DBMS to the user.The application layer (business logic layer) also processes functional logic, constraint, and rules before passing data to the user or down to the DBMS.Three tier architecture is the most popular DBMS architecture. Fig. 1.1.2 Architecture Diagram depicts the architectural design of ASA sales forecasting which contains all the steps.

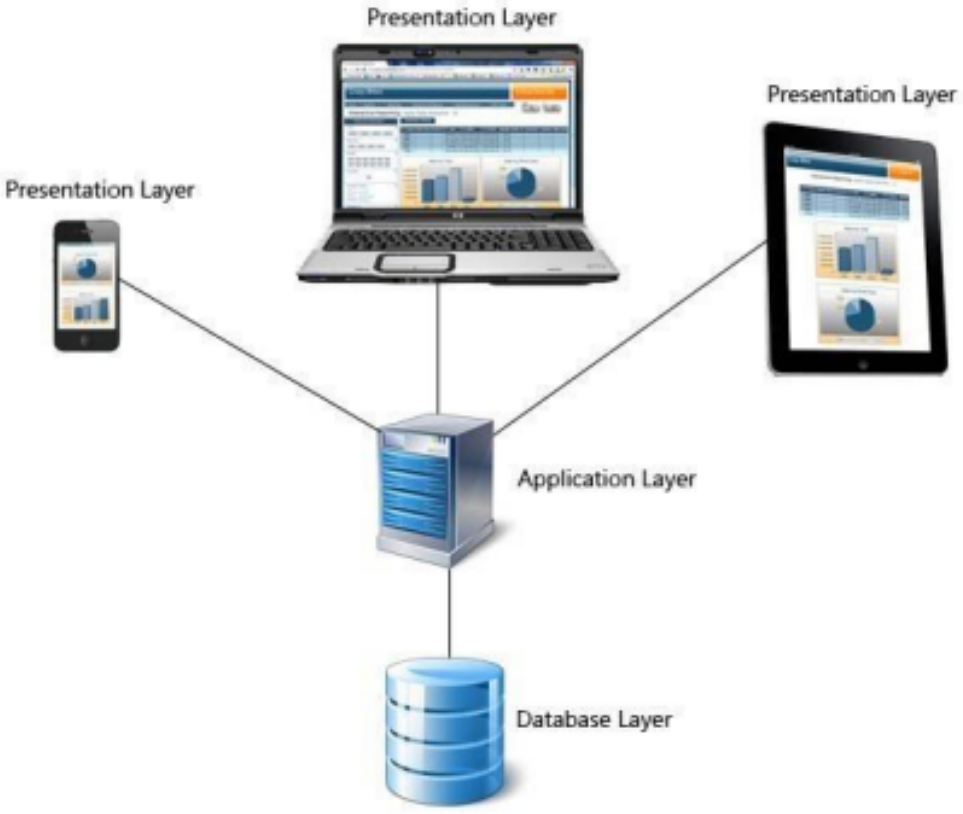

Fig. 1.1 3-tier Architecture Diagram

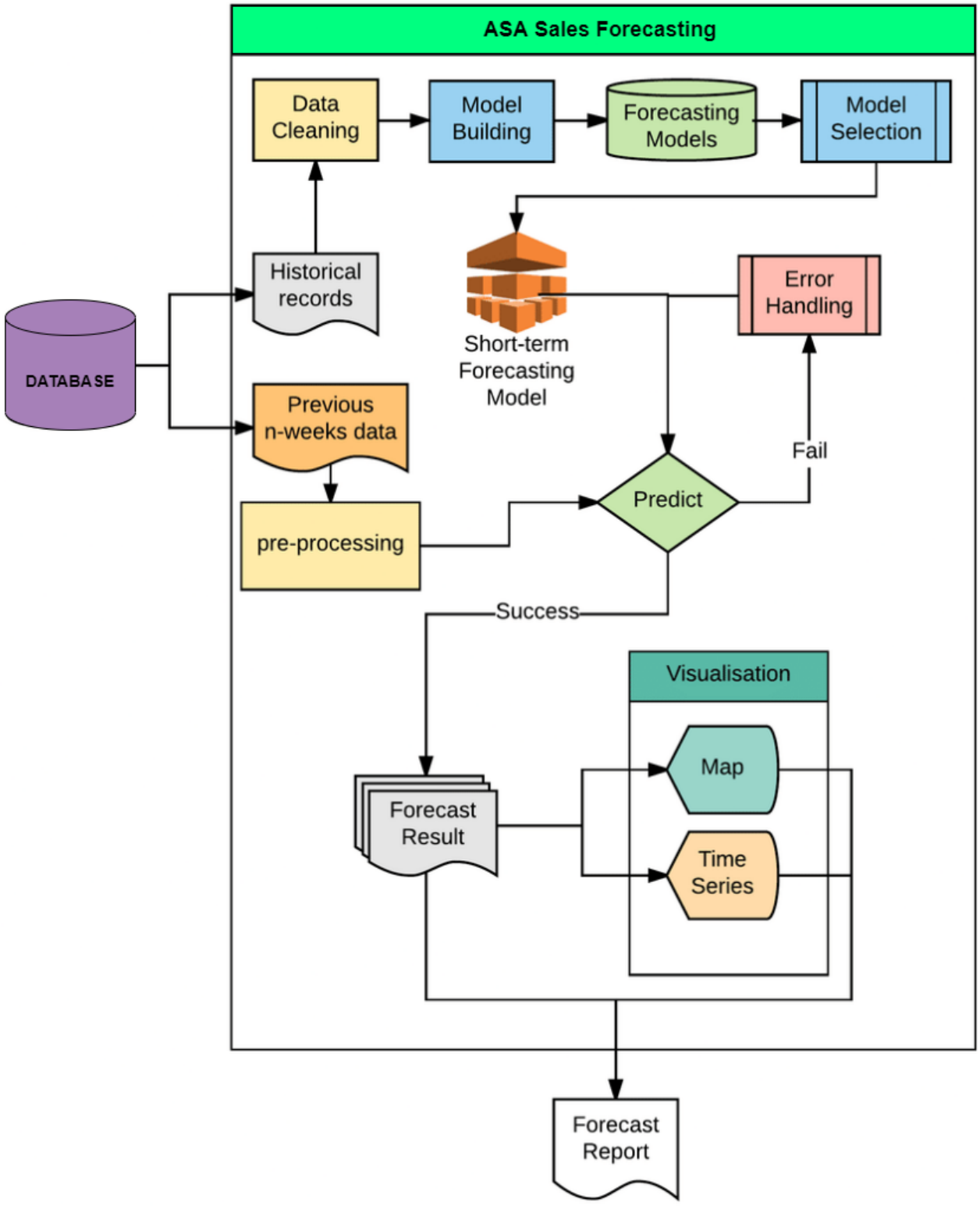

Fig. 1.1.2 Architecture Diagram

1.2 DATA FLOW DIAGRAM

The context diagram also called the Level 1 DFD (Fig 1.2 level 0 DFD) depicts the overall data flow in the system. The Figure (Fig 1.3 level 1 DFD) depicts the operations on the system and the more detailed details of the data flow has been included in the Figure (Fig 1.4 level 2 DFD & Fig 1.5 level 2). These figures constitute the data flow representation in the system.

1.2.1 CONTEXT DIAGRAM (LEVEL 0 DFD)

In the level 0 of DFD we have the three different users and they request the services from our system ASA sales forecasting and according to their requirements the system interacts and responds to the users.The application acts as a middle layer to facilitate the interaction between the users and the system as a whole.

