PROJECT REPORT

1.INTRODUCTION

1.1 Project Overview

This Expense Tracker application falls in the Finance Category and serves the important purpose of managing finances which is a very important part of one's life. The software product went through the design, development, and the testing phase as a part of the Web Application Development Lifecycle. The web application is not much user intensive but just comprises of having them enter the expense amount, date, category, merchant and other optional attributes (taking picture of the receipts, entering notes about the expense, adding subcategories to the categories). With this entered information, the user is able to see the expense details daily, weekly, monthly, and yearly in figures, graphs, PDF format, and can print them as well if a printer is detected or scanned nearby. All these topics have been explained in detail in their respective chapters. The aim of this thesis is to provide a solution for Web page users on how to manage finances in any circumstance by keeping track of their expenses everyday. Ultimately, this contributes to societal well-being.

1.2 Purpose

Identify where you are spending your money.

Budget Setting and expense tracking both alter consumer choice. Mental Budgeting leads people to overconsume some goods and underconsume others. Because budgets are set before consumption opportunities arise, they sometimes overestimate or underestimate the money required for a particular amount. On the other hand, expense tracking shows that some expenses are more likely to produce over-or-underconsumption. As people track their expenses, expenses that are relatively easy to categorize – those that are more typical examples of their categories –will be the most subject to the rigors of budgeting [4, 5]. There is no provision to manage cash track activity in Mint. In X pens Trak, I made it pretty clear for the user to choose his payment source either by cash, credit card, debit card, check or a gift card. Please refer to the Appendix for the comparison between Mint and X pens Trak. A number of students at SDSU were asked how much they spend per month on their needs and requirements, and nobody was able to provide an exact answer. Thus, they do not know where their money is going. They liked the idea of such an expense tracking tool where with just a few inputs everyday, you can make yourself organized and make your life a bit easier in the long run.

2. LITERATURE SURVEY:

2.1 Existing problem:

Did You Know That an Expense Tracker Can Solve All of Your Budget Planning Problems?

If you've tried budgeting and failed miserably, using an expense tracker can solve your budget planning problems. Expense tracking isn't just about saving all of your receipts or

writing down every cent you spend for the rest of eternity. It's actually much simpler than that.

Tracking expenses is the difference between creating a budget that works, and one that doesn't. Whether you're about to start budgeting for the first time, or have been living on a budget for years, knowing where your money goes is the one thing that is guaranteed to make your budget work.

2.2 References:

1.MINT

[Budget Tracker & Planner | Free Online Money Management | Mint (intuit.com)](intuit.com)

2.RAMSEU

[Ramsey Account - Sign In (ramseysolutions.com)](ramseysolutions.com)

3.YNBA

[Gain Total Control of Your Money with YNAB - You Need A Budget](#)

4.LENDINGTREE

[LendingTree: You Win](#)

5.EXPENSIFY

[Expensify: Easy Money](#)

6.MONEY MANAGER

[Home - Money Manager (moneymanagerapp.com)](moneymanagerapp.com)

7.ANDRO MONEY

[AndroMoney](#)

8.1MONEY

[1Money - Expense Tracker, Money Manager, Budget (1moneyapp.com)](1moneyapp.com)

2.3 Problem Statement Definition:

Problem Statement (PS)	I am (Customer)	I'm trying to	But	Because	Which makes me feel
PS-1	A Boss	Track my income	I'm concerned about customer support	Of technical errors	stressed
PS-2	An Employee	Track my expense	I'm concerned about privacy	Of misuse of data	Worried
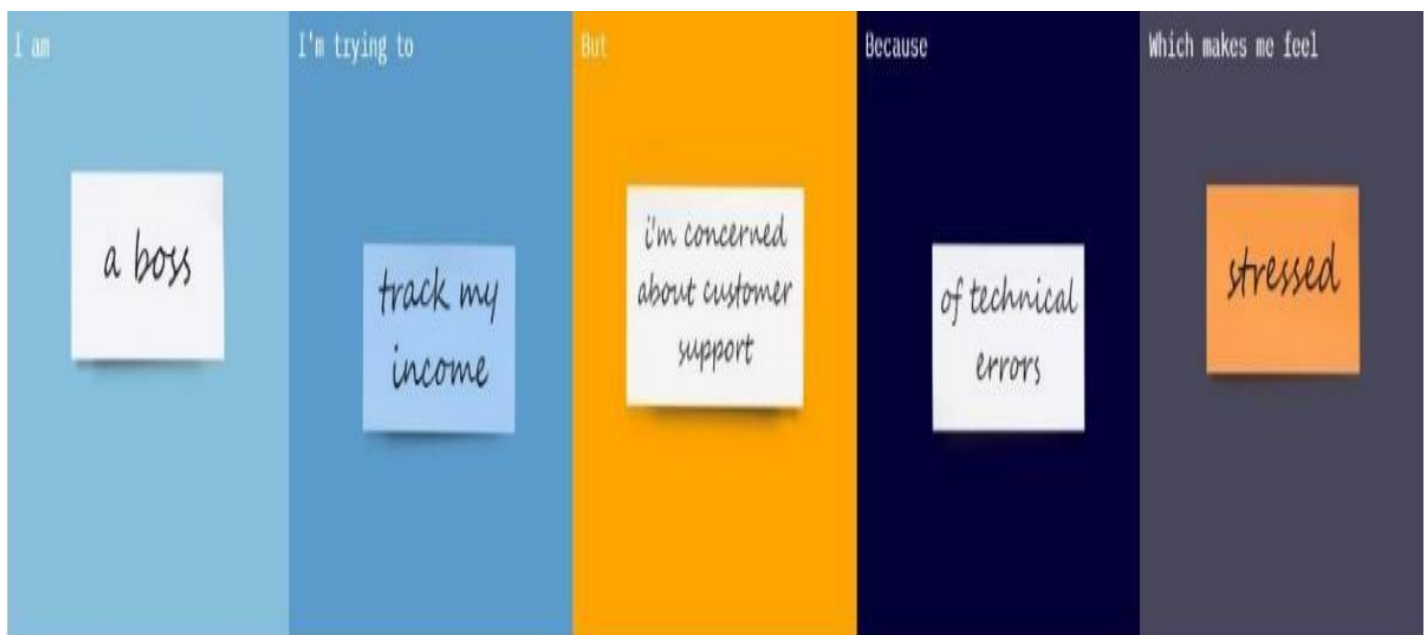
3. IDEATION & PROPOSED SOLUTION:

3.1 Empathy Map Canvas :

An empathy map is a simple, easy-to-digest visual that captures knowledge about a user's behaviours and attitudes.

It is a useful tool to helps teams better understand their users.

Creating an effective solution requires understanding the true problem and the person who is experiencing it.

The exercise of creating the map helps participants consider things from the user's perspective along with his or her goals and challenges.

