**Online Advisor System**

By

Wan Suhana binti Che Wan Ahmad

5883

Dissertation Submitted in Partial Fulfillment of

The Requirement for the

Bachelor of Technology (Hons)

(Business Information Systems)

July 2007

Universiti Teknologi PETRONAS

Bandar Seri Iskandar

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Perak Darul Ridzuan
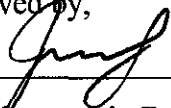
# CERTIFICATION OF APPROVAL

**Online Advisor System**

By

Wan Suhana binti Che Wan Ahmad

A project dissertation submitted to the

Business Information Systems Programme

Universiti Teknologi PETRONAS

in partial fulfillment of the requirement for the

BACHELOR OF TECHNOLOGY (Hons)

(BUSINESS INFORMATION SYSTEMS

Approved by,

_____

(Dr Baharum bin Baharudin)

UNIVERSITI TEKNOLOGI PETRONAS

TRONOH, PERAK

JULY 2007

# CERTIFICATION OF ORIGINALITY

This is to certify that I am responsible for the work submitted in this project, that the original work is my own except as specified in the references and acknowledgements, and the original work contained herein have not been undertaken or done by unspecified sources or person.

WAN SUHANA BINTI CHE WAN AHMAD

# ABSTRACT

Online Advisor System is developed to ensure all people can get advices on how to manage and solve their problems in a much effective way. This system presents an approach to identify the problems of the users facing and then provide the best solution which suit their situations that can be measured based on the answers. There are a lot of conditions to identify the user's problems and as well as solutions to be provided base on their problems. The system is consisting of three major problems that will be managed; Financial Management, Time Management and Stress Management. For each part, there will be a specific solution and it is all base on the answers that the users answered before. The system is designed, implemented, and evaluated in a series of pattern classifiers that will be defined once the user answers all the questions given. The method may be considerable convenience in identifying users at risk earlier, especially for those who having a critical situation, and allow it to provide appropriate advising in a timely manner and also design solutions that may help them solve the problems. This system is useful especially for those people who are very particular about time, and always thinking about online transactions. Therefore a web-based educational technology is suitable to fulfill their needs and preferences and they still can get advice.

# ACKNOWLEDGEMENT

Praise upon Allah the Almighty for giving me the strength and time to successfully completed my two-semester final year project. The one-year developing the project has supplied me with valuable knowledge and experience in providing the outcome for the project.

I would like to take this opportunity to thank all parties involved in making the final year project a great success. First and foremost, thanks a million to my supervisor, Dr. Baharum bin Baharudin for the on-going support and guidance throughout my attachment under his supervision. All his comments and advices really help me in improving the project and also gave me the great idea to run the project in the best way.

I wish to take this opportunity to express my appreciation to all UTP personnel involved in this final year project, especially to Mrs. Aliza binti Sarlan and other lecturers for guidance and support.

Last but not least, I wish to thank all the fellow friends, for being support and knowledge sharing in completing my project. All our effort hopefully will give us the best result in the future.

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# CHAPTER 1

# INTRODUCTION

## 1.1 BACKGROUND OF STUDY

Online Advisor System is a system that idealized from the natural need of human being. Essentially it is to help users facing some problems in their daily routine. This innovative service lets users get advice and information, in real-time with the accurate information from the right sources. Therefore, research has been done to find the best scheme to apply this concept in a proper and the best way. I believe that this system is reliable as a revolutionary way to empower the education skills and knowledge needed. Consequently, Online Advisor System implements design that similar to e-counseling which enable students to get knowledge as well as advices via online. The system is supported with the rules that have been chosen from a various sources especially from the expert systems and all the rules are designed based on the real cases.

## 1.2 PROBLEM STATEMENT

Recently, people having a lot of problems that interrupting their daily works and affects their lifestyle obviously. Some people just let it go and continue their life without bothering what happen in their routine, but some people do care about those things. Lack of knowledge regarding the issues and do not know how to overcome the problems let them into the dilemma and conflict of interest. When this happen, there will be other consequences that may lead to the many other problems. Besides, time constraint also a problem for people to get advices especially for those who are very particular about time and of course they will use this reason for not meeting counselor to consult their problems. The problem can be considered manageable if people still can control and manage themselves but not all people can do that and to play safe, people need to have the advices so that they can know what are they supposedly do to overcome their

problems to avoid from any bad consequences and bad actions that may cause other big issues.

