

A Smart E-Saving Solution to Manage, Calculate and Visualize the Individual Finance Savings

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ABSTRACT

The proposed research is to study the mechanism adopted by people to save their monetary funds. In a study that shows that most people like to spend a lot of money without any need to do without thinking about how to save the money properly and use it at the right time. Another study shows that most people face delay in transactions when they open an account in the bank. Among the various problems related to the account, such as the sudden suspension of the account, long procedures when wanting to withdraw some large sums estimated at thousands. In order to overcome all these issues and to motivate Omani people to save money, a sustainable solution is proposed as an outcome of this research, which is similar to the idea of the piggy bank, which in turn saves money and saves it in a safe place without the need to go to the bank and open an account. The system will follow ease-to-use principle as complications and unnecessary delay which will demotivate the users. This smart solution also solves the issue of mismanagement of money that persists among many Omani youth, so they spend a lot of money on anything so, at the end of day or month some people do not have enough money to meet their needs. Literature also presents some applications similar to the proposed, such as SavedPlus (Fueled, Y. 2017), Dollarbird, Slice (Dany, Q. 2016), Level Money (Wailc, E. 2018). However, the drawback of these application is its compatibility with only Android system. The proposed application in my research will be a cross platform application that is downloadable and usable in any operating system. The proposed research output, will help people arrange important priorities and set their goals correctly, so they will have knowledge of how to manage money properly without extravagance. The user can withdraw all his money without the need to go to the bank, the user or the customer can put all his goals and priorities in order. One of the advantages of this application is that it facilitates users in the efficient management of financial assets and accounting by recording the user's income only once per month. The system also provides a dashboard and visualization of expected Vs reached financial status to motivate the users in achieving their financial assets. It will also help in making smart decisions in order to prepare the correct budget and organize bills. When the bank account is linked to the app, the user can then do things like view transactions, see expenses broken down by categories. Also, they can delete and add some goals. This research and its output will not only channel the Omani youth towards money management, it will also support the economy by introducing smart e-solution to manage, calculate and visualize individual spendings and savings.

Introduction

Nowadays, technology has become very wide and the whole world is using and developing it, which in turn has designed many applications that made everything easier for people and their lives became dependent on it because of ease of use. Under the current circumstances, with the decline in the economy in the country and with high prices everywhere, people are spending their money greatly, or in other words, they do not know how to manage their money properly and use it in the correct and reasonable manner. Therefore, the

so-called savings appeared, which acts as saving money. So, saving is an important thing in the life of every person and society in general in order to preserve his money in the future. As it is considered a source of safety without the need to seek help from anyone, it also develops human awareness, develops awareness of the individual because he will be able to face any emergency situation or problem. Saving is not an easy thing and is considered unimportant in the eyes of many people, especially children, as there is not enough economic awareness (Chalimah, S. 2019). Saving money is considered a skill that requires in the future because it needs a lot of time in controlling behavior and self, especially for people who like to spend their money. It is very important to inculcate a saving behavior from early childhood, as over time it will encourage children to save for their future and to achieve any goal. There are many benefits to saving on society, as it will provide many job opportunities for managing new projects, increase investments and thus lead to the state's sufficiency (Shim, S. 2017). As a result, a specialized application is designed only to save money in order to manage it correctly without the need for insignificant spending. This application will help in solving some of the problems faced by the individual and will also help him in arranging his goals that he wants, for example, buying a house, buying a car, traveling to a place, or opening a project. The individual enters any amount he wants and divides it for each goal.

Related Work

Similar systems have been designed, proposed, or developed by several scholars and are available in literatures.

Fueled, Y. (2017) SavedPlus, this application works to save money if the person does not have the knowledge or knowledge about saving money. As when spending money on some registered cards, the program will automatically transfer the money to the savings account, and the savings are transferred as a percentage that is specified in each payment, for example if a product is purchased for 20 Omani riyals and after that the savings percentage is set at 5 percent, then it will the application automatically transfers 1 riyal to the person's savings account. This app is free for Android and IOS, which gives 90 days for free use.

Dany, Q. (2016). Slice, this application helps people who spend their money heavily on the Internet as it tracks financial flows. Available for free on Android, iOS, and Windows. The program searches the user's mailbox for the received receipts and shipping details, for example if the seller sends an email to confirm the order for each purchase, the slice extracts the information automatically and also displays the updates in the form of a map so that it shows the queue for the shipment.

Wail, E. (2018). Level Money, If the user does not know how much they spend straying in money, the level money application helps users to track their daily cash flow as it works like any GPS systems and it is a free application but only available in the United States. The application divides money into four categories, namely income, bills, savings and spendable, and each category is presented in the form of graphics and shows with it forecasts about daily spending. It shows the recurring bills and the savings rate because it is connected to all credit, debit and bank accounts, so every time the user makes a transaction, the application works to adjust the money counter, is the remaining money that will be spent.

Literature Review

Visual studio is a platform for unleashing creativity through which the user can edit, correct and build programming instructions because it contains all the graphics and many features that in turn are involved in the development of programs and applications. One of the most famous windows through which the user can benefit from in the design of the application, as mentioned in article (Rusci, U. 2020) is a solution explorer that displays educational files in programming and navigates them also helps in organizing programming

instructions. There is also a central editor window that works in editing and designing the application or user interface, such as a window with buttons and text boxes.

As mentioned in an article (vincy,Y. 2019) , C# in visual studio is a language in the program specifically designed to create a set of applications that run through. . Visual studio is very easy to use as it detects errors in the codes because it has a code editor and an interpreter as well for the codes. It is very suitable and experienced developers.

Always encounter online registration forms upon request, feedback form, inquiry form and other forms for applications. It designs the interfaces of websites or applications to create databases in MS SQL server Database (Vatsa, A. (2017).

Money management is very important for the individual, the organization and anything else. Because it covers the budget, spending and savings, and because there is a difference in ages and lifestyles, as well as the family structure, the financial planning of each individual varies, but the basic principles can be shared in general. Money management helps in budget planning to reduce unnecessary expenses that do not add any benefit or value to the individual, but can be saved and invested for future use. It also reduces the risks of money critics for individuals. thus, will help them achieve their financial goals in the long run (Moro Visconti, R. 2014).

It provides developers with a lot of flexibility in a large, versatile ecosystem with many tools. Dedicated sharing libraries can also be created and coded to make applications using C#, visual basic (VB). Before creating any application, developers must have knowledge of CSs, HTML, JavaScript, C# languages.

System Architecture

The aim is to develop a system that allows all people of any age group to save their money properly and also can track all real-time budget, tasks and more, on order to achieve this, a system will be created that is an application in the Android system that is downloaded to the phone and can be used by all people, whether they old or young.

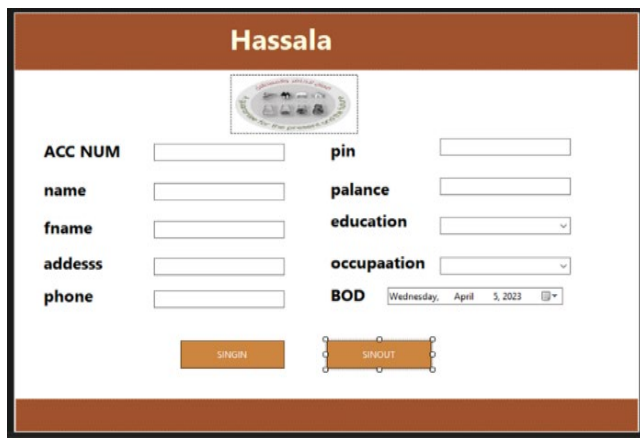


Figure 2. Display list

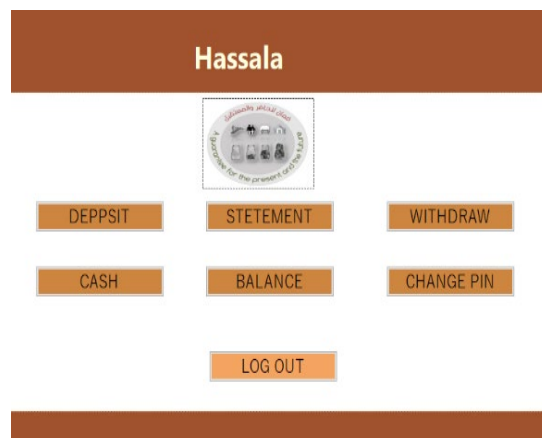


Figure 1. Login page

In figure (1), the user will enter his information in application through this page, which will include the name, address, phone number, PIN , and others.

In figure (2), on this page, the user will choose the page to be opened in the application.

In figure (3), the use case diagram is a diagram that shows the system user with his interactions in the system for the piggy bank application, as he will represent the use cases. In this system, there are two

members represented: the user and the administrator, as each member is responsible for his or her own process. These relationships will appear between all use cases with the same user by associating the user with their own use case.

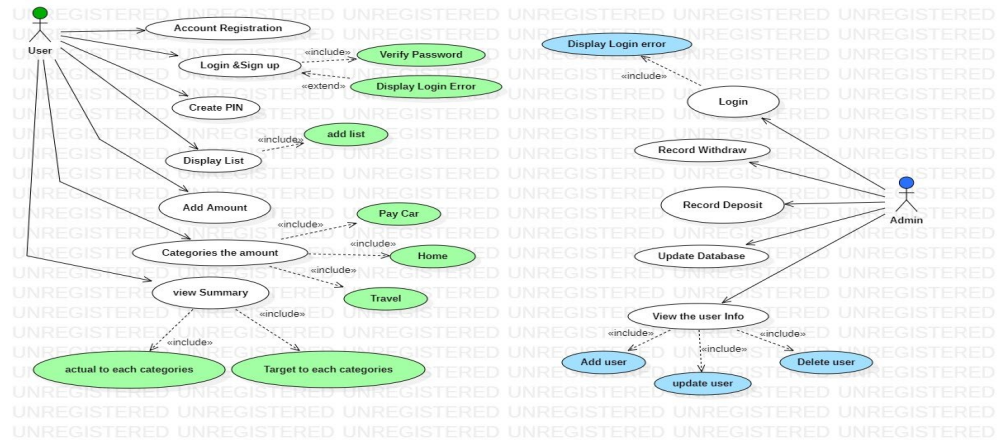


Figure3. Use case diagram

Methodology

As we can see in analyzing methodologies that can be added in any project, each methodology contains its own strengths and weaknesses. In my project, I will choose the Agile methodology, because it is considered a popular methodology at the present time, and most modern projects are used in this methodology because it is used in iterative and incremental projects, and originally this methodology was made for software development. I will discuss some of the advantages or reasons for choosing this methodology for my project.

- ❖ Easy to satisfy customers or users.
- ❖ There is cooperation between stakeholders and developers of the project.
- ❖ Attention to all technical details in the project.
- ❖ The absence of a risk factor for the project as it is possible to know the expected risks with mentioning appropriate solutions.
- ❖ Agile methodology is used in more complex projects and uses six main exits It is a project vision statement, project progress map, issuance plan, project backlog, and expected increase.

Through these features, the Agile methodology demonstrates cooperation, flexibility, and continuous improvement in the project. It is best suited for projects that require flexibility, and because my project is a service that was not created by a team, it is very suitable for the project.

Limitations

Since the survey was conducted in MEC, all responses to the user’s desire for saving were taken. When the application is fully designed, the user will be able to use it again without the need to register again, and all his personal data will be present in the application.

Recommendations

This paper presents a standard design around the idea of the piggy bank in a sophisticated manner in saving money. This system hopes to plant the idea of saving in people's minds in order to save money in the right way without the need to waste it in the wrong way or without interest. In addition, this application will allow people to track their budget and see all the goals they want and the installments without having to go to the bank. With that application will help in calculating all expenses of a person about money.

Conclusion

Although technology has evolved and science is advancing greatly every year, there is still a need for development in terms of savings and how to properly save money without being hacked. When developing the money box system, it will make it easier for many people in their lives, and it will be an easy and simplified way to follow the steps of entering money and saving it correctly and required.

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