YEDİTEPE UNIVERSITY

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YEDITEPE UNIVERSITY

DEPARTMENT OF COMPUTER ENGINEERING

CSE 344
DESIGN REPORT

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Structure Of The Document

1. INTRODUCTION **3**

I. PURPOSE OF THE DOCUMENT 3

II. PURPOSE OF THE SYSTEM 3

2. DETAILED CLASS DIAGRAM **4**

3. DYNAMIC MODELS **5**

I. SEQUENCE DIAGRAMS 5

II. STATE DIAGRAM 6

III. ACTIVITY DIAGRAMS 7

4. SOFTWARE ARCHITECTURE **8**

I. UML PACKAGE DIAGRAMS 8

II. UML COMPONENT DIAGRAM 9

5. ENTITY RELATIONSHIP (E-R) DIAGRAM **9**

6. GLOSSARY&REFERENCES **10**

1. INTRODUCTION

I. PURPOSE OF THE DOCUMENT

Financial instability affects millions of individuals. This pervasive issue can lead to personal distress, debt accumulation, economic setbacks, and societal strain. [1]

Before facing financial crises, individuals should have access to resources that help them understand their financial standing and identify safe financial practices. [2][3]

In this document, we aimed to explain the solution to fulfill the needs of its users that outlined in the analysis report by using architectural diagrams. Our primary objective is to provide a comprehensive understanding of the proposed software system's structure and functionality.

II. PURPOSE OF THE SYSTEM

We have designed our system with a primary focus on effectively empowering users to manage their finances by offering a user-friendly platform.

Unlike common apps, we provide a comprehensive solution for budget management, placing a strong emphasis on managing future expenses (such as bills, installments, and planned expenses) alongside tracking incomes and expenses. We aim to simplify financial tracking across multiple accounts, offering clear insights into spending patterns and helping users make informed decisions about their money. Moreover, our calendar feature provides a holistic view of users' financials, displaying income, expenses, events, and upcoming expenses in one unified platform.

Ultimately, our goal is to promote financial awareness and stability with ease of use for individuals at all levels of financial literacy, regardless of banking affiliations.