Empathy Map

Empathy Map Canvas

Gain insight and understanding on solving customer problems.

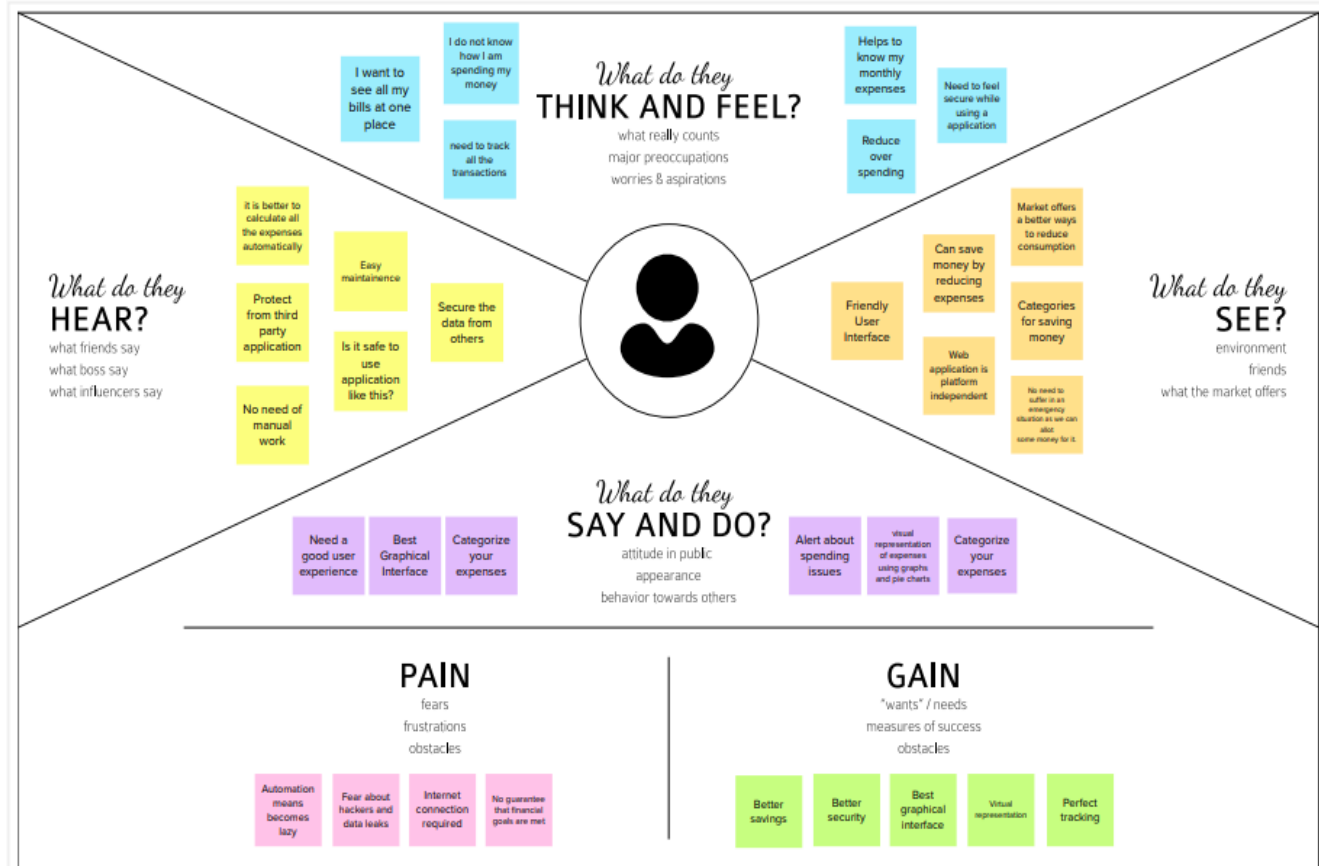Build empathy and keep your focus on the user by putting yourself in their shoes.

What do they THINK AND FEEL?
what really counts
major preoccupations
worries & aspirations

- I do not know how I am spending my money
- I want to see all my bills at one place
- need to track all the transactions
- Helps to know my monthly expenses
- Need to feel secure while using a application
- Reduce over spending

What do they HEAR?
what friends say
what boss say
what influencers say

- it is better to calculate all the expenses automatically
- Easy maintenance
- Protect from third party application
- Is it safe to use application like this?
- Secure the data from others
- No need of manual work

What do they SEE?
environment
friends
what the market offers

- Market offers a better ways to reduce consumption
- Can save money by reducing expenses
- Friendly User Interface
- Categories for saving money
- Web application is platform independent
- No need to suffer in an emergency situation as we can allot some money for it

What do they SAY AND DO?
attitude in public
appearance
behavior towards others

- Need a good user experience
- Best Graphical Interface
- Categorize your expenses
- Alert about spending issues
- visual representation of expenses using graphs and pie charts
- Categorize your expenses

PAIN
fears
frustrations
obstacles

- Automation means becomes lazy
- Fear about hackers and data leaks
- Internet connection required
- No guarantee that financial goals are met

GAIN
"wants" / needs
measures of success
obstacles

- Better savings
- Better security
- Best graphical interface
- Virtual representation
- Perfect tracking

3.2 Proposed Solution:

S.NO	PARAMETER	DESCRIPTION
1.	Problem Statement (Problem to be solved	It is difficult to track our monthly expenses manually. Records may get lost in natural disasters or in some miscalculations
2.	Idea / Solution description	The personal expense tracker application helps users to keep track of their finances. It also helps users with budgeting and financial management
3.	Novelty / Uniqueness	This application enables users to set a limit for the amount to be used. It notifies the user once their expense limit is reached
4.	Social Impact / Customer Satisfaction	This application generates report on user's spending. It makes them spend their income wisely without getting in any debt
5.	Business Model (Revenue Model)	This application will be free of cost
6.	Scalability of the Solution	This application can handle large number of users and their data along with better performance and security with the help of IBM cloud

3.3 Problem Solution fit:

1. CUSTOMER SEGMENT(S) — CS

Employees and others who spend money on a daily basis

People who want to track their income effectively

6. CUSTOMER CONSTRAINTS — CC

Awareness of technology to make this possible.

Tracking Constantly

5. AVAILABLE SOLUTIONS — AS

Tracking expenses through pen and paper is an alternative but its not that safe or effective.

If the calculations are done manually and there is no proper record of consolidated effect of spending habits to reflects and improve upon.

Define CS, fit into CC

Explore AS, differentiate

2. JOBS-TO-BE-DONE / PROBLEMS — J&P

To track expenses easily and document expenses spent

Application will alert the user if budget limit is reached

9. PROBLEM ROOT CAUSE — RC

People want to keep a track of their daily expenditure easily

A person has to keep to log in a diary or in a system and the calculations need to be done by the user sometimes it results in errors and leading to losses

7. BEHAVIOUR — BE

Find a proper system to keep track of their expenses and make it as a routine to track and analyze spendings manually.