## 1.3 OBJECTIVES

- To assist users solve the problems by giving suggestions and advises
- To give solutions regarding the main problems:
    - Financial Management
    - Time Management
    - Stress Management

## SCOPE OF STUDY

The main purpose of this project is to have a medium for people to find out any related issue that may help them identify and solve their problems in a very effective way. This system is like an expert system that will capture the problems that people have and will come out with a few suggestions and advices to answer the problems. There will be a lot of questions to analyze and characterize people's problems and all questions are related to each other. The suggestions and advises are stored in the system as the rules so that when a person having any problem, the system can respond to him/ her immediately. The on-demand consultation gathers information about a person's interests, behavior, lifestyle, and aptitudes. The specific issue that will be captured in this system is on the common problems which always occur in our lifestyle and are very important to be considered unless there might be other side effects to ourselves.

The system recommends ways for people to consider and provides further information sources about the problems including the precautions and how them occurs for people to take note. The process is important; however, because it educates people about the consideration they should use to minimize the problems and successfully solve them as soon as they can. As a reminder, the system is not from the expertise person, so it might not cover all things related to the cases but as time goes, it will be updated to the latest information in order to suit the current situation.

# CHAPTER 2
# LITERATURE REVIEW

Research on the predictors of success in academic majors is sparse and uneven across curricula and in particular majors (Noel, Levitz,, & Saluri, 1985). Consequently, human advisors use their accrued knowledge to fill in significant gaps in the research. For most colleges and universities, however, the large number of people who require assistance limits the major advising by the small number of available advisors.

Winston (1996) indicates that advisement is complicated by the fact that advisement is traditionally given to department faculty who are not trained to give advisement outside of their area and who often do not have counseling skills. This might give a big impact for the users themselves because they may find that the lecturers cannot understand their preferences and their feeling.

Lowe and Toney (2001-2002), after their review of the literature, indicate that academic advisement is often considered a minor activity at most colleges and universities, that it is an inconsistently administered process, that the needs of many students are not met by the systems in place and that failure to provide adequate advisement can lead to early drop out of students. They also note that academic advisement should begin in the early stages of a student's academic planning in order to be effective.

# CHAPTER 3

# METHODOLOGY

## 3.1 METHODOLOGY USED

The methodology used in developing the system is the *throw-away prototyping* methodology. This methodology performs the analysis, design and implementation phase concurrently, and are performed repeatedly in a cycle until the system is completed. The first step is the customer communication task whereby discussed with students in the university to identify familiar problems they faced; and prepare a survey to gather all the needed information.

The planning phase is the first step which involves preparing project proposal, preliminary report, Gantt chart, and other related information.

The analysis phase in this methodology is used to gather information, to develop ideas for the system concept and to assess technical and management risks such as problems faced during the development stage and in running the business; to prepare progress report; and to do research and obtain findings.

All issues in the system requirement will be examined by analyzing, designing and building a design prototype which is the part that contains enough detail to enable users to understand the issues under consideration. If the user does not satisfy with the system, the steps will reverse back to analysis, design and implementation before further on to the final implementation.

By using this methodology, the system will probably rely on several design prototypes during the analysis and design phases. Each of the prototypes is used to minimize the

risks by confirming that important issues are understood before the real system are built. The advantage of throw-away prototyping methodology is it balances the benefits of analysis and design phases to refine key issues before a system is built. It may take longer to deliver the final system but this methodology usually produces more stable and reliable systems.
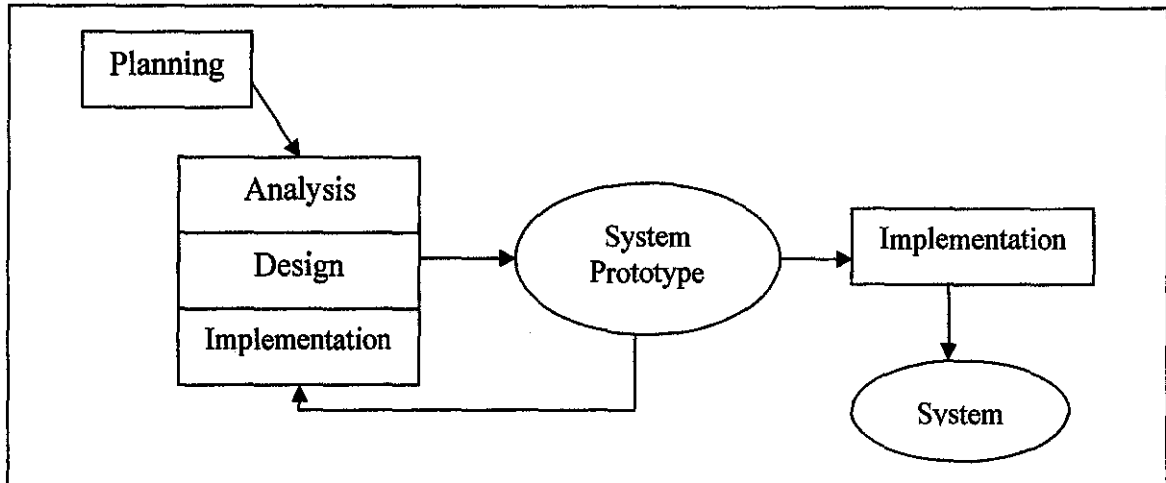