2. DETAILED CLASS DIAGRAM

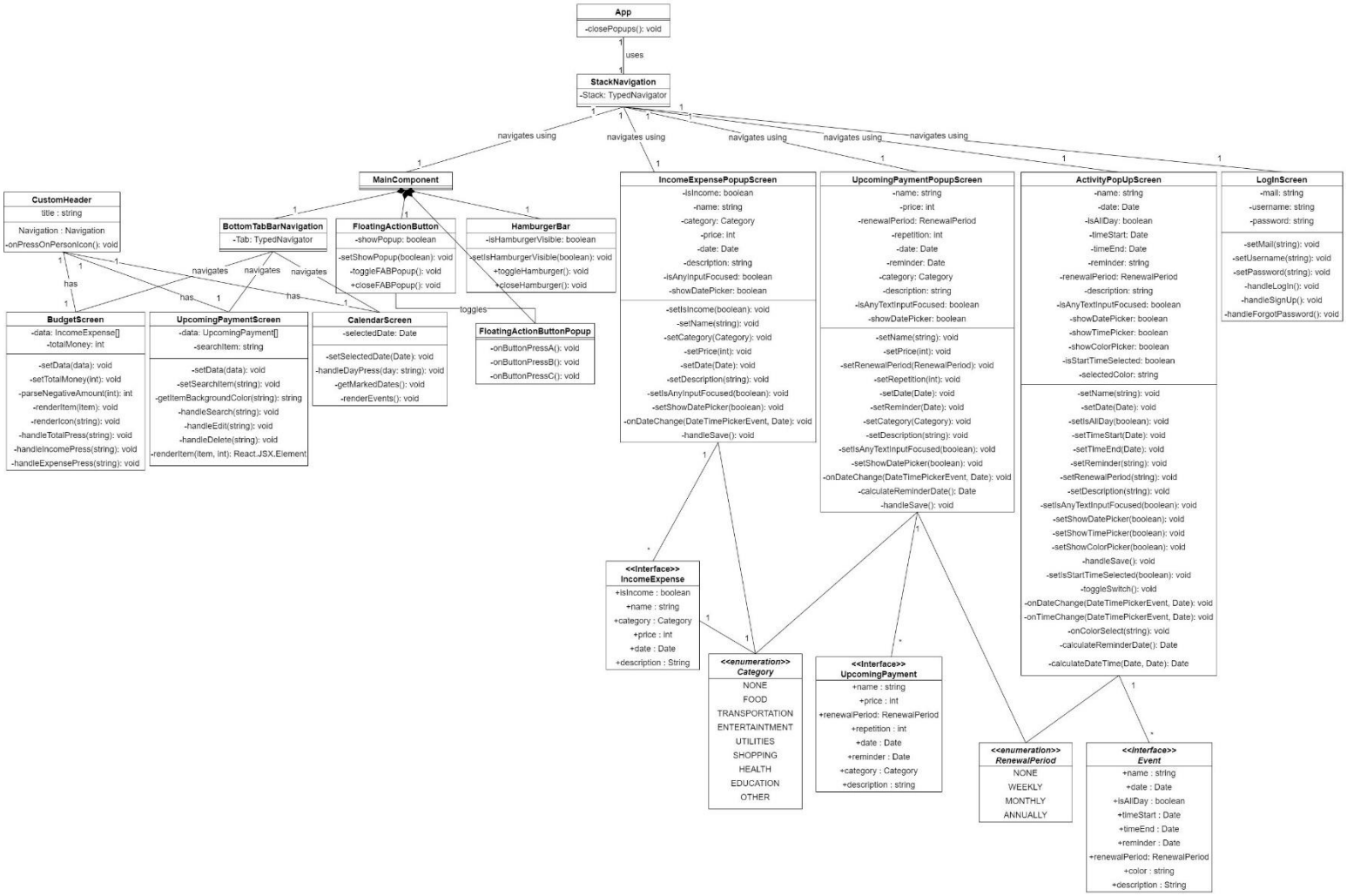

Fig. 1. *Detailed class diagram of the system (including associations, relationships etc.).*