Focus on J&P, tap into BE, understand RC

Focus on J&P, tap into BE, understand RC

3. TRIGGERS — TR

Seeing others managing their income effectively.
People who don't suffer from any debts.

4. EMOTIONS: BEFORE / AFTER — EM

Before:
Frustrated and angry or confused by their situation and expenses, unable to record them.
After:
In control, confident, stress free and more aware of their situations.

10. YOUR SOLUTION — SL

Spending money on priorities and cut down on other spendings to balance the income

The perspective and timely calculations of these expenses will certainly boost people's morale when tracked

8. CHANNELS OF BEHAVIOUR — CH

8.1 ONLINE
They monitor and analyze for better options and improve their finance

8.2 OFFLINE
Be more aware and stable to make better financial decisions

Identify strong TR & EM

Identify strong TR & EM

4. REQUIREMENT ANALYSIS:

4.1 Functional requirement:

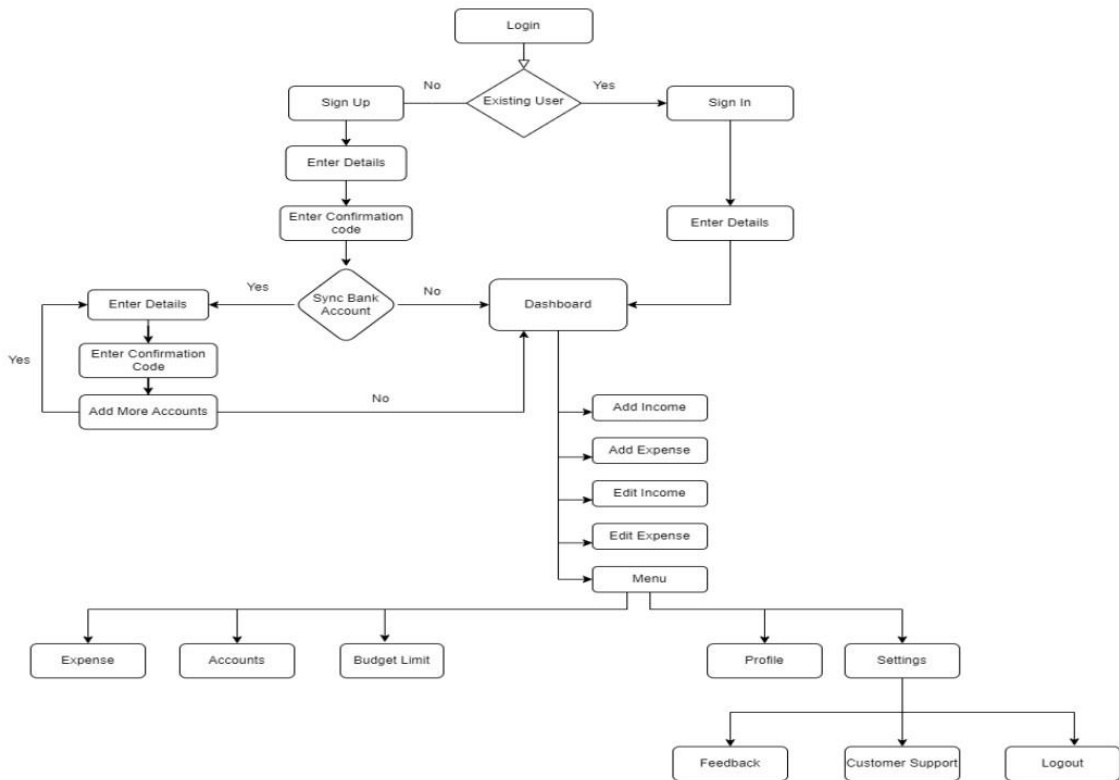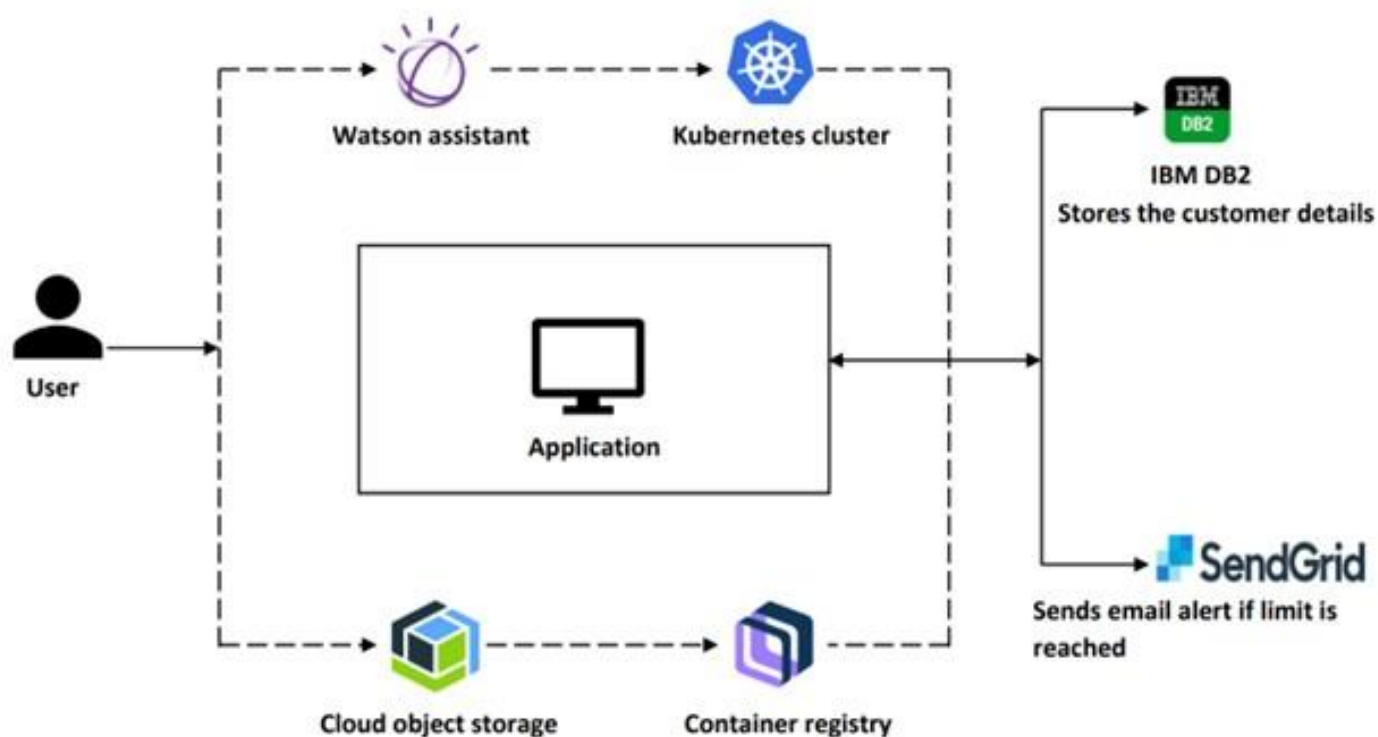| FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	Registration through Phone number Registration through Gmail
FR-2	User Confirmation	Confirmation via Gmail Confirmation via OTP
FR-3	Add Income and Expense	Different Field to add income and expense
FR-4	Category	Allows user to add categories of their expenses
FR-5	Alert notification	Alerts user when expense reaches the provided budget
FR-6	Report Generation	It generates the report of your budget usage