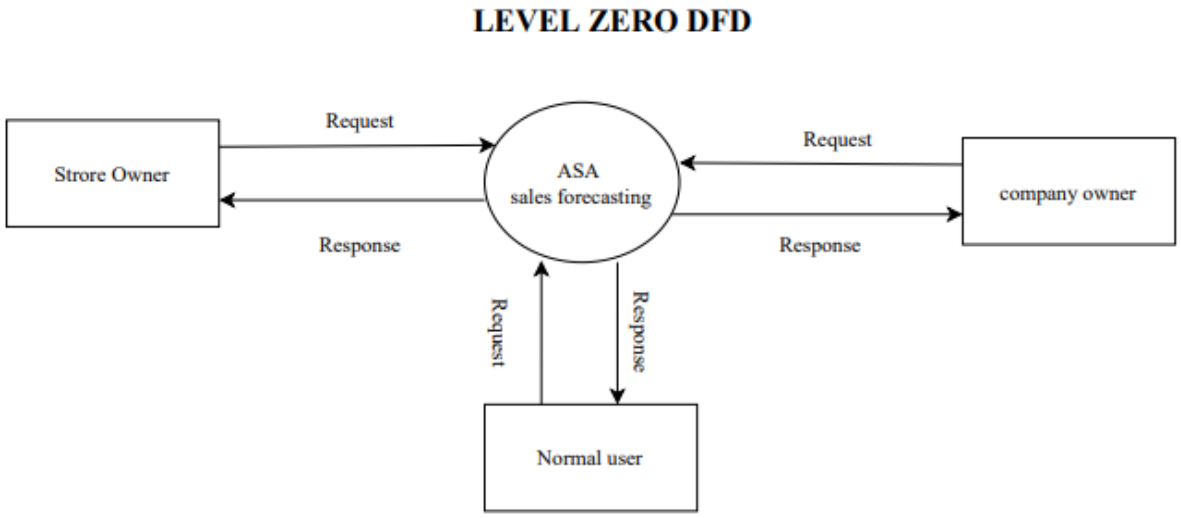

Fig. 1.2 level 0 DFD

1.2.2 LEVEL 1 DFD

In level 1 of the DFD we have the various operations that a store owner,normal user and company owner can perform. The CSV file details,predicting accuracy,and visualization are the operations that perform over this level.