3. DYNAMIC MODELS

I. SEQUENCE DIAGRAMS

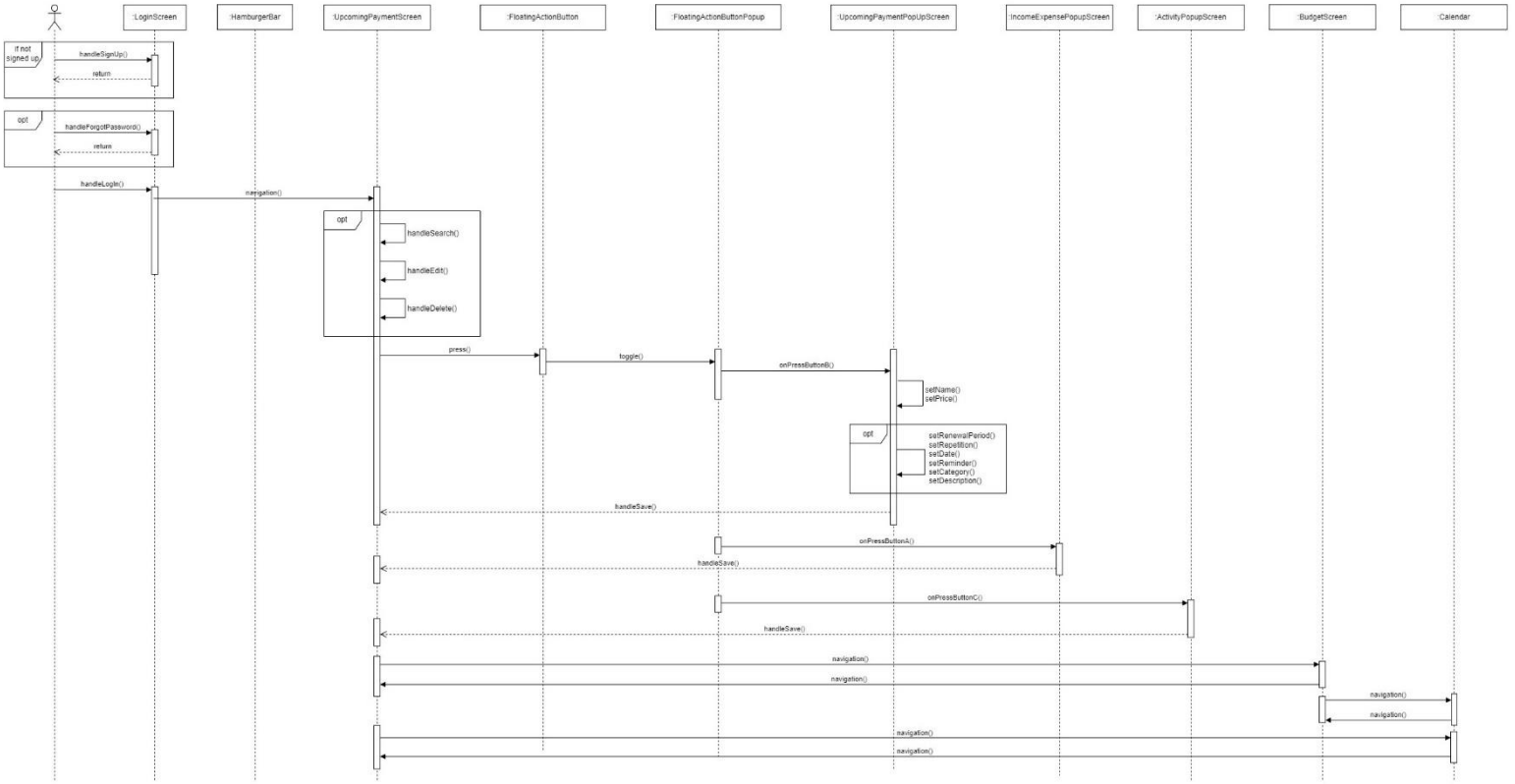

Fig. 2. *Sequence diagram shows the flow of the login screen (authentication), navigation between the screens, upcoming payment screen and upcoming payment pop up screen.*

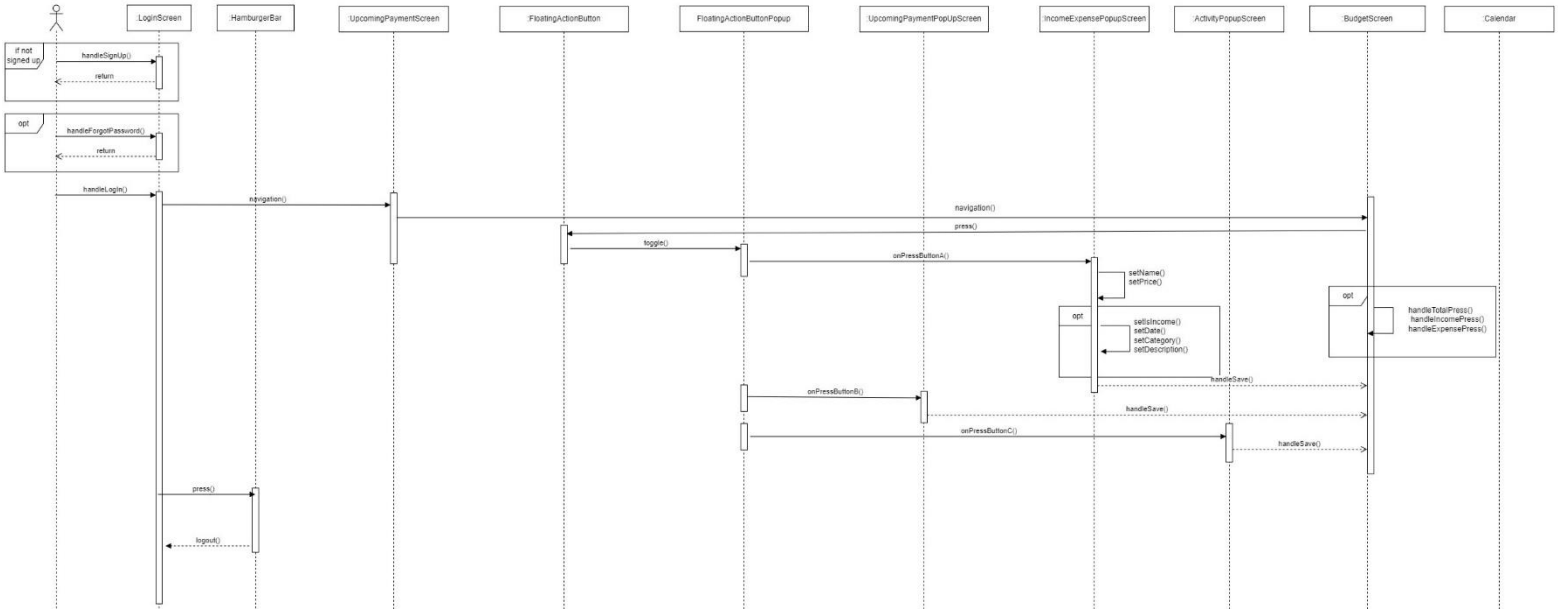

Fig. 3. *Sequence diagram shows the flow of the hamburger bar, budget screen and income-expense pop up screen.*