4.2 Non-Functional requirements:

FR No.	Non-Functional Requirement	Description
NFR-1	Usability	The interface should be user friendly, easy and simple to understand. The application must be error free
NFR-2	Security	IBM cloud provides the latest security and technology measures to keep customer personal and financial details confidential
NFR-3	Reliability	If there is any internet or technical issue the transaction will rollback and the failure will be solved quickly
NFR-4	Performance	It helps to acquire control of your finance, pay down debt, helps to grow in your career. The cloud database system also has the least latency
NFR-5	Availability	User can access the application for free
NFR-6	Scalability	The IBM cloud has the ability to appropriately handle increasing demands

5. PROJECT DESIGN:

5.1 Data Flow Diagrams:

5.2 Solution & Technical Architecture

5.3 User Stories

User Stories

Use the below template to list all the user stories for the product.

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Customer (Application user)	Registration	USN-1	As a user, I can register for the application by entering my email, password, and confirming my password.	I can access my account / dashboard	High	Sprint-1
	Confirmation	USN-2	As a user, I will receive confirmation email once I have registered for the application	I can receive confirmation email & click confirm	High	Sprint-1
	Login	USN-3	As a user, I can log into the application by entering email & password	I can access the application	High	Sprint-2
	Dashboard	USN-4	As a user, I can enter my income, expense and budget details	I can view my daily Expenses	Medium	Sprint-2
	Entering Limit	USN-5	As a user, I can enter the expense limit	I can see the limit and remaining amount can be spent	High	Sprint-3
	Alert Message	USN-6	As a user, if I exceed the budget, I should get the alert message	I get the Alert Message	Medium	Sprint-3
Customer Care Executive	Support	USN-7	As a customer care executive, I can solve the log in issues and other issues of the application	I can provide 24/7 solution and support	Low	Sprint-4
Administrator	Maintenance	USN-8	As an administrator, I can manage the data and upgrade the app	I can take action on feedback received	Low	Sprint-4

6. PROJECT PLANNING & SCHEDULING

6.1 Sprint Planning & Estimation

TITLE	DESCRIPTION	DATE
Prepare Empathy Map	Prepare Empathy Map Canvas to capture the user Pains & Gains, Prepare list of problem statements	27 SEPTEMBER 2022
Ideation	List the by organizing the brainstorm and prioritize the top 3 ideas based on the feasibility & importance.	27 SEPTEMBER 2022
Literature Survey & Information Gathering	Literature survey on the selected project & gathering information by referring the, technical papers, research	07 OCTOBER 2022
Problem Solution Fit	pubPreplicareations probelemtc. - solution fit document.	19 OCTOBER 2022
Proposed Solution	Prepare the proposed solution document, which includes the novelty, feasibility of idea, business model, social impact, scalability of solution, etc.	21 OCTOBER 2022
Solution Architecture	Prepare solution architecture document.	21 OCTOBER 2022
Customer Journey	Prepare the customer journey maps to understand the user interactions &	27 OCTOBER 2022
Functional Requirement	Prepare the functional requirement document.	27 OCTOBER 2022
Data Flow Diagrams	Draw the data flow diagrams and submit for review.	29 OCTOBER 2022
Technology Architecture	Prepare the technology architecture diagram	29 OCTOBER 2022
Prepare Milestone & Activit List	Prepare the milestones & activity list of the project.	30 OCTOBER 2022
Project Development -Deliv of Sprint-1, 2, 3 & 4	Develop & submit the e leveloped code by testing it.	November 2022

6.2 Sprint Delivery Schedule

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	Registration	USN-1	As a user, I can register for the application by entering my email, password, and confirming my password.	10	High	Tony Christopher, Suresh Kumar
Sprint-1	Confirmation	USN-2	As a user, I will receive confirmation email once I have registered for the application	10	High	Suresh Kumar, Tony Christopher
Sprint-2	Login	USN-3	As a user, I can log into the application by entering email & password	10	High	Tony Christopher, Suresh Kumar
Sprint-2	Dashboard	USN-4	As a user, I can enter my income, expense and budget details	10	Medium	Saravana Kumar, Nirmal Kumar
Sprint-3	Entering the limit	USN-5	As a user, I can enter the expense limit	10	High	Suresh Kumar, Tony Christopher
Sprint-3	Alert Message	USN-6	As a user, if I exceed the budget, I should get the alert message	10	Medium	Nirmal Kumar, Saravana Kumar
Sprint-4	Support	USN-7	As a customer care executive, I can solve the log in issues and other issues of the application	10	Low	Saravana Kumar, Nirmal Kumar
Sprint-4	Maintenance	USN-8	As an administrator, I can manage the data and upgrade the app	10	Low	Nirmal Kumar, Saravana Kumar

6.3 Reports from JIRA
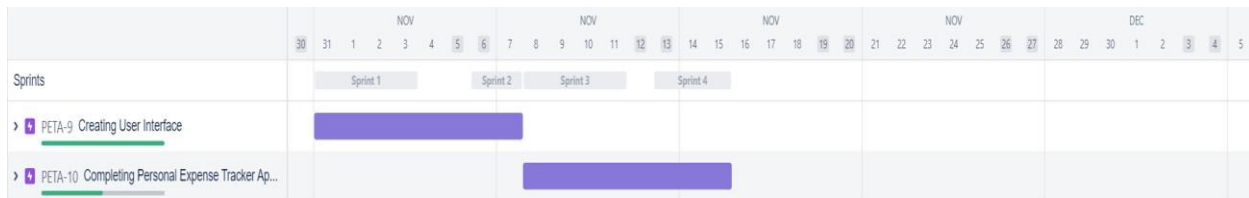
7. CODING AND SOLUTIONING

7.1 Feature - Add Expense

This feature allows the user to add an expense, it takes in the amount spent, the date of the expense, the category under which the expense falls and the group to which the expense belongs. It also takes an optional description for the expense.

