

# Personal Expense Tracker Application

## 1.1 Introduction

Daily Expense Tracker System is designed to keep a track of Income-Expense of an organisation on a day-to-day basis. This System divides the Income based on daily expenses. If exceed day's expense, system will calculate income and will provide new daily expense allowed amount. Daily expense tracking System will generate report at the end of month to show Income-Expense graph. And employees send reports to the manager for verification. Manager send final reports to administrator .Based on the final reports system predict the next month expense . It will helps to manage over all expense and income . Businesses utilize expense management software to process, pay, and audit employee-initiated expenses. The software includes capabilities for employees to input expenses for approval through a forms. Expense management software simplifies and automates a business' expense entry, eliminates paper trail, and reduces administrative effort. Expense management software allows administrators to have full visibility of and track employee use of business financial resources. Expense management software analyses overall expenses, identifies cost-saving opportunities, and controls excessive spending. "Expense Tracker" is developed to manage the daily expenses in a more efficient and manageable way. By using this application. we can reduce the manual calculations of the daily expenses and keep track of the expenditure. In this application, user can provide his income to calculate his total expenses per day and these results will be stored for each user. The application has the provision to predict the income and expense for the manager using data mining. Budgeting systematically and Expense Tracking takes a crucial role in managing the expenses of business organizations. Expense tracking (for managing the employee developed expenses) will bring in several advantages for an organization. That are helpful for the stake-holders in processes of expense. The expense tracker will help any organization to deal with all their expenses more efficiently. By using software for managing expense tracking will help to control unnecessary expenses. There are several benefits and advantages of using online expense trackers, expense tracking makes any organization run faster and smoother.

Management of finance and accounts has been an actual issue for a long time. People are less likely to keep track of their spending, be it, in check book or even spreadsheets. Despite that, for the recent decades, it has got a new perspective with the advent of modern technologies and the internet which is becoming more and more accessible. Expenses Tracker is a way that can help us to keep up with our spending. Not only that, it can help us pinpoint areas that we have been spending and track upcoming bill payments. It is a web-based system that can keep track of their expenses and determine whether they are spending as per their set budget. Potential users need to input the required data such as the expense amount, merchant, category, and date when the expense was made. This mobile system is a full detailed expense tracker tool that will not only help users keep a check on their expenses, but also cut down the unrequired expenses, and thus will help provide a responsible lifestyle.

## **1.2 Literature Review**

### **1.2.1 Related Research and Technique**

Some research and journals have been reviewed throughout this project to make out a distinct image of it. These journals in short, works as a guide for this project to implement Least Square Method. Based on article [4], it discusses about regression models. Basically, it holds a concept where we forecast the time series of interest at y-axis assuming that it has a linear relationship with other time series at x-axis. The author [4] also stated that, the least squares principle provides a way of determining the coefficients effectively by minimizing the sum of the squared errors. A study carried out by author [9], it introduces tools and methods for both finance and accounting that help with asset pricing, corporate finance, options and futures, and conducting financial accounting research. How least square method works and implied in financial forecasting is discussed. The author [2] applied several of statistical time series models to observe forecast errors in the demand of juice production are within the expected limit and to choose a forecasting technique which has a less relative error. The author [2] proved that Least Square Method is more accurate than the others. Article [3] also did the study in order to forecast milk production in India using statistical time series modeling-Double Exponential Smoothing and Auto-regressive Integrated Moving Average and concluded that Auto Regressive Integrated Moving Average performed better. 8 In a paper studied by [7] explains that Batch-mode Least Squares SVM (LSSVM) is often associated with unbounded number of support vectors (SVs). This, makes it unsuitable for applications if it involves large-scale streaming data. In this paper [7], it explains how to train the limited-scale LSSVM dynamically. By applying a budget online LSSVM (BOLSSVM) algorithm, methodologically, by setting a fixed budget for SVs, LSSVM model is updated according to the current SVs set dynamically without re-training from scratch. This way, the proposed BOLSSVM algorithm is especially useful for online prediction tasks. Thus, batch-mode learning methods were compared, the computational complexity of the proposed BOLSSVM method is significantly reduced. The validity and effectiveness of the proposed BOLSSVM algorithm is shown by the experimental results of classification and regression on benchmark data-sets and real-world applications. The paper [10] aims to describe a computerized system that is able to predict the budget for the new year based on past budgets by using time series analysis. It will then show results with most minimum errors and controls the budget during the year. Through the ability to control exchange, compared to the scheme with the investigator and calculating the deviation, measurement of performance ratio and the growth of a number of indicators relating to budgets, it is possible to achieve the objective. For example, this article [10] uses the rate of condensation of capital, the growth rate and profitability ratio and gives a clear indication whether these ratios are good or not. 9

### **2.3 Related Software**

One of the most common existing software that is related to this project is MINT. Mint was formally introduced in September 2007. it is a server-based web, but this software also can be used using PC or smart-phone. Based on a research from author [1], MINT is aware of users' daily expense and if they have a future goal of buying something, user can reduce your current spending according to it. Most importantly, it keeps a track on users' credit bills, home bills and savings. This budgeting software also will notify users whenever user are due to pay a bill or payment. This will lower the chance for users to forget to make payment. Despite having some great advantages, MINT also comes with a plenty of drawbacks such as there no guarantee of the security in this online software. The chances of getting their account hacked is worrisome as

this software stores users' financial account. The rivalry from other potential software also becomes one of the big factor. Website has too many ads while browsing through finances.