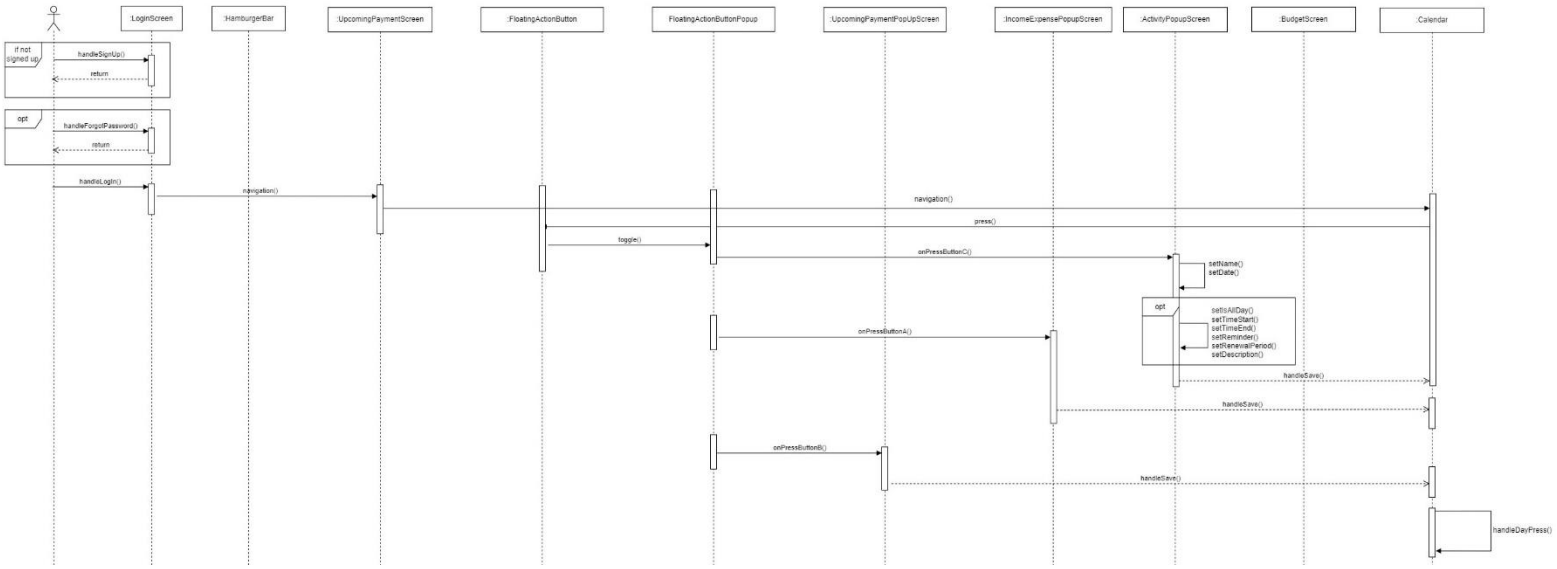

Fig. 4. *Sequence diagram shows the flow of the calendar screen and the activity pop up screen.*