7.2 Feature - Update Wallet

This feature allows the user to update the wallet amount. This is useful, for example to reflect the receiving of salary.

7.3 Feature - Dashboard

This allows the user to view the most recent expenses made. It displays each expense along with its details. It is also the home page which the user sees on logging in.

7.4 Feature - Set Monthly Limit

This allows the user to set a limit on how much is spent in a given month. This can be changed. If the user's expenses exceeds the monthly limit, then a warning email is sent to the user.

7.5 Feature - Add Category

This feature allows the user to add his/her own categories. This allows for high customizability.

7.6 Feature - Analyse Expenses

This feature allows the user to view how much is spent in a given period of time, and other analyses based on the user's expenses.

7.7 Feature - Add Recurring/Periodic Expenses

This feature allows the user to add an expense that is recurring for every month. This is useful, for example, to model bills that need to be paid.

8. TESTING

8.1 Test Cases

- Verify that the user is able to login successfully on entering appropriate credentials.

- The UI elements, such as the card for the login, the button to submit etc are functional and are rendered properly in all devices.

- Users who enter invalid credentials will not be redirected to the dashboard

  - Verify that users are able to register themselves to the application.

- The UI elements, such as the card for the registration, the button to submit etc are

- functional and are rendered properly in all devices.

- The user should not be able to register successfully if any of the fields are left empty.

- The user should receive the email from nunnaaarthi@gmail.com, stating a
  - successfully registration.

- "The UI part of the dashboard, the side navbar, the logout option, the cards showing various expenses, and the

- wallet edit icon must be functioning and rendered properly" The UI part of the add expense page must be rendered and functioning.

- "The user must be able to add an expense. "

- The user should not be able to add the same expense again.

- The user should be able to update the balance and it must be reflected in the dashboard where the wallet balance is displayed.

- The user views all the UI components rendered properly and functioning accordingly.

- The user should be able to set a monthly limit for his expenditures.

- The page must render properly and function appropriately.

- The user must be able to view the analysis of their expenses.

- The UI which contains 2 graphs must be rendered properly.

- The user must be able to view the analysis of their expenses.

- The UI is rendered properly and the various components are functioning properly.

- The UI is rendered properly and the various components are functioning properly.

- This page allows the user to view the recurring expenses that he or she has created

- using the add recurring expense page.

- The user must be able to view their existing rewards and goals . They can also use the add reward and goal icon to add the reward and goal.

- The user must be able to add a reward and goal.

- The user must be able to view their existing rewards and goals in a properly rendered manner.

- The user must be able view the UI components to add a goal in the appropriate manner.

- The user must be able to create a new category for themselves.

- The UI components of the add category page is rendered properly and functions appropriately.

- The user views the expense cards, and clicks on a particular card's edit icon to modify the expense

- The user views the expense cards displaying the expenses available to edit.

9. ADVANTAGES & DISADVANTAGES Advantages

1. An added expense can also be modified. Hence an error that is made while adding an expense is easily rectified.
2. Rewards and goals may be used to motivate the user to spend less.
3. The expenses can be analysed to understand the patterns of expenditure.
4. Recurring expenses can be added to model bills and such.
5. Categories can be added for higher customizability.

Disadvantages

1. Complex analysis based on categories is not supported.

2. Limits cannot be imposed on arbitrary periods of time, but only on a single month.

3. Recurring expenses have a period of exactly one month, which is not customizable.

4. It requires the user to manually enter expense information accurately.

5. The user is the one who is responsible for rewarding himself on the completion of a goal.

10. CONCLUSION

A Personal Expense Tracker supporting myriad features has been designed and implemented using IBM cloud-based tools such as DB2, IBM Object Storage, etc. SendGrid is used to send mails to users. Docker and Kubernetes are used for deployment of the application.

11. FUTURE SCOPE

Future avenues of work in this application would include:

1. Design and implementation of complex analyses based on various parameters such as categories, groups, etc.

2. Prediction of expenses based on machine learning.

3. Adding support for limits imposed on arbitrary periods of time.

4. Adding support for recurring expenses that have a user-specified period.

5. Having the application itself reward the user for accomplishment of various goals, such as coupons, vouchers, etc

12.   APPENDIX

12.1 Source Code

Login page:

```
<?php require_once('../config.php') ?>
<!DOCTYPE html>
<html lang="en" class="" style="height: auto;">
<?php require_once('inc/header.php') ?>


<body class="hold-transition login-page bg-navy">
```

```html
<script>

start_loader()

</script>

<h2 class="text-center mb-4 pb-3"><?php echo $_settings->info('name') ?></h2>

<div class="login-box">

    <!-- /.login-logo -->

    <div class="card card-outline card-primary">

        <div class="card-body">

            <p class="login-box-msg text-dark">Sign in to start your session</p>


            <form id="login-frm" action="" method="post">

                <div class="input-group mb-3">

                    <input type="text" class="form-control" name="username" placeholder="Username" autofocus>

                    <div class="input-group-append">

                        <div class="input-group-text">

                            <span class="fas fa-user"></span>

                        </div>

                    </div>

                </div>

                <div class="input-group mb-3">

                    <input type="password" class="form-control" name="password" placeholder="Password">

                    <div class="input-group-append">

                        <div class="input-group-text">

                            <span class="fas fa-lock"></span>

                        </div>

                    </div>

                </div>

                <div class="row justify-conten-center">
```

```html
                    <!-- /.col -->
                    <button type="submit" class="btn btn-primary btn-block">Sign In</button>
                        <!-- /.col -->
                </div>
                <div class="link login-link text-center">Don't have an account? <a href="signup.php">Signup now</a></div>
            </form>
            <!-- /.social-auth-links -->


                <!-- <p class="mb-1">
        <a href="forgot-password.html">I forgot my password</a>
</p> -->



            </div>
            <!-- /.card-body -->
        </div>
        <!-- /.card -->
    </div>
    <!-- /.login-box -->


    <!-- jQuery -->
    <script src="plugins/jquery/jquery.min.js"></script>
    <!-- Bootstrap 4 -->
    <script src="plugins/bootstrap/js/bootstrap.bundle.min.js"></script>
    <!-- AdminLTE App -->
    <script src="dist/js/adminlte.min.js"></script>


    <script>
    $(document).ready(function() {
end_loader();
```

```
      })
    </script>
  </body>
</html>
```

Signup Page:

```php
<?php require_once "controllerUserData.php"; ?>
<!DOCTYPE html>
<html lang="en">
<style> body { background-
image:url('pics/login.jpg');
background-repeat:no-repeat;
background-size:cover;
 }
 </style>
<head>
   <meta charset="UTF-8">
   <title>Signup Page</title>
  <link                                                                rel="stylesheet"
href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min.css">
<link rel="stylesheet" href="stylesheet.css">
</head>
<body>
   <div class="container">
     <div class="row">
       <div class="col-md-4 offset-md-4 form">
         <form action="signup.php" method="POST" autocomplete="">
           <h2 class="text-center">Signup </h2>
           <p class="text-center">Enter Details</p>
           <?php
if(count($errors) == 1){
             ?>
```

```php
        <div class="alert alert-danger text-center">
            <?php
foreach($errors as $showerror){
echo $showerror;
            }
            ?>
        </div>
        <?php
        }elseif(count($errors) > 1){
          ?>
          <div class="alert alert-danger">
            <?php
foreach($errors as $showerror){
                ?>
                <li><?php echo $showerror; ?></li>
                <?php
            }
            ?>
          </div>
          <?php
        }
        ?>
        <div class="form-group">
            <input    class="form-control"    type="text" name="name"
placeholder="Full Name" required value="<?php echo $name ?>">
        </div>
        <div class="form-group">
            <input    class="form-control"    type="email"
    name="email" placeholder="Email Address" required value="<?php echo
$email ?>">
        </div>
```

```html
            <div class="form-group">

                <input class="form-control" type="password" name="password"
placeholder="Password" required>

            </div>

            <div class="form-group">

                <input class="form-control" type="password" name="cpassword"
placeholder="Confirm password" required>

            </div>

            <div class="form-group">

                <input class="form-control button" type="submit" name="signup"
value="Signup">

            </div>

            <div class="link login-link text-center">Already have an account? <a
href="login.php">Login here</a></div>

        </form>

      </div>

    </div>

  </div>

</body>

</html>
```

Index:

```php
<?php require_once('../config.php'); ?>
 <!DOCTYPE html>
<html lang="en" class="" style="height: auto;">
<?php require_once('inc/header.php') ?>
 <body class="sidebar-mini layout-fixed control-sidebar-slide-open layout-
navbarfixed    sidebar-mini-md    sidebar-mini-xs"    data-new-gr-c-s-check-
loaded="14.991.0" data-gr-ext-installed="" style="height: auto;">
  <div class="wrapper">
  <?php require_once('inc/topBarNav.php') ?>
  <?php require_once('inc/navigation.php') ?>

  <?php $page = isset($_GET['page']) ? $_GET['page'] : 'home';  ?>
```

```html
<!-- Content Wrapper. Contains page content -->
<div class="content-wrapper pt-3" style="min-height: 567.854px;">


    <!-- Main content -->
    <section class="content  text-dark">
      <div class="container-fluid">
        <?php            if(!file_exists($page.".php") &&
!is_dir($page)){            include '404.html';
        }else{
if(is_dir($page))                include
$page.'/index.php';            else
include $page.'.php';


        }
      ?>
      </div>
    </section>
    <!-- /.content -->
 <div class="modal fade" id="confirm_modal" role='dialog'>
   <div class="modal-dialog modal-md modal-dialog-centered" role="document">
    <div class="modal-content">
     <div class="modal-header">
     <h5 class="modal-title">Confirmation</h5>
    </div>
    <div class="modal-body">
     <div id="delete_content"></div>
    </div>
    <div class="modal-footer">
     <button        type="button"       class="btn   btn-primary"        id='confirm'
onclick="">Continue</button>
```

```html
            <button      type="button"      class="btn   btn-secondary"
            datadismiss="modal">Close</button>

        </div>

        </div>

      </div>

    </div>

    <div class="modal fade" id="uni_modal" role='dialog'>

      <div class="modal-dialog modal-md modal-dialog-centered" role="document">

        <div class="modal-content">

          <div class="modal-header">

          <h5 class="modal-title"></h5>

        </div>

        <div class="modal-body">

        </div>

        <div class="modal-footer">

          <button type="button" class="btn btn-primary" id='submit'
onclick="$('#uni_modal form').submit()">Save</button>

          <button      type="button"      class="btn   btn-secondary"
          datadismiss="modal">Cancel</button>

        </div>

        </div>

      </div>

    </div>

    <div class="modal fade" id="uni_modal_right" role='dialog'>

      <div class="modal-dialog modal-full-height  modal-md" role="document">

        <div class="modal-content">

          <div class="modal-header">

          <h5 class="modal-title"></h5>

          <button type="button" class="close" data-dismiss="modal"
arialabel="Close">

            <span class="fa fa-arrow-right"></span>
```

```
        </button>
      </div>
      <div class="modal-body">
      </div>
    </div>
  </div>
</div>
<div class="modal fade" id="viewer_modal" role='dialog'>
  <div class="modal-dialog modal-md" role="document">
    <div class="modal-content">
        <button type="button" class="btn-close" data-dismiss="modal"><span
class="fa fa-times"></span></button>
        <img src="" alt="">
    </div>
  </div>
</div>
    </div>
    <!-- /.content-wrapper -->
    <?php require_once('inc/footer.php') ?>
  </body>
</html>
```

Config:
```php
<?php
ob_start(); ini_set('date.timezone','Asia/Manila');
date_default_timezone_set('Asia/Manila');
session_start();

require_once('initialize.php'); require_once('classes/DBConnection.php');
require_once('classes/SystemSettings.php');

$db = new DBConnection;
$conn = $db->conn;
```

```php
function redirect($url=''){
        if(!empty($url))
        echo '<script>location.href="'.base_url .$url.'"</script>';
} function
validate_image($file){
    if(!empty($file)){
                    // exit;
            if(is_file(base_app.$file)){
            return base_url.$file;
              }else{
                    return base_url.'dist/img/no-image-available.png';
              }
        }else{
                return base_url.'dist/img/no-image-available.png';
        }
}
function isMobileDevice(){
$aMobileUA = array(
        '/iphone/i' => 'iPhone',
        '/ipod/i' => 'iPod',
        '/ipad/i' => 'iPad',
        '/android/i' => 'Android',
        '/blackberry/i' => 'BlackBerry',
        '/webos/i' => 'Mobile'
    );

    //Return true if Mobile User Agent is detected    foreach($aMobileUA as
$sMobileKey => $sMobileOS){        if(preg_match($sMobileKey,
$_SERVER['HTTP_USER_AGENT'])){            return true;
        }
```

```
            }
        //Otherwise return false..
    return false;
    } ob_end_flush();
?>
```

Home:

```
<style>
    .info-tooltip,.info-tooltip:focus,.info-tooltip:hover{
background:unset;     border:unset;
padding:unset;
    }
</style>
<h1>Welcome to <?php echo $_settings->info('name') ?></h1>
<hr>
<div class="row">
        <div class="col-12 col-sm-6 col-md-3">
        <div class="info-box">
            <span class="info-box-icon bg-primary elevation-1"><i class="fas
famoney-bill-alt"></i></span>

        <div class="info-box-content">
            <span class="info-box-text">Current Overall Budget</span>
            <span class="info-box-number text-right">
            <?php
            $cur_bul = $conn->query("SELECT sum(balance) as total FROM
`categories` where status = 1 ")->fetch_assoc()['total'];
echo number_format($cur_bul);
            ?>
            <?php ?>
            </span>
        </div>
```

```html
      <!-- /.info-box-content -->
    </div>
    <!-- /.info-box -->
  </div>
  <!-- /.col -->
  <div class="col-12 col-sm-6 col-md-3">
    <div class="info-box mb-3">
      <span class="info-box-icon bg-info elevation-1"><i class="fas facalendar-day"></i></span>

      <div class="info-box-content">
        <span class="info-box-text">Today's Budget Entries</span>
        <span class="info-box-number text-right">
          <?php
            $today_budget = $conn->query("SELECT sum(amount) as total FROM `running_balance` where category_id in (SELECT id FROM categories where status =1) and date(date_created) = '".(date("Y-m-d"))."' and balance_type = 1 ")->fetch_assoc()['total'];              echo number_format($today_budget);
          ?>
        </span>
      </div>
      <!-- /.info-box-content -->
    </div>
    <!-- /.info-box -->
  </div>
  <!-- /.col -->

  <!-- fix for small devices only -->
  <div class="clearfix hidden-md-up"></div>
```

```html
<div class="col-12 col-sm-6 col-md-3">

  <div class="info-box mb-3">

    <span class="info-box-icon bg-warning elevation-1"><i class="fas facalendar-day"></i></span>

    <div class="info-box-content">

    <span class="info-box-text">Today's Budget Expenses</span>

    <span class="info-box-number text-right">

    <?php

      $today_expense = $conn->query("SELECT sum(amount) as total FROM `running_balance` where category_id in (SELECT id FROM categories where status =1) and date(date_created) = '".(date("Y-m-d"))."' and balance_type = 2 ")->fetch_assoc()['total'];            echo number_format($today_expense);

    ?>

    </span>

  </div>

  <!-- /.info-box-content -->

  </div>

  <!-- /.info-box -->

  </div>

</div>
<div class="row">
 <div class="col-lg-12">
  <h4>Current Budget in each Categories</h4>
  <hr>
 </div>
</div>
<div class="col-md-12 d-flex justify-content-center">
 <div class="input-group mb-3 col-md-5">
  <input type="text" class="form-control" id="search" placeholder="Search Category">
```

```html
    <div class="input-group-append">
      <span class="input-group-text"><i class="fa fa-search"></i></span>
    </div>
  </div>
</div>
<div class="row row-cols-4 row-cols-sm-1 row-cols-md-4 row-cols-lg-4">
<?php
  $categories = $conn->query("SELECT * FROM `categories` where status = 1 order by `category` asc ");    while($row = $categories->fetch_assoc()):
  ?>
  <div class="col p-2 cat-items">
    <div class="callout callout-info">
      <span class="float-right ml-1">
        <button type="button" class="btn btn-secondary info-tooltip" datatoggle="tooltip" data-html="true" title='<?php echo (html_entity_decode($row['description'])) ?>'>
          <span class="fa fa-info-circle text-info"></span>
        </button>
      </span>
      <h5 class="mr-4"><b><?php echo $row['category'] ?></b></h5>
      <div class="d-flex justify-content-end">
        <b><?php echo number_format($row['balance']) ?></b>
      </div>
    </div>
  </div>
  <?php endwhile; ?>
</div>
<div class="col-md-12">
  <h3 class="text-center" id="noData" style="display:none">No Data to display.</h3>
```

```
</div> <script>   function
check_cats(){     if($('.cat-
items:visible').length > 0){
     $('#noData').hide('slow')
   }else{
     $('#noData').show('slow')
   }
  }
  $(function(){
   $('[data-toggle="tooltip"]').tooltip({
html:true
   })
check_cats()
   $('#search').on('input',function(){
var _f = $(this).val().toLowerCase()
$('.cat-items').each(function(){       var
_c = $(this).text().toLowerCase()
if(_c.includes(_f) == true)
$(this).toggle(true);       else
       $(this).toggle(false);
   })
   check_cats()
   })
  })
</script>
```

Manage Expense:

```php
<?php require_once("../../config.php");
if(isset($_GET['id']) && $_GET['id'] > 0){
   $qry = $conn->query("SELECT * from `running_balance` where id =
'{$_GET['id']}' ");    if($qry->num_rows > 0){
foreach($qry->fetch_assoc() as $k => $v){
```

```php
            $$k=stripslashes($v);

        }

    }

}
?>
<div class="conteiner-fluid">
<form action="" id="expense-form">
    <input type="hidden" name ="id" value="<?php echo isset($id) ? $id : '' ?>">
    <input type="hidden" name ="balance_type" value="2">
    <?php if(!isset($id)): ?>
    <div class="form-group">
        <label for="category_id" class="control-label">Category</label>
        <select name="category_id" id="category_id" class="custom-select select2" required>
        <option value=""></option>
        <?php
            $qry = $conn->query("SELECT * FROM `categories` where `balance` > 0 order by category asc");        while($row= $qry->fetch_assoc()):
        ?>
        <option value="<?php echo $row['id'] ?>" <?php echo isset($category_id) && $category_id == $row['id'] ? 'selected' : '' ?> data-balance="<?php echo $row['balance'] ?>"><?php echo $row['category']."[".number_format($row['balance'])."]" ?></option>
        <?php endwhile; ?>
        </select>
    </div>
    <?php else: ?>
        <div class="form-group">
            <label for="category_id" class="control-label">Category</label>
            <input type="hidden" name="category_id" value="<?php echo $category_id ?>">
            <?php
```

```php
        $qry = $conn->query("SELECT * FROM `categories` where id =
'{$category_id}'");

        $cat_res = $qry->fetch_assoc();

        $balance = $cat_res['balance'] + $amount;

        ?>

        <p><b><?php   echo $cat_res['category']        ?>   [<?php       echo
number_format($balance) ?>]</b></p>

        <input type="hidden" id="balance" value="<?php echo $balance ?>">

    </div>

    <?php endif; ?>

    <div class="form-group">

        <label for="amount" class="control-label">Amount</label>

        <input name="amount" id="amount" class="form-control form text-right
number" value="<?php echo isset($amount) ? ($amount) : 0; ?>">

    </div>

    <div class="form-group">

        <label for="remarks" class="control-label">Remarks</label>

        <textarea name="remarks" id="" cols="30" rows="2" class="form-control
form no-resize summernote"><?php echo isset($remarks) ? $remarks : '';
?></textarea>

    </div>

</form>

</div>

<script>


        $(document).ready(function(){

        $('.select2').select2({placeholder:"Please Select here",width:"relative"})

        $('.number').on('load input change',function(){

var txt = $(this).val()            var p =

(txt.match(/[.]/g) || []).length;

console.log(p)                    if(txt.slice(-1) == '.' && p
```

```
> 1){                    $(this).val(txt.slice(0,-1))
return false;
            }              if(txt.slice(-1) == '.'){
txt = txt            }else{              txt = txt.split('.')
ntxt = ((txt[0]).replace(/\D/g,''));            if(!!txt[1])
ntxt += "."+txt[1]            ntxt = ntxt > 0 ? ntxt : 0;
txt = parseFloat(ntxt).toLocaleString('en-US')
            }
        $(this).val(txt)
    })
    $('.number').trigger('change')
            $('#expense-form').submit(function(e){
    e.preventDefault();
        var _this = $(this)
                    $('.err-msg').remove();
      $("[name='amount']").removeClass("border-danger")
                    start_loader();
        var cat_id = $("[name='category_id']").val();            var cat_balance =
$('#balance').length > 0 ? $('#balance').val() :
$("[name='category_id'] option[value='"+cat_id+"']").attr('data-balance');
var amount = $("[name='amount']").val();            amount =
amount.replace(/,/g,"");            console.log(cat_balance,amount)
console.log(amount > cat_balance)            if(parseFloat(amount) >
parseFloat(cat_balance)){            var el = $('<div>')
el.addClass("alert alert-danger err-msg mt-2").text("Entered Amount is greater
than the selected category balance.")                $("[name='amount']").after(el)
el.show('slow')
            $("[name='amount']").addClass("border-danger").focus()
end_loader();            return false;
        }
                $.ajax({
```

```javascript
                        url:_base_url_+"classes/Master.php?f=save_expense",
                        data: new FormData($(this)[0]),              cache: false,
contentType: false,              processData: false,              method: 'POST',
type: 'POST',              dataType: 'json',
                        error:err=>{
                console.log(err)
          alert_toast("An error occured",'error');
                                end_loader();
                    },
                        success:function(resp){
      if(typeof resp =='object' && resp.status ==
'success'){
                                    location.reload()
                        }else if(resp.status == 'failed' && !!resp.msg){
var el = $('<div>')                    el.addClass("alert alert-danger err-
msg").text(resp.msg)
                _this.prepend(el)
el.show('slow')
                    $("html,              body").animate({              scrollTop:
_this.closest('.card').offset().top }, "fast");
end_loader()
            }else{
                                    alert_toast("An error occured",'error');
                                    end_loader();
            console.log(resp)
                            }
                        }
                    })
            })
```

```
        })
</script>
```

Manage Budget:

```php
<?php require_once("../../config.php");
if(isset($_GET['id']) && $_GET['id'] > 0){
$qry = $conn->query("SELECT * from
`running_balance` where id =
'{$_GET['id']}' ");    if($qry->num_rows > 0){
foreach($qry->fetch_assoc() as $k => $v){
        $$k=stripslashes($v);
    }
  }
}
?>
<div class="conteiner-fluid">
<form action="" id="budget-form">
    <input type="hidden" name ="id" value="<?php echo isset($id) ? $id : '' ?>">
    <input type="hidden" name ="balance_type" value="1">
    <?php if(!isset($id)): ?>
    <div class="form-group">
        <label for="category_id" class="control-label">Category</label>
        <select name="category_id" id="category_id" class="custom-select select2"
required>
        <option value=""></option>
        <?php
          $qry = $conn->query("SELECT * FROM `categories` order by category
asc");          while($row= $qry->fetch_assoc()):
      ?>
        <option value="<?php echo $row['id'] ?>" <?php echo isset($category_id)
&& $category_id == $row['id'] ? 'selected' : '' ?> data-balance="<?php echo
$row['balance'] ?>"><?php echo $row['category'] ?></option>
```

```php
            <?php endwhile; ?>

            </select>

        </div>

        <?php else: ?>

        <div class="form-group">

            <label for="category_id" class="control-label">Category</label>

            <input type="hidden" name="category_id" value="<?php echo $category_id ?>">

            <?php

            $qry = $conn->query("SELECT * FROM `categories` where id = '{$category_id}'");

            $cat_res = $qry->fetch_assoc();

            ?>

            <p><b><?php echo $cat_res['category'] ?></b></p>

        </div>

        <?php endif; ?>

        <div class="form-group">

            <label for="amount" class="control-label">Amount</label>

            <input name="amount" id="amount" class="form-control form text-right number" value="<?php echo isset($amount) ? ($amount) : 0; ?>">

        </div>

        <div class="form-group">

            <label for="remarks" class="control-label">Remarks</label>

            <textarea name="remarks" id="" cols="30" rows="2" class="form-control form no-resize summernote"><?php echo isset($remarks) ? $remarks : ''; ?></textarea>

        </div>

    </form>

</div>

<script>


        $(document).ready(function(){
```

```javascript
$('.select2').select2({placeholder:"Please Select here",width:"relative"})
$('.number').on('load input change',function(){
var txt = $(this).val()          var p =
(txt.match(/[.]/g) || []).length;
console.log(p)

        if(txt.slice(-1) == '.' && p > 1){
$(this).val(txt.slice(0,-1))                return
false;
        }           if(txt.slice(-1) == '.'){
txt = txt            }else{             txt = txt.split('.')
ntxt = ((txt[0]).replace(/\D/g,''));             if(!!txt[1])
ntxt += "."+txt[1]          ntxt = ntxt > 0 ? ntxt : 0;
txt = parseFloat(ntxt).toLocaleString('en-US')
        }
        $(this).val(txt)
    })
    $('.number').trigger('change')
        $('#budget-form').submit(function(e){
e.preventDefault();
   var _this = $(this)
            $('.err-msg').remove();
start_loader();
            $.ajax({
                url:_base_url_+"classes/Master.php?f=save_budget",
                data: new FormData($(this)[0]),          cache:
false,        contentType: false,          processData: false,
method: 'POST',         type: 'POST',

        dataType: 'json',
                error:err=>{
            console.log(err)
```

```
                    alert_toast("An error occured",'error');

                    end_loader();

            },

        success:function(resp){

    if(typeof resp =='object' && resp.status ==

'success'){

                        location.reload()

                    }else if(resp.status == 'failed' && !!resp.msg){

var el = $('<div>')              el.addClass("alert alert-danger err-

msg").text(resp.msg)

            _this.prepend(el)

el.show('slow')

            $("html,          body").animate({          scrollTop:
_this.closest('.card').offset().top }, "fast");

end_loader()

        }else{

                        alert_toast("An error occured",'error');

                        end_loader();

        console.log(resp)

                    }

                }

            })

        })

    })
</script>
```

12.2 GitHub & Project Demo Link https://github.com/IBM-EPBL/IBM-Project-32447-1660209943.git https://youtu.be/KVriXVWzGW4