Figure 1: *The Prototyping Methodology*

In the analysis phase, an *interview* and *questionnaire method* has been conducted to gather all information regarding the system. The interview session was conducted with a counselor from Student Support Services department of UTP. The interview was very meaningful as there are a few questions have been answered, and the real situation in handling the problem was discovered. For the questionnaire, a few questions have been asked to the people and the responding for this system is the students of this university in order to know their needs and their preferences regarding some problems which they faced before.

## 3.2 SOFTWARE USED

Web authoring tool to use is Macromedia Dreamweaver Version 8. The software is widely use for website development because of its user-friendly features that enable easy maintenance of the site with less modification on the HTML codes. The website is on server side which integrates static HTML, external CSS and JavaScript. Adobe Photoshop is used frequently to edit the images and photos. This software has many

advance features such as multiple layers, various editing tools and advance editor options which produce smooth and quality images. Besides, PHP Programming and MySQL are used in database part.

# CHAPTER 4

# RESULT AND DISCUSSION

## 4.1 RESULT

### 4.1.1 Data Gathering

From the statistic that I have got from the Student Support Services, the amount of students that have problems; under probation and dismissal problem in semester July 2006 are around 283 people including foundation and undergraduate students. It is about 5% from all 6,000 students in eight departments. As what I have told that Student Support Services has provided a lot of programs to help students improve their motivation and also their performance in studies as well as providing open discussion with the counselor. However, from 283 students, only 48% students turned up seeing the counselor but the others did not. So as an alternative in providing advices, it is good if this system can counter another half students who did not turned up meeting the counselor. In order to do that, the system should prepared with the necessary information which really relates to the current issue and reliable with the conditions of the user. By doing a lot of researches and investigation on this particular matter, and there are abundant of information given. Therefore, to make the system more worldwide, all things should be considered like the culture, society, lifestyle as well as the behavior of people so that it will cover all factors and can be understandable from difference type of people.