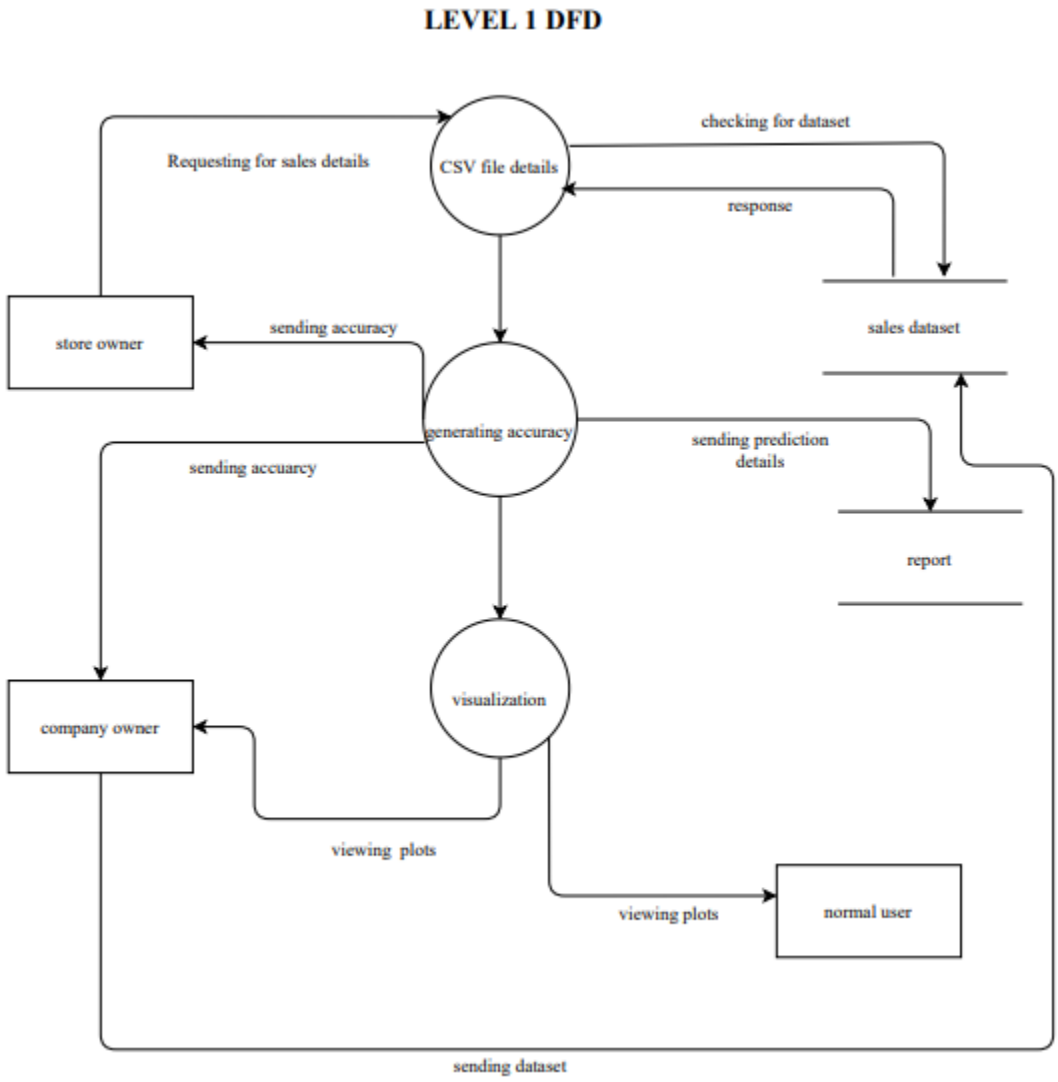

Fig. 1.3 level 1 DFD

1.2.3 LEVEL 2 DFD FOR STORE OWNER

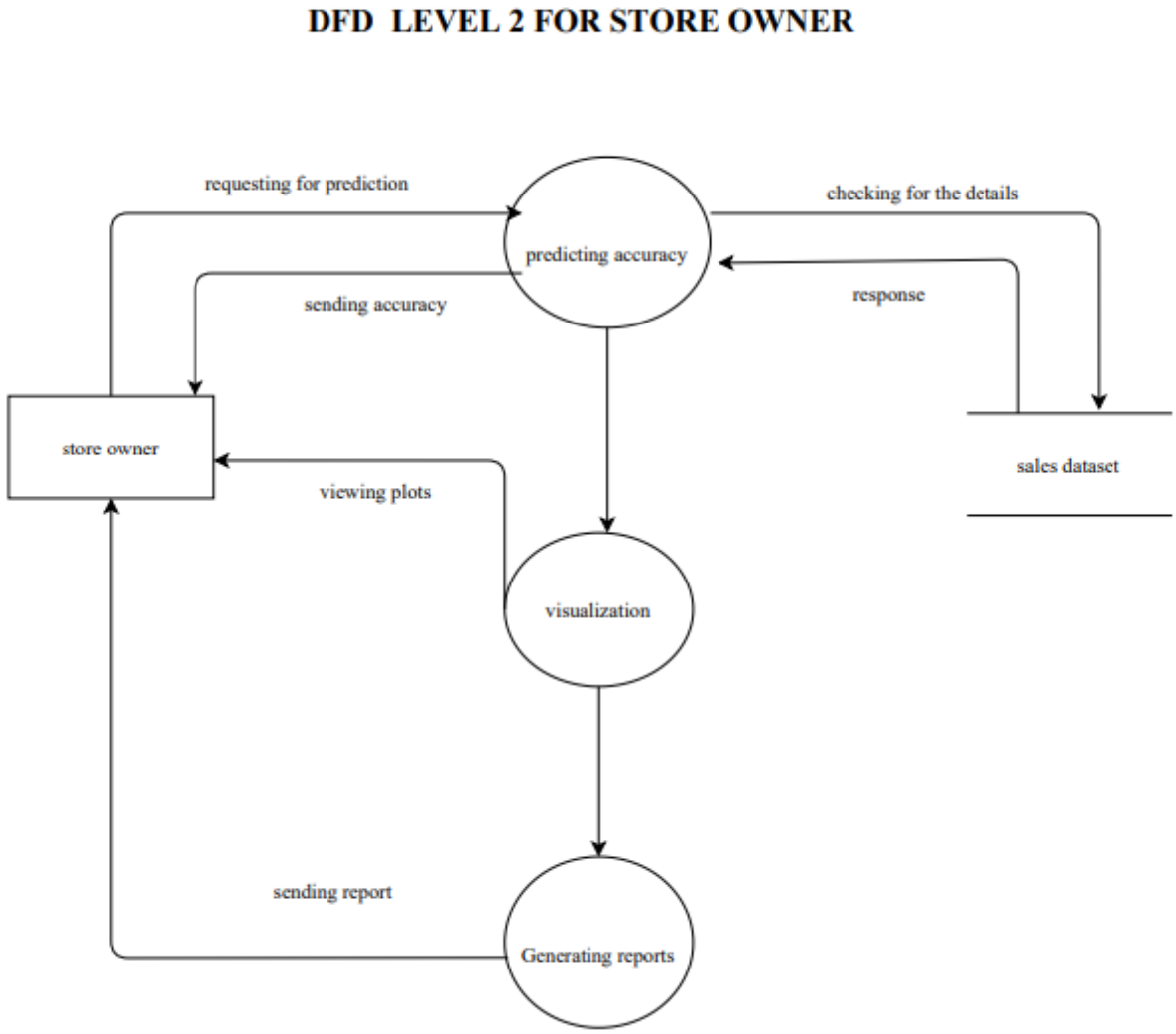

Fig 1.4 level 2 DFD

1.2.4 LEVEL 2 DFD FOR COMPANY OWNER

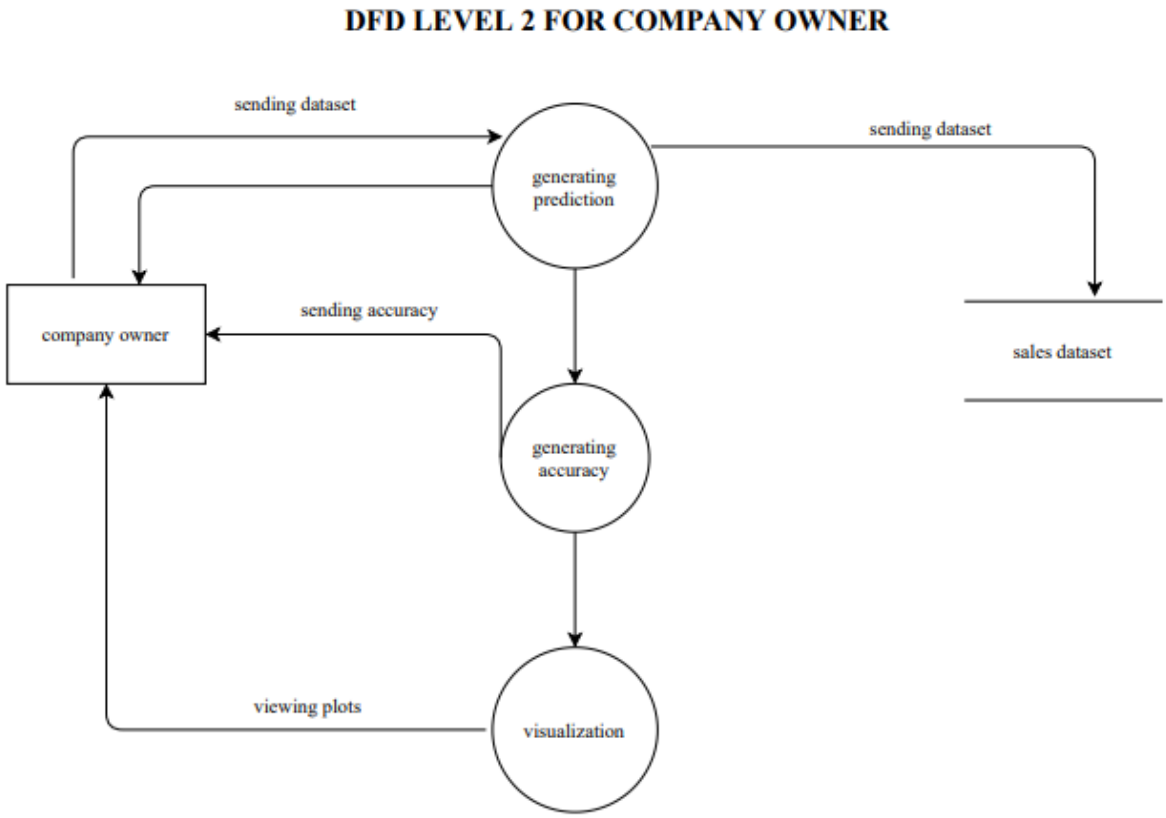

Fig 1.5 level 2 DFD

1.3 ENTITY RELATIONSHIP DIAGRAM

The entity relationship diagram describes interrelated things in the project. A basic ER model is composed of entity types and specifies relationships that can exist between instances of those entity types. An entity relationship diagram shows the relationships of entity sets stored in a database. An entity in this context is an object, a component of data. An entity set is a collection of similar entities. These entities can have attributes that define its properties.

The entity relationship diagram (Fig. 1.6 ER Diagram), represents the inter relativity of the different project components and how it is related together. the different modules of the project. the entity relationship diagram helps in the design and development of the database.