II. STATE DIAGRAM

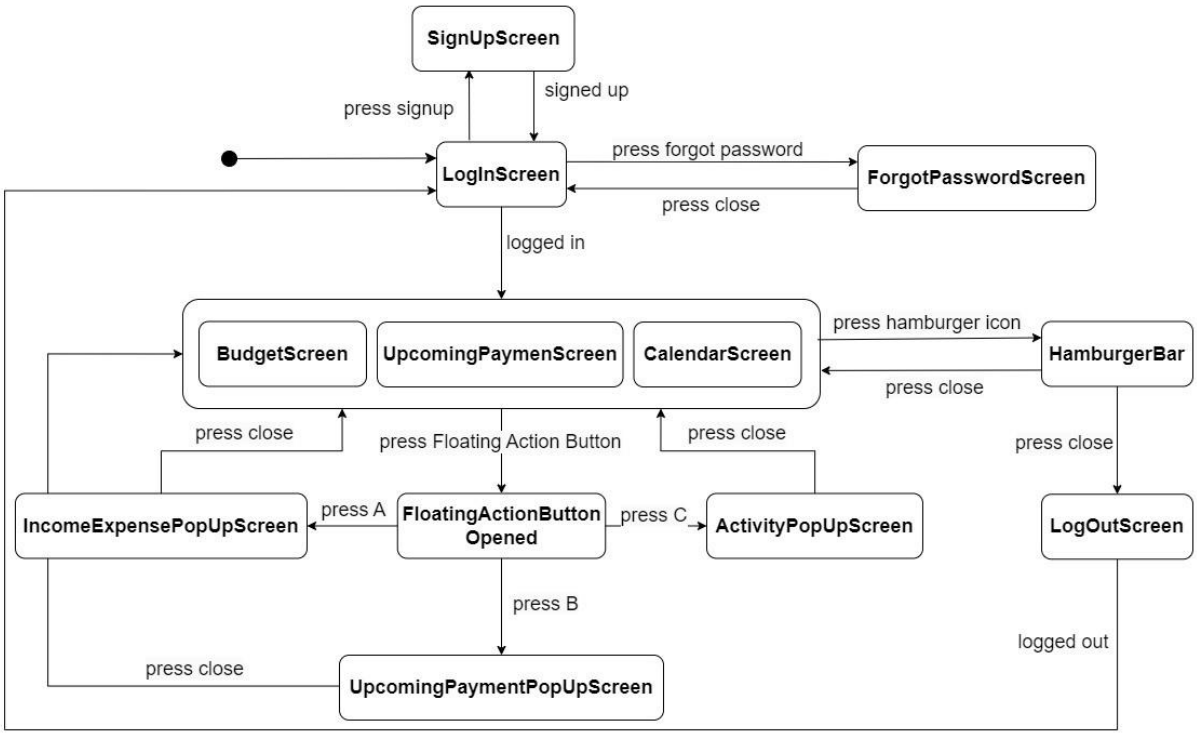

Fig. 5. *State diagram of the system.*

III. ACTIVITY DIAGRAMS

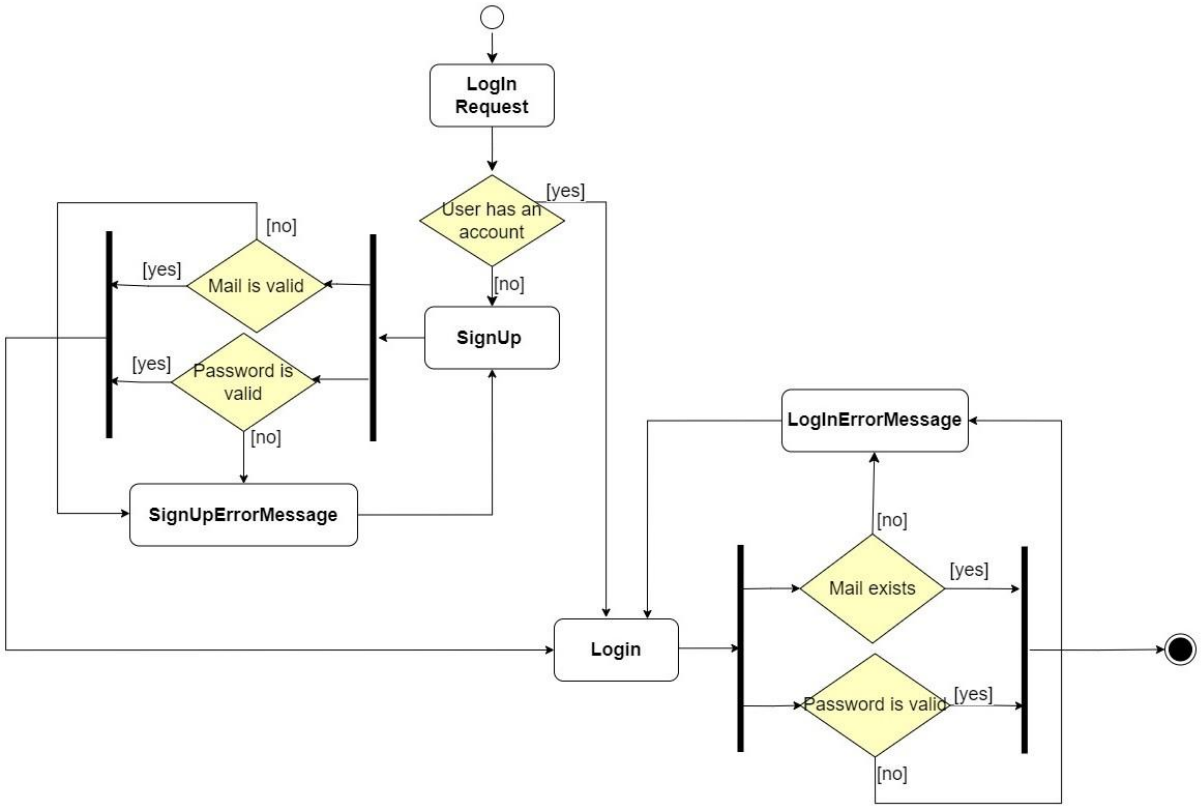

Fig. 6. *Activity diagram of the authentication.*