## 4.1.2 Modeling

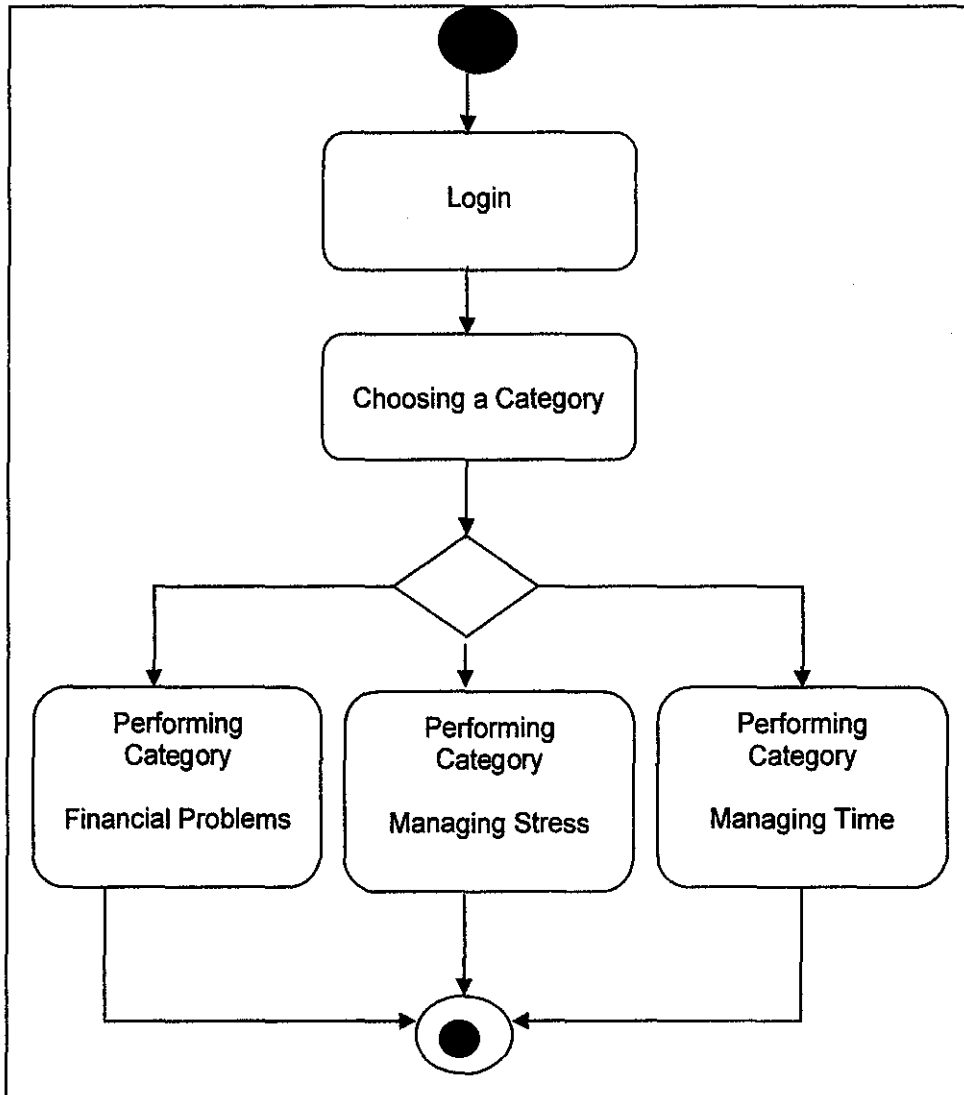### 4.1.2.1 Activity Diagram



Figure 2: Activity *Diagram*

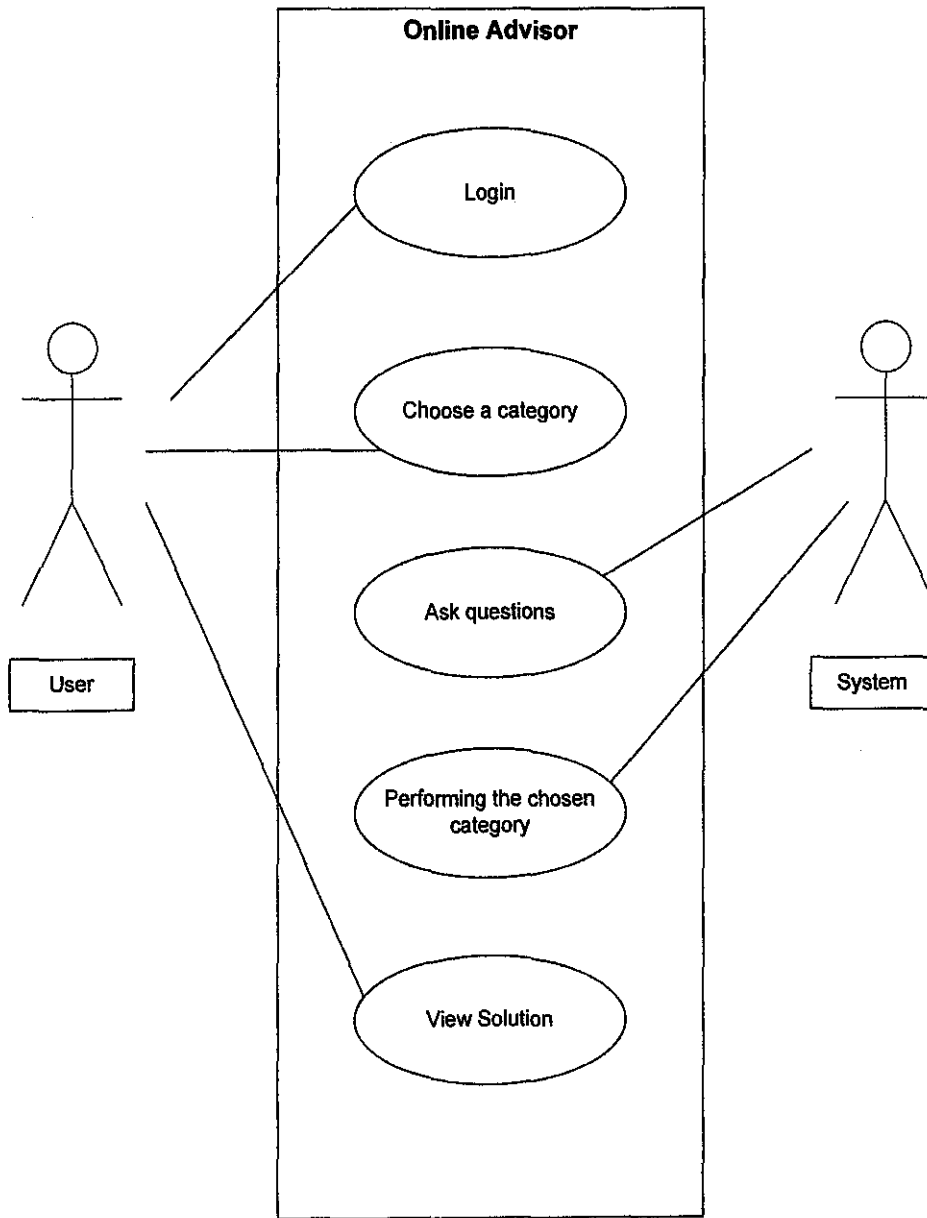## 4.1.2.2 Use Case Diagram



Figure 3: *Use Case Diagram*

The use case diagram gives a brief idea about the functions of the system as well as what the users need to do. There are two actors who will involve in the whole activities in the system which are the users and the system itself.