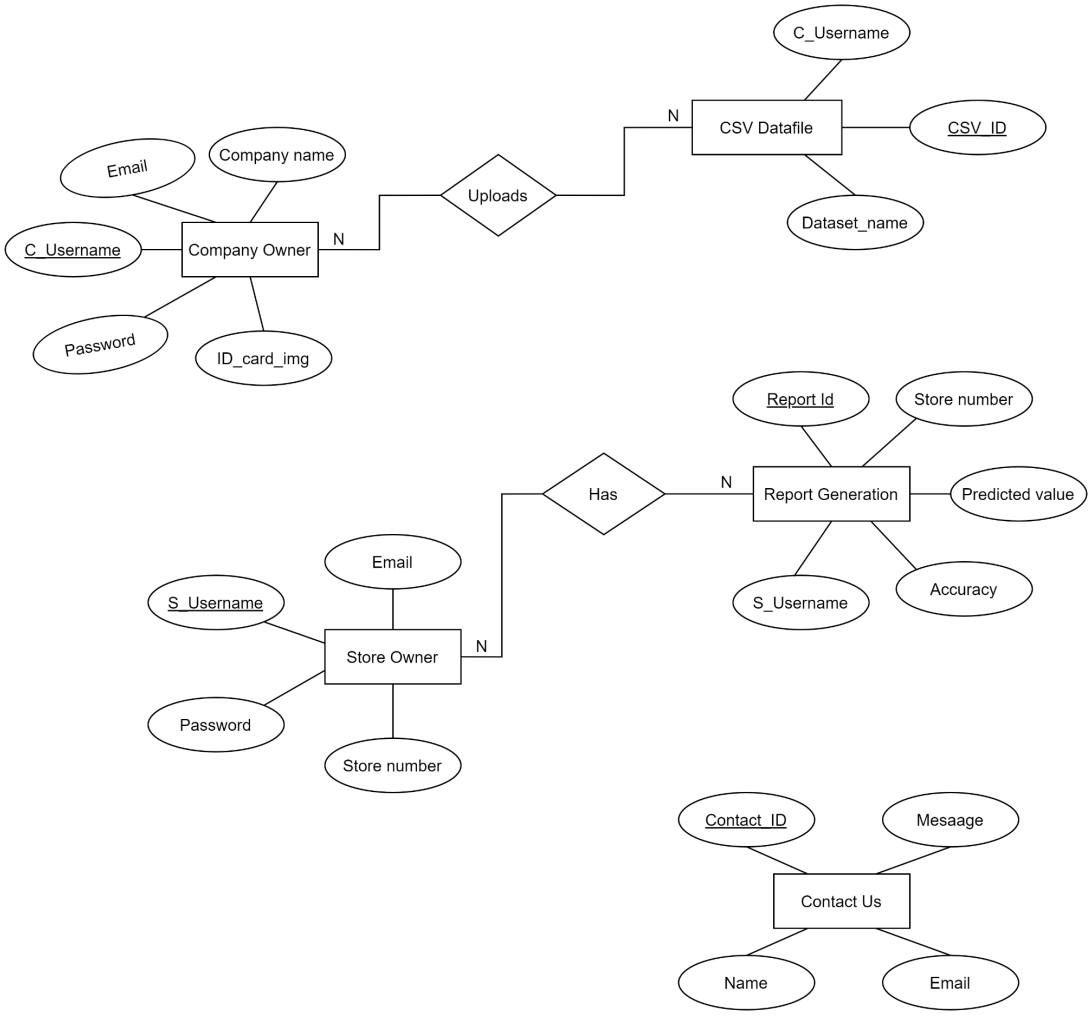

Fig. 1.6 ER Diagram

1.4 DATABASE DESIGN DIAGRAM

Database design illustrates a detailed data model of a database also known as the database schema. It shows the various tables that are in the system and the relationships between those tables. In our project a total five tables are presented the relationship between them is mentioned using primary key (PK) and foreign key (FK) in the database design.