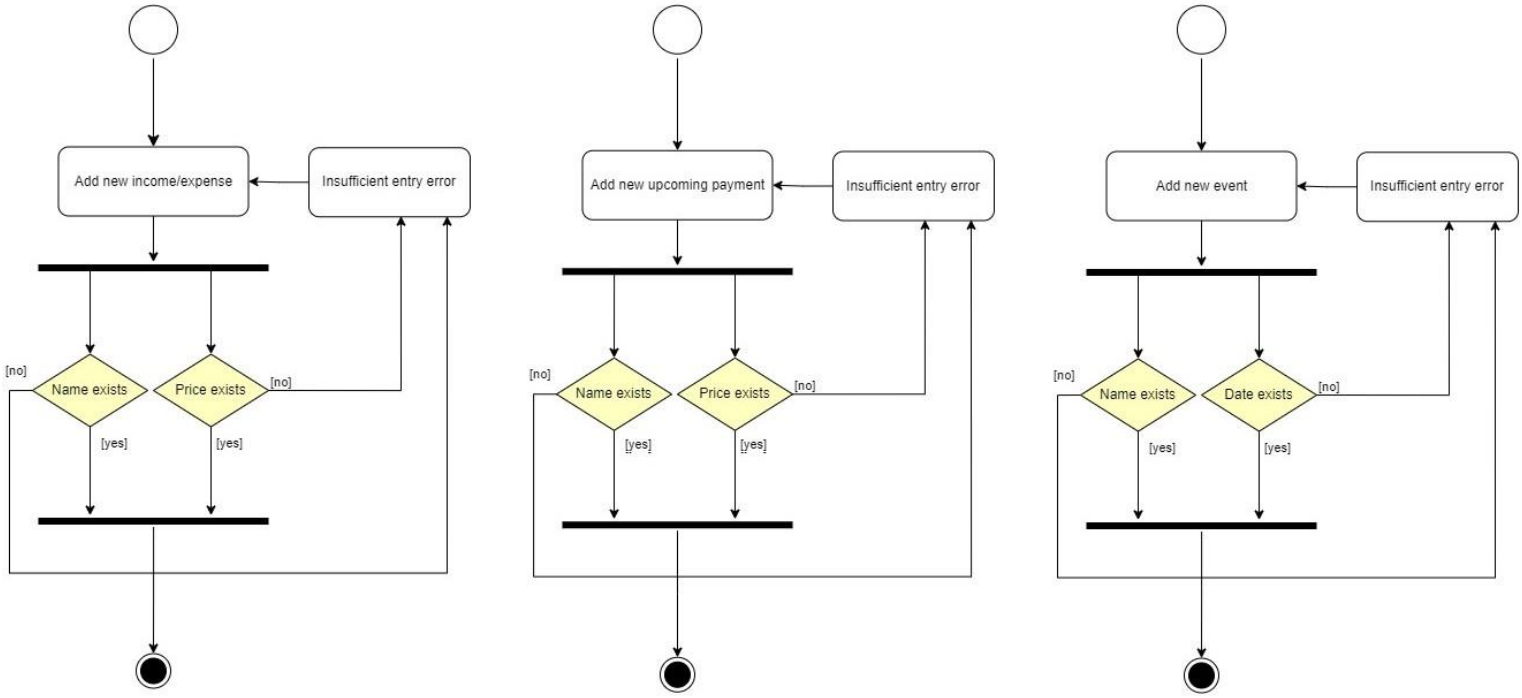

Fig. 7. *Activity diagram of the pop up forms.*

4. SOFTWARE ARCHITECTURE

I. UML PACKAGE DIAGRAM

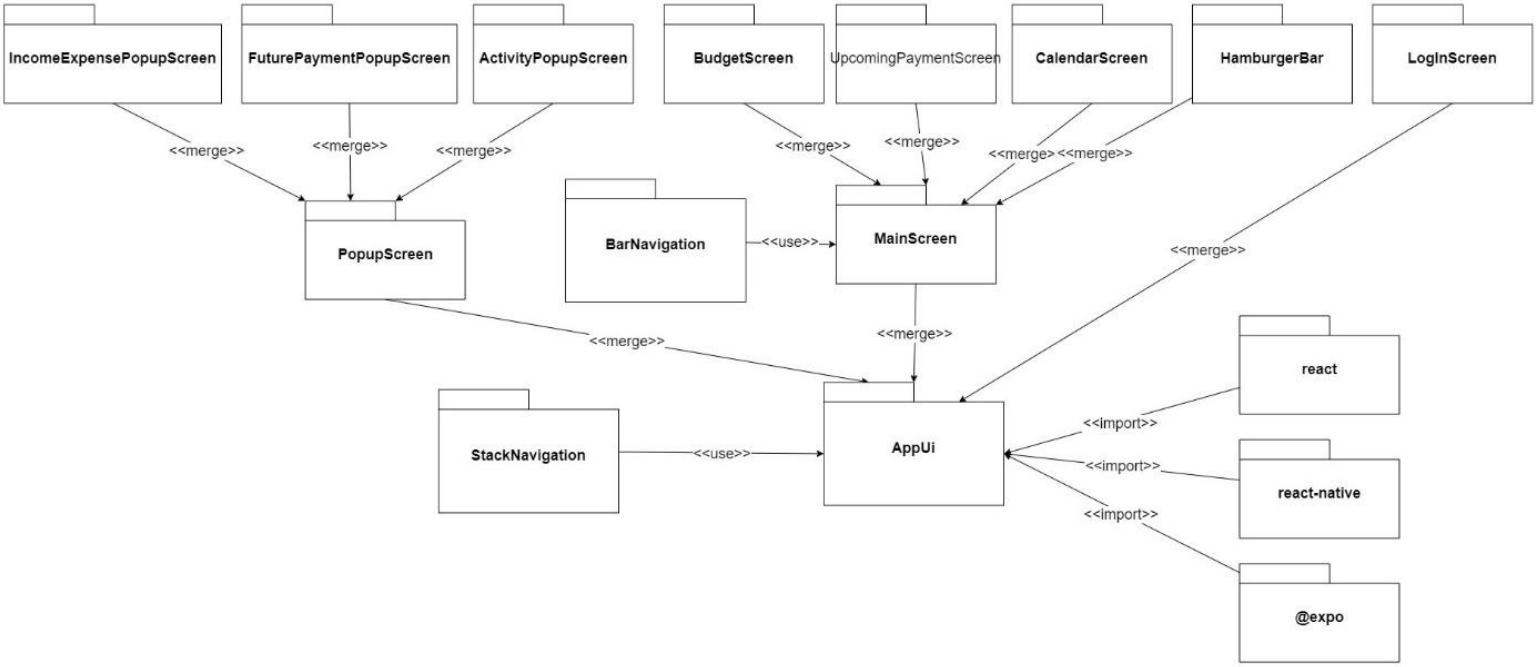

Fig. 8. *UML package diagram of the system.*