### 4.1.3 Gantt Chart

| | 2007 | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | March | April | May | June | July | August | Sept | Oct |
| **Project Timeline** | Planning | | Development Phase 1 | | | Development Phase 2 | | Production |
| **Tasks** | | | | | | | | |
| Planning & Design | | | | | | | | |
| Brainstorming | | | | | | | | |
| Research | | | | | | | | |
| Construction | | | Prototype 1 | | | Prototype 2 | | |
| Testing | | | | | Test 1 | | Test 2 | |
| Feedback/ modify | | | | | | | | |
| Final Production | | | | | | | | |

Figure 4: *Project Gantt chart*

The Gantt chart above shows the tasks that have been and will be done in about eight months starting on March. There are two development phase here, first is for constructing the prototype 1 and the second development phase is in constructing the prototype 2 which is started in second semester of final year project. The project is planned to be completed in September so that it can be implemented in October hopefully. There are two testing that will be conducted immediately after the system has been completed to satisfy all the requirements. This is to make sure that the system is inline with the objectives and still under the correct path.

### 4.1.4 Questionnaire

A survey has been conducted in university to have the students' point of view as a normal people. The survey are included some direct questions that are related to the need of the system towards to determine the quality of the advisor, how often advisor is sought, and whether users are interested in receiving advices on which issues. The questions asked are more focusing on the respond of online advisor system among the students. From the questionnaire, I can conclude that users need the online advisor system in helping them improve their performances and solving their problems in a fast way. By default, they still need the counselor to assist them and this is what the system offers which is a part where users are suggested to see the expertise on that issue because the system is not cover on that issue. So it is like this online advisor is not to terminate the manual approach that have been done by the expertise like counselors, but it is an alternative for that system so that users have more choices.
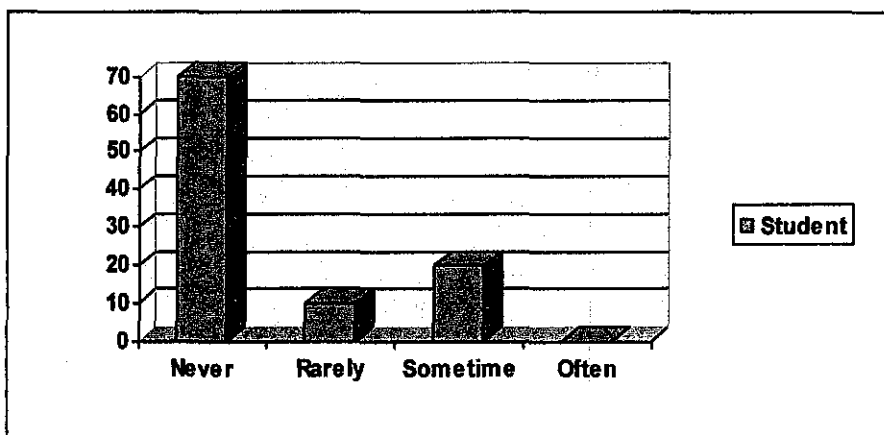
Figure 5: *Graph shows the frequency of students met the counselor*

The graph shown above is analyzed from the frequently ask question which is involved a few number of students only. In the graph it is clear that most of the students never seeing the counselor. Two reasons might be the caused of this problem; first, the students may be did not facing any problem during their five years in university and second is the reason that has been highlighted in the problem statement above. From this result so we know that this system might be useful for them to manage the problems that they may face as they did not go through counselor yet.

## 4.2 DISCUSSION

### 4.2.2 Features

Basically as usual the system requires the users to login as a known user so that the system will recognize each user using the system. For new users, there will be a form provided for them to full in sign up section. The form not requires the details information from the users but only a few important information such as username, password, age and occupation. The purpose is to identify the users once they login to the system and to store all their information regarding all the data that they have provided in the system during the runtime. Once the users have sign up, they can straightly login into the system with entering the correct username and password. This login is useful for the system to keep track the users who have entered the system and provide the information that what they have submitted every time they login into the system. The users should not be recognized as they only needs to enter their full personal information because not all people would like to tell other that he/ she is in trouble and they dislike to be known as having such problem. So to make users feel more comfortable and secure in using the system only a little information are needed.