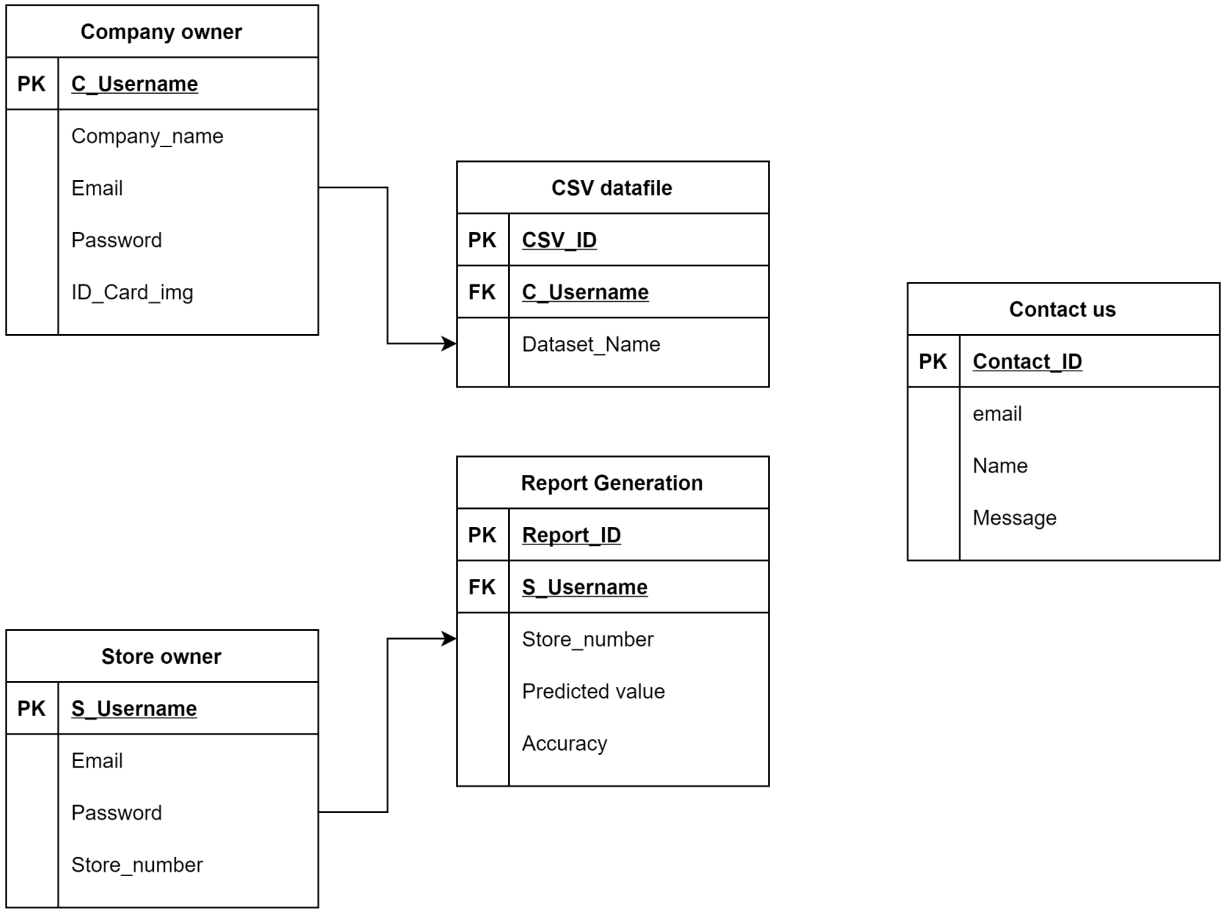

Fig. 1.6 Database design Diagram

1.5 TABLES

In our project a total five tables are presented ,those are listed below.

1.5.1 STORE OWNER

Field Name	Data Type	Constraints	Description
s_username	Varchar	Primary key	The username for store owner
email	Varchar	Not null	Email of the store owner
password	Varchar	unique	Password of the store owner
store_number	Varchar	Check,not null	The store ID

Table 1.5.1 store owner

1.5.2COMPANY OWNER

Field Name	Data Type	Constraints	Description
c_username	Varchar	Primary key	The company owner ID
company_name	Varchar	Not null	Name of the company
email	Varchar	Not null	Email of the company
password	Varchar	unique	Password of the company
id_card_img	Blob	Not null	Image of the Company ID

Table 1.5.2 company owner

1.5.3 CONTACT US

Field Name	Data Type	Constraints	Description
contact_id	Number	Primary key	The contact ID
email	Varchar	Not null	Email of the person
message	Varchar	Not null	Message for the developer
name	Varchar	Not null	Name of the person

Table 1.5.3 contact us

1.5.3 CSV DATAFILE

Field Name	Data Type	Constraints	Description
csv_id	Number	Primary key	ID for the CSV file
c_username	Varchar	Foregin key	The username of the company
dataset_name	varchar	Not null	Name of the CSV file

Table 1.5.3 csv datafile

1.5.4 REPORT GENERATION

Field Name	Data Type	Constraints	Description
report_id	Number	Primary key	The report ID
s_username	Varchar	Foregin key	The username for store owner
store_number	Varchar	Not null	Store ID
predicted_value	Number	Not null	The value for predicting
accuracy	Number	Not null	The accuracy which generated via ML algorithm

Table 1.5.4 report generation