II. UML COMPONENT DIAGRAM

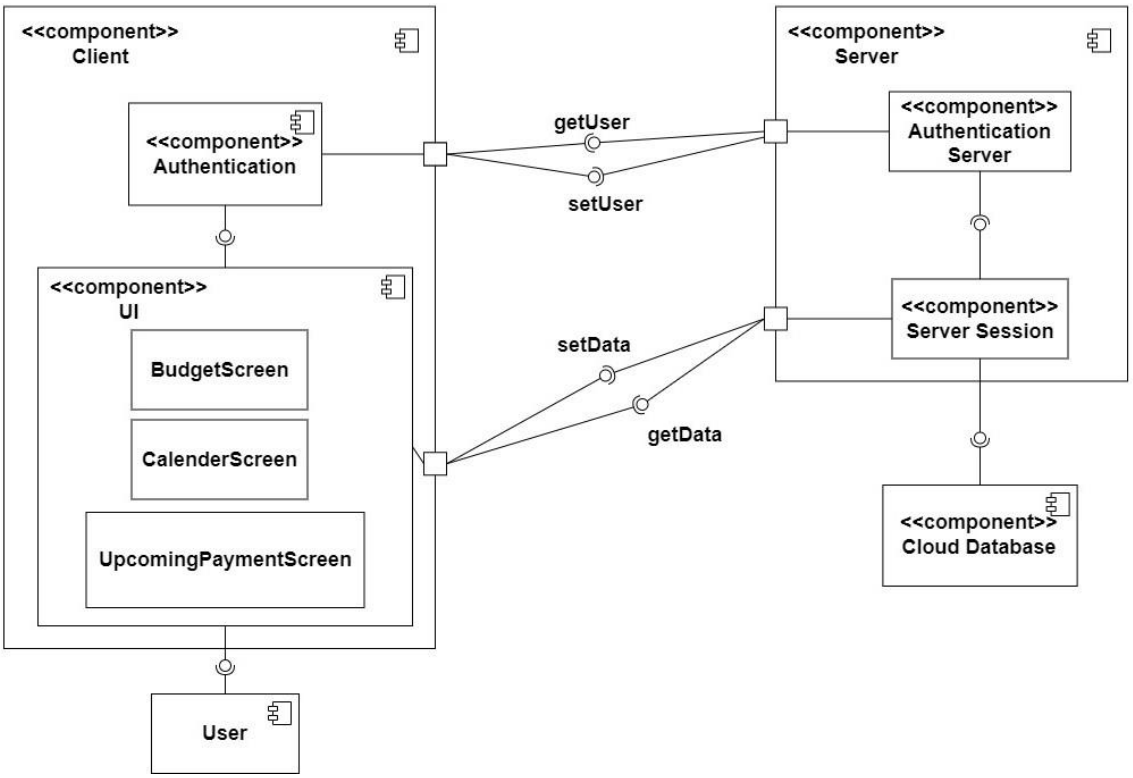

Fig. 9. *Component diagram of the system.*

5. ENTITY RELATIONSHIP (E-R) DIAGRAM

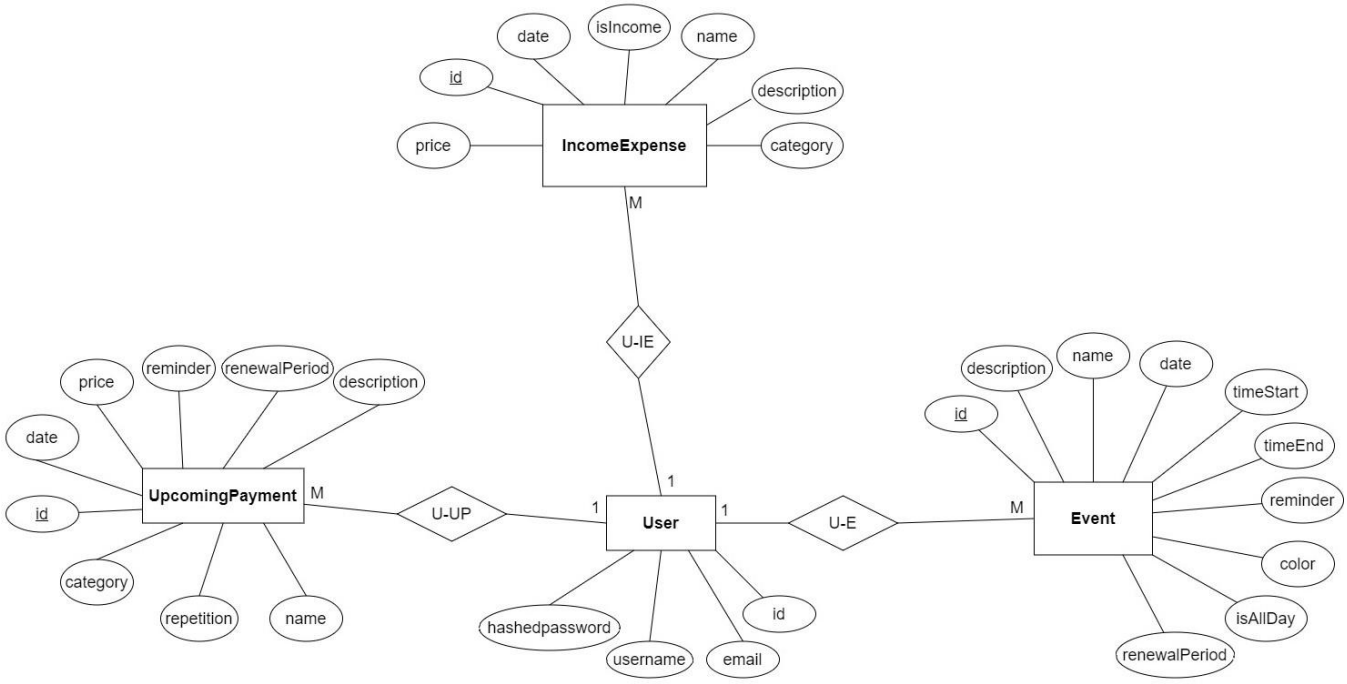

Fig. 10. *E-R diagram of the system.*

6. GLOSSARY & REFERENCES

[1] Lusardi, A., & Tufano, P. (2009). "Debt Literacy, Financial Experiences, and Overindebtedness." NBER Working Paper No. 14808.

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