In the homepage, there will be three main button at the top of the page with titled; Financial, Stress and Time. All three buttons are presenting the three major functions in the system. Every button will bring the users to the next page for each function.

The three main problems are:

i.    Financial Management
ii.   Stress Management
iii.  Time Management

*Financial Management*

For financial problem, first; users will be asked to give their monthly budget followed by other few questions. All those questions are asked in order to help the system figuring the condition of each user. The format of the questions is only requires users to answer yes or no. It is to help the system in analyzing each user's profile and come out with a

specific result. Once the users have completed answering all the questions, they should click the submit button to submit the answers. At that time, when the users press the button, it will automatically turn to the new page that showing the result of the session. The result is in the form of; 1) The condition of the user 2) Briefly explained the condition 3) Provides the solutions for the users to overcome in improving the current condition. For financial problem, the problem is measured on how a person manages his/ her money in monthly and annually basis.

### *Stress Management*

Some of early research on stress (conducted by Walter Cannon in 1932) established the existence of the well-known 'fight-or-flight response. His work showed that when an organism experiences a shock or perceives a threat, it quickly releases hormones that help it to survive. In humans, this hormone helps us to run faster and fight harder. They also increase blood pleasure and heart rate, delivering more oxygen and blood sugar to power important muscles. Unfortunately, this hormone also has negative consequences and should be managed. So in this system, it will display all the information regarding this issue in detailed and also providing a lot of tips on managing stress in an effective way. In this section, it is same as in the first part, Financial Problem. The difference is only on the result. In the stress management, there are four category of stress level have been stored in the system. All four levels are taken from the accurate sources which are based on the study from the expertise of this area. The result is consists of the level of the stress, the explanation and the solution or action that should be taken to relief the stress.

The three levels of stress are:
   i.     Acute Stress
   ii.    Episodic Acute Stress
   iii.   Chronic Stress

| Type | Explanation | Solutions |
|---|---|---|
| Acute Stress | - the most common and most recognizable form of stress <br> - the kind of sudden jolt in which you know exactly *why* you're stressed. Example: <br> - you were just in a car accident; - the school nurse just called | - take a deep breathe when these types of stressful events cease. <br> - the effects are short-term, usually doesn't cause severe or permanent damage to the body. |
| Episodic Acute Stress | - people for whom stress is a once-in-a-while spike <br> - always anxious about the next disaster they're sure lurks around the corner. <br> - tends to seem angry and hostile and the worrier more depressed, both are frequently over-aroused and tense and have a high blood pressure and heart disease. | - change the lifestyle that will help you to relief from this type of stress: <br><br> • Get enough sleep <br> • Connect with others <br> • Exercise regularly <br> • Eat a balanced, nutritious diet <br> • Reduce caffeine and sugar |
| Chronic Stress | - stress that wears you down day after day and year after year, with no visible escape. <br> - Common causes of chronic stress include: <br> • Poverty and financial worries <br> • Caring for a chronically ill family member <br> • Feeling trapped in unhealthy relationships or career choices | - should have a thinking skill to handle the problem: <br><br> • Have realistic expectations <br> • Reframe problems <br> • Express your feeling <br><br> - also can implement other techniques that involve physical movement: <br><br> • Exercise a lot <br> • Yoga <br> • Meditation |

Table 1: *Table for type of stress*

*Time Management*

In managing time, it is relates more on how users manage their workloads. Each question that is asked is based on a particular area. There are about ten questions given with respective thing to be captured.

For example;

1. Do you feel overloaded with too much work? Is your schedule so crammed full of activities that you don't have any time to breathe?

   - It refers to the condition where the users should cattle the problem of workload.

2. Do you feel busy during the day but realize when it's time to leave that you really didn't make that much progress?

   - This part is to analyze about the routinely working on unimportant things and to check how much the user spend of their time working on lower priority items instead of focusing on the tasks with the greatest payoff.

Finally, the system will recognize the users are under which type of people. In the research done, there are three main characteristics that falls under time management issue.

The main characteristics:

   i.     Well-organized people

   ii.    Medium level (well-organized but still need other people to keep giving the reminder)

   iii.   Unsystematic people

Generally all the problems are very common and people might already know about all of that but, here in the system it is like a structured ways to know how it happens and how to act when it is really happens.

