Online Finance Management (OFM)

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ABSTRACT

Online Finance Management is a website which would manage the monthly financial activities of an individual or a household. Instead of maintaining these expenses in form of a notebook, we are trying to digitalize the process. This would mean that the user would just need to enter their daily expenses and update them, and the rest of the tracking would be done by the website.
The user can maintain their bills as well as their bank accounts from this website, where majority of the work would be done by the system. This would save a lot of hassle on the side of the user.

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CHAPTER 1

INTRODUCTION

1.1 Objectives of the system

The main objectives of this system are:

- Registered user will be able to add the details of their bank accounts.
- They will be able to add their monthly expenses that will help them keep track of the finances during the entire month.
- Their monthly expenses can include their various connections like Gas, Internet Electricity and Phone connections, and their rest of miscellaneous expenses would be under the category of other expenses which would include grocery, personal shopping, travelling etc.
- When the user pays the bills or records any expenses, those changes and the source of the payment will be reflected in the bank account details.
- The user can view their account details anytime they wish to, along with viewing which bills are still to be paid and which ones are already paid.
- The users can retrieve the detailed information about their monthly expenses, which includes where they spent money and the source by which they paid. This information can be retrieved any time. This also helps the user to manage their budget accordingly.

CHAPTER 2

REQUIREMENTS

2.1 System Actors [1]

Administrator [Admin]

Description: The singular authority which manages the registration of user in OFM. Also includes managing of just the general layout of the system. The admin cannot view any other details except personal details of the user.
KindOf: #Admin

Registered User [User]

Description: The user manages the bank accounts and connections, as well as adds bills to his various connections and expenses. The user can also set reminders for bills to pay on the required date. The user adds payment for his connection bills and other purchases and also provides the source of payment. User can view the account summary of all the transactions.
KindOf: #User

2.2 Use Cases [1]

User Registration [register]

Description: The user registers to the system.
Step-by-Step Description: 1. [#User] - The user submits the registration request with his personal and contact details. 2. [#User] – The user receives the notification.

Update Personal Details [updatePersonalDetails]

Description:
The user updates the personal information to the system.

Step-by-Step Description:

1. [#OFM] - System provides a page with user details to update.
2. [#User] - The user submits the new personal details (email address, contact number, name or surname).
3. [#OFM] - The system notifies the user that the details were updated.

Add Bank Account Information [bankAccountInfo]

Description:
The user adds the bank account details to the system. The user may have account details for multiple banks entered one at a time.

Step-by-Step Description:

1. [#User] - The user submits the bank account details of the bank which includes information like the bank account number, the bank name and so on.
2. [#OFM] - The system notifies the user that the details were added to the particular user's account in the system.

Update Bank Details [updateBankDetails]

Description:
The user wants to update his bank details.

Step-by-step Description:

1. [#OFM] - The system provides a page with list of all the Banks where the user has an account.
2. [#User] - The user selects the Bank whose details are to be updated.
3. [#OFM] - The system queries the bank details of the selected bank, and returns those details.
4. [#User] - The user submits the updated information.
5. [#OFM] - The system returns a confirmation message.

Add Connection [addConnection]

Description:
The user adds a connection (i.e. Gas, Electricity, Phone and Internet). The user provides details like connection provider, start date of connection, etc. for the new connection.

Step-by-step Description:

1. [#OFM] - The system provides a page containing the list of connections, and their respective details.
2. [#User] - The user selects the connection and submits the corresponding details.
3. [#OFM] - The system returns a confirmation message.

Update Connection [updateConnection]

Description:
The user wants to update any connection details.

Step-by-step Description:

1. [#OFM] - The system provides a page containing all the connections of user.
2. [#User] - The user submits the new information.
3. [#OFM] - The system returns a confirmation message.

Add Bill [addBill]

Description:
The user wants to add a new bill. The details regarding connection type, bill amount, due date for the bill and reminder for bill (optional) has to be entered.

Step-by-step Description:

1. [#OFM] - The system provides a page where the bill details are to be added.
2. [#User] - The user submits the bill information.
3. [#OFM] - The system returns a confirmation message.

Add Other Expenses [addOtherExpenses]

Description:
User adds any other expenses apart from the connection bills in the system.

Step-by-step Description:

1. [#OFM] - System gives the page for adding expense details.
2. [#User] - User submits the expense details.
3. [#OFM] - System saves the expense and returns a confirmation message.

Make payment [makePayment]

Description:
User adds the payment (made by him for paying any bills or expenses) details in the system.

Step-by-step Description:

1. [#OFM] - System gives the page with list of unpaid bills and purchases done by the user.
2. [#User] - User selects the bill/purchase for what he has done the payment and submits the payment details.
3. [#OFM] - System saves the payment details and returns a confirmation message.

Add Bank Transactions [addBankCredits]

Description:
User adds the bank transactions done outside this system to maintain the balance of the bank account.

Step-by-step Description:

1. [#OFM] - System gives the page with list of bank accounts of the user.
2. [#User] - User selects the bank account and submits the transaction details.
3. [#OFM] - System saves the transaction and returns a confirmation message.

View Account Summary [accountSummary]

Description:
The user can view the account summary. This includes the amount in the bank account, the bill details of the connections and the other expenses. The user can view any of them as he/she chooses

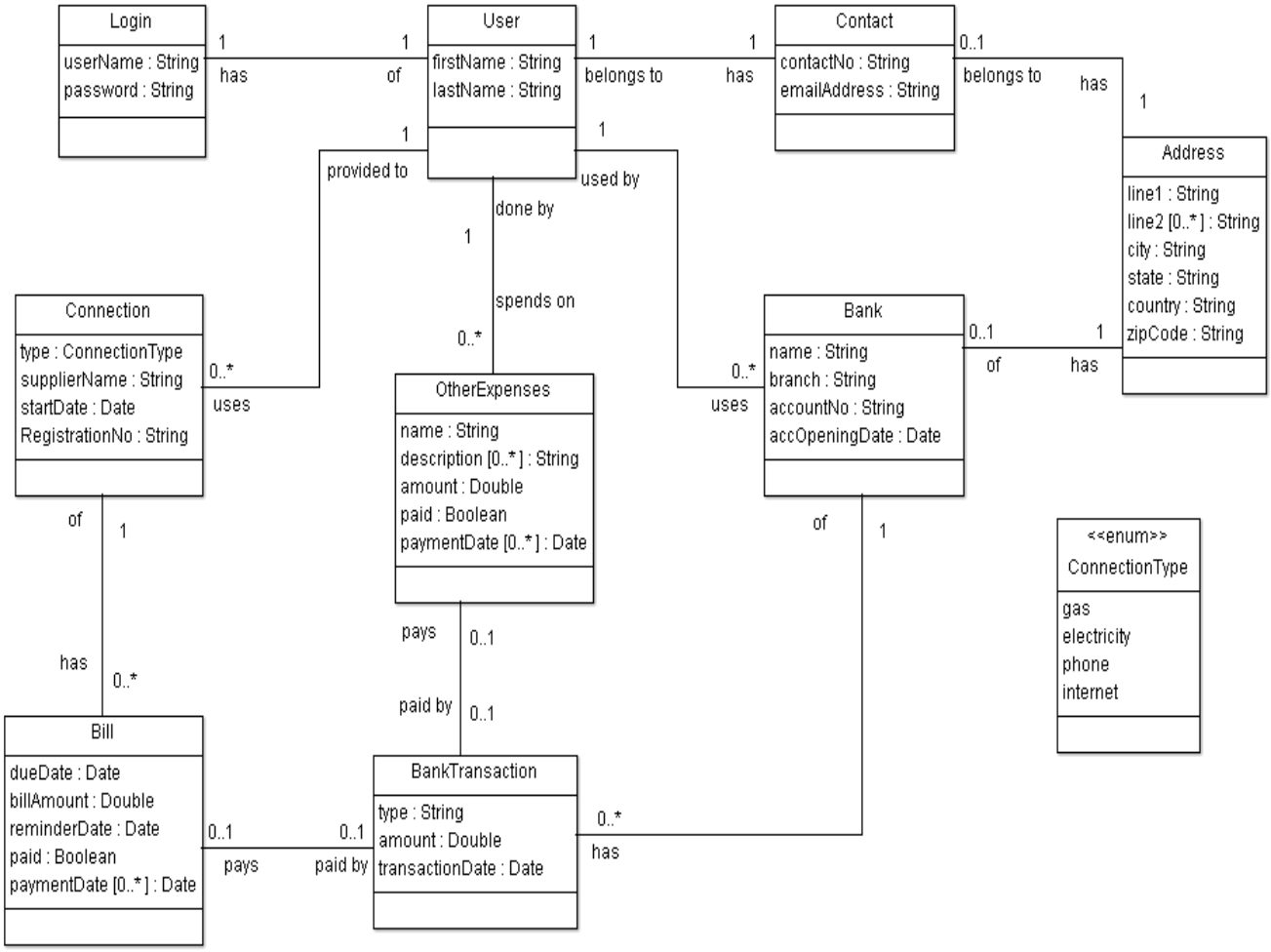
Step-by-Step Description:

1. [#User] - The user selects the field whose information he/she wants to view.
2. [#OFM] – The system fetches the details of the transactions as per the selection made by the user.
3. [#OFM] - The system displays the details of the specified information from the user's account.

CHAPTER 3

DESIGN

3.1 UML Class Diagram:



CHAPTER 4

IMPLEMENTATION

4.1 Software used for Backend

- JDBC with Apache Tomcat Server

4.2 Software used for Frontend

- HTML, CSS
- Java Server Pages (JSP)

4.3 Programming language, Database and Software

- The Programming language used is Java EE
- Database we used is MySQL
- We used Eclipse for programming in Java for this system

CHAPTER 6

CONCLUSION

The goals that were listed in CHAPTER-1 were completed successfully. Since this was a small system, there is scope for adding more functionality.

6.1 Future Work

The system will allow the user to also do the following functions:

- The users can also add reminders, which might be a day or two earlier than the estimated date.
- Users will also be able to add their billing cycles of their various payments, which the system will record, so as to give timely reminders to the users to pay their bills.
- The user can also record the salary payment and credit payments happening on their accounts.

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[2] http://www.w3schools.org

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