



COMP-SCI 5551 (FS16) - Advanced Software Engineering

Project Team 1 - The Brokers

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Project Proposal

(Due Sep 2nd, 2016)



- **Project Title**

Pocket Manager: A small-yet-smart application that helps college students manage income and expense

- **Project Team**

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- **Project Goal and Objectives**

1. Motivation

With the beginning of the new academic year, this season is so refreshing for college students, especially for freshmen who probably will live independently for the first time in their lives. And also, most college students have on-campus or off-campus jobs to “claim their financial independence” from relying on their family, since they expect their job income to support their campus study and campus lives. Yet tragically, many college students never feel freedom for even one minute because of their financial independence, even for a student who has a \$1,500 monthly income. According to CNN, in average, a college student will leave school with a \$3,000 credit card debt. This amount will pile up a lot before he/she can find a real job. The radical reason for this to happen is that college students never studied how to manage their money before they obtain financial freedom. And in UMKC, there is not any kind of education for freshmen that teaches them useful money management tips. Therefore, an application that can avoid college students not to become card slaves or help college students manage their money has a great potential to be prevalent in future campus.

2. Significance/Uniqueness

By investigating all kinds of budget creating applications that are available online, we have not yet found any application that are mainly targeted for college students, which will be definitely marked as the identity of our *Pocket Manager*, distinguishing from other existing systems. The reason why people should take more care of the expense habit of college students is that kids go to college to live independently for the very first time in their lives, yet they are not completely considered a grown-up adults at this age, so they still urgently need trainings and lessons about how to rationally control their activities related to their everyday life. Therefore, if there is an simple application that can help them managing their money, not only can they have a cheerful college life without overwhelming financial burdens, but also can benefit from the way of income management in the rest of their lives.

In the technical aspect, our *Pocket Manager* has several unique features that are designed based on specific bad money habits that appeared the most amongst college students. Unlike the other similar applications existing, our application is more rather an “assistant who helps you overcome the bad habit of your money management” than a “regular budget creating software using the traditional concepts about how people understand budget”. The specific objectives of our software application will be explicated articulated in the next section.

3. Objectives

Based on our inspection and summarization, we have found four most fatally problems that most college students is facing.

- 1) So wealthy at the beginning of a month and so starving at the end of the month.
- 2) Credit card abuse always occurs.
- 3) Relying on credit card bills as expense record and so lazy to write down every expense.
- 4) “I kept being frugal, but why and where did I spent such a large amount of money?”

Our system is well designed specifically to help college student overcome the three bad habits mentioned above. The system will be divided into four main correlated components that are aimed to solve the problem (see Table 1).

Table 1. Solutions to the common bad money habits of college students.

Problem	Solution	Explanation
So wealthy at the beginning of a month and so starving at the end of the month.	Create a budget.	Based on the monthly income of a user (college student), our system helps him/her to create a reasonable monthly budget. For example, the system tells the student how much you can spend on food, entertainment, exercises, and so on.
Credit card abuse always occurs.	Separate wants from needs.	Several rules are generated based on normally how people understand what is a college student’s need and what is a want. The rule differs from every major field for a student.
Relying on credit card bills as expense record and so lazy to write down every expense.	Character/number recognition API applied.	Character/number recognition API will be applied in our system, which definitely facilitates the input of their expense by just taking a picture of their payment receipt.
“I kept being frugal, but why and where did I spent such a large amount of money?”	“Grading” of your last month performance in money management.	Statistical data will send to the user monthly to analysis his/her performance in expenses. Also, when accumulated expense in a certain aspect is approaching the budget, warning messages will be also delivered to the user.

4. System Features

Table 2 listed the desired features of our *Pocket Manager* system. Since the system is not yet started developing, because the original project topic may be denied by the professor, the explanation of the system features is more like a “functional explanation” rather a “technical specification”. The functions of each feature are specified in Table 2, with a general idea of how the function could be achieved programmatically.

Table 2. List of system features with rough explanation of functions.

System Features	Explanation of functions
Log-in system	Our system functions differently for different users. Therefore, a log-in system is required.
Budget creation	This feature gathers information about the “manageable income” (excluding rent, loan, etc.) from the user and generates reasonable monthly budgets (may be three budgets) suggested to the user.
Record a payment	This feature let the user record a specific expense for something, and classifies the expense into a certain category in the budget of current month.
Optical input	This feature applies character/number recognition API to let the user input an expense by simply taking a picture of the payment receipt.
Ask for an item	This feature checks a user-desired item is what the user’s need or the user’s want based on the user’s monthly income. If it decides that it is not necessary, it will generate suggest a time that a user may consider for it.
Get statistical results	This feature let the user check the statistical expense results for the current month or previous months.
Graphical representation	This feature applies graphical API (e.g. Highcharts) to graphically demonstrate statistical results.

• Related Work

1. SutiExpense^[1]

SutiExpense analyzes and manages expenses for the users. It is intuitive and intelligent software which can arrange travel and book flights/hotels upon the phone. It also contains a feature of real-time report. SutiExpense takes the information of the user’s credit cards, and then the transaction can be classified and processed online. SutiExpense also helps users to draw up a plan with the customizable expense analytical reports. It captures a receipt simply by taking a picture using a cell phone, scanner or fax, and the receipt will be read and stored in the user’s account automatically.

2. Zoho Expense^[2]

Zoho Expense is another software to help users store, analyze and manage their expenses. Not only can it scan and read printed receipts, but also handwritten receipts can be precisely recognized and properly stored. Zoho merges similar expenses to avoid duplicate entries, and it includes features dealing with different currencies. Zoho synchronizes debit/credit card information in order for the details of user’s expenses. Although it cannot smartly understand the expense habits of users, insightful analytics, categorized expenses, and interactive dashboard are offered in order to let the user be aware of their good or bad spending habits.

3. Certify^[3]

Certify is an automatic expense reporting tool for individuals and companies. It reads and stores a receipt by taking photos, so information in the receipt will be recognized automatically, such as the amount, vendor and location. It offers a detailed report and dashboard to show the different parts of expense. If there is a case of exceeding budget, it will give a reminder with red exclamation mark in the report.

• Backup project

It is crucial for one to well maintain his/her résumé/CV all the time regardless of his/her current working status. Furthermore, one may have different kinds of education fields or working experience. In order to provide right information that can quickly grasp the HR's attention rather than hiding the key information in the sea of superfluous information, a résumé managing system has its every reason to develop. In this system, résumé will be categorized based on different spheres the job is related to (horizontal categorization) and different levels of the job positions within the same field (vertical categorization). By gathering all the background information in professional preparation (education) and previous appointments (related work experience) of a user by the log-in and active form features in our system, résumé writing suggestions and writing templates will be provided.

The system will apply relative APIs to help checking the spelling and grammar during the writing of résumé. Also, it provides the option of add the cover page automatically, as well as combining different documents together (reference letters, proof of skill-based license, etc.). Headers and personal contact information will be opted to be appending with your final document package. Admittedly, this system cannot actually reinforce your background, but it can definitely fill the gap of the lack of résumé creating knowledge. Especially for ones who did not do a lot of writing before, this is a nice tool to help them increase the probability to succeed in finding their dream jobs.

• Bibliography

- [1] <http://www.sutisoft.com/sutiexpense>
- [2] <http://www.zoho.com/us/expense>
- [3] <http://www.certify.com>