# CHAPTER 5

# CONCLUSION AND RECOMMENDATION

## 5.1 CONCLUSION

The Online Advisor System is locates on the need of the current situation all people become less time spending on manual things. All things are preferable to be access via online. By developing this system, there is a hope that the problems that people faced can be solved and all people have a high motivation to live in a healthy condition and happily without any problems that interrupt their works and studies.

This system is also might assist the counselors in managing students' performance time by time in an effective way especially in the school and university level but still need to consider a lot of things and not all can be answered as the way they live might difference from workers. Students also can take this opportunity to get better result with a better interaction with the counselors.

Therefore as a conclusion, the system is completely designed not only to solve people problems but the most important thing is to help them in managing their problems in an effective way so there will be no harm in their life. It is because there are a few cases whereby people taking short cut ways to settle out their problems like taking drugs, hurt others, and even kill themselves. These are not a good practice that society should aware about because of course it may not only affect the person but also the country and society and then straightly goes to the nation.

## 5.2 RECOMMENDATION

For the recommendation, it will be more reliable and effective if there are more questions that will be asked so that the system may narrow down the user's conditions. This is important for system to analyze the user's condition and it is easier for system to understand the user's situation probably.

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# APPENDICES

Login
Username:

Password:

| User Login |

**User Registration**

**Username**

**Email**

☐ Allow other users to view my email address

**Password**

**Verify Password**

**Receive occasional email notices
from administrators and moderators?**          ○ Yes  ⊙ No

**Disclaimer**

While the administrators and moderators of this
site will attempt to remove
or edit any generally objectionable material as
quickly as possible, it is
impossible to review every message. Therefore you
acknowledge that all posts
made to this site express the views and opinions
of the author and not the
administrators, moderators or webmaster (except

☐ I agree to the above

| Submit |

Done

# Registration Page

Login
Username:
suhana
Password:
User Login

Register Now

Online Advisor

Tuesday, 6 November, 2007

YOU CAN GET ADVICES ANYWHERE

Done

**Login Page**

Thank you for logging in, snhana.

If the page does not automatically reload, please click here
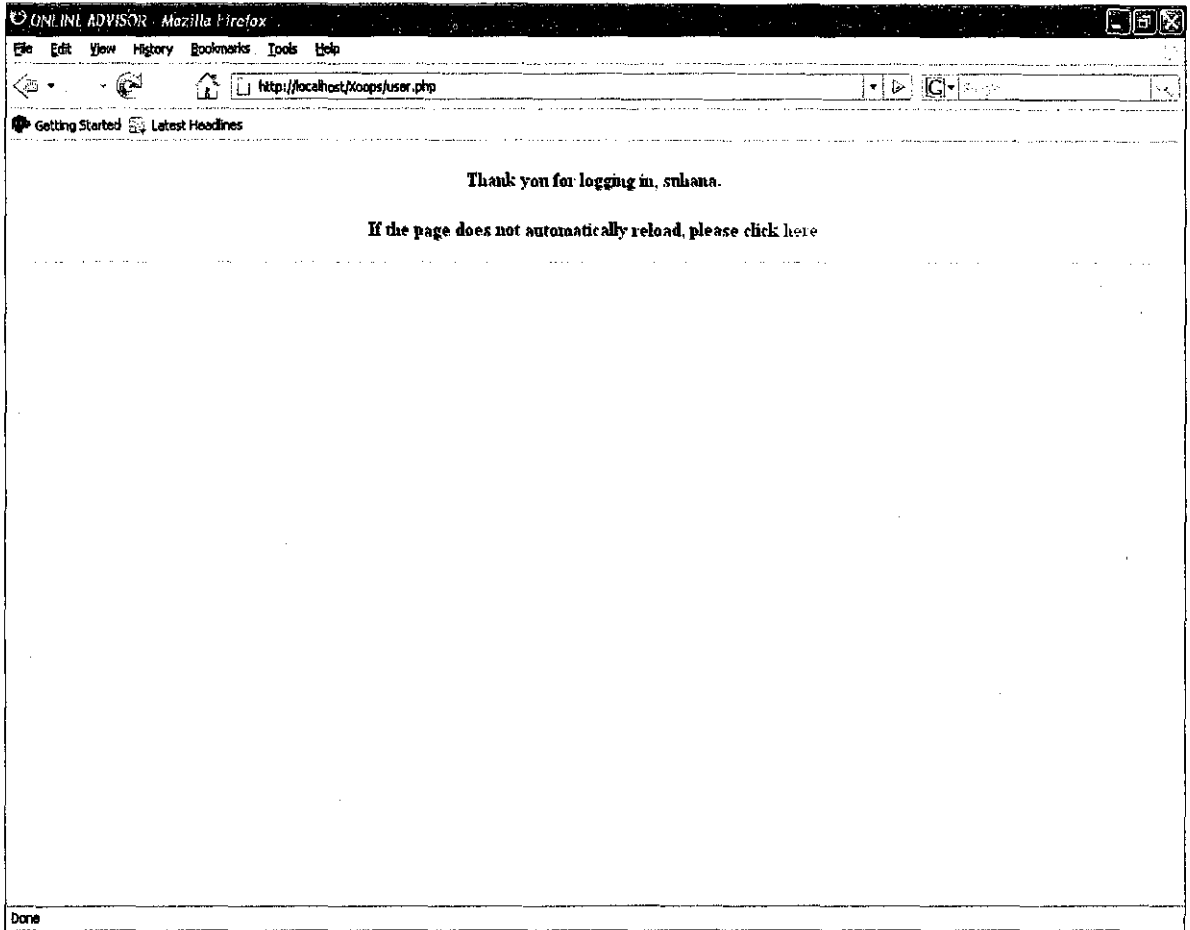
**Successful Login**

**Home Page**
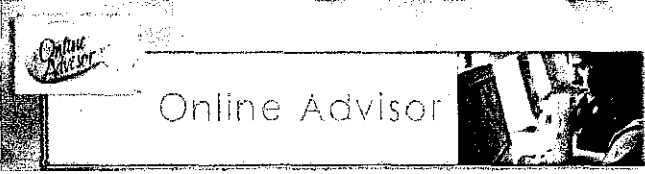
User Menu

Financial
Management

Time Management

Stress Management

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Online Advisor

Financial Management »» Answer All Questions

| Financial Management Related Issues |
|---|

How much is your monthly budget?

a) RM350-RM500 b) RM500-RM700 c) RM700 and More

Which part is the most area you spend your money?

a) Paying HP Bill b) Shopping c) Educational Used

Do you have a financial budget for every month?

a) Yes b) No c) Not Sure

Do you allocate an amount for your saving account?

a) Yes b) No c) Not Sure

Are you borrowing money or using credit cards to pay for things you used to buy with cash?

a) Yes b) No c) Not Sure

Submit

Friday, 2 November, 2007

Done

**Financial Management Page**
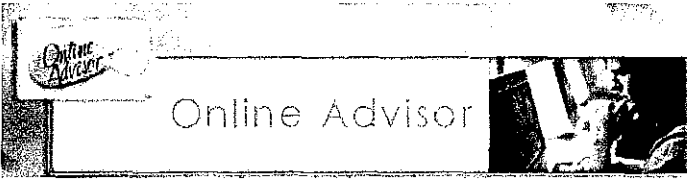
User Menu

Financial Management
Time Management
Stress Management
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Online Advisor

## Results for financial management analysis

| Level of Financial | Explanation | Solution |
|---|---|---|
| Good Financial Plan | You have a good budget and plan well in your financial | Keep up the good work! |

Friday, 2 November, 2007

**Result for Financial Management**

**User Menu**

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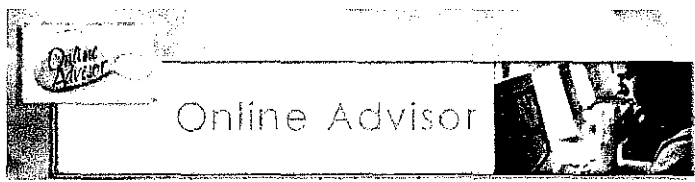
Time Management »» Answer All Questions

| Time Management Related Issues | |
|---|---|
| **Do you feel overloaded with too much work?** a) Yes b) No c) Not Sure | |
| **Is your schedule so crammed full of activities that you don't have any time to breathe?** a) Yes b) No c) Not Sure | |
| **Do you feel busy during the day but realize when it's time to leave that you really didn't make that much progress?** a) Yes b) No c) Not Sure | |
| **Have you missed important assignments or meetings?** a) Yes b) No c) Not Sure | |
| **Do you have problems getting started when you are assigned a new project?** a) Yes b) No c) Not Sure | |
| **Do you have trouble figuring out what you need to do?** a) Yes b) No c) Not Sure | |
| **Do you spend more than half your time dealing with crisis after crisis?** a) Yes b) No c) Not Sure | |
| **Do you find it difficult to plan because there is always something unexpected that comes up?** a) Yes b) No c) Not Sure | |
| **Do you feel under intense time pressure as deadlines approach?** a) Yes b) No c) Not Sure | |
| **Do you have trouble starting your projects early enough to avoid the late time crunch?** a) Yes b) No c) Not Sure | |

Submit

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Done

**Time Management Page**

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## Results for time management analysis

| Type of Person | Explanation | Solution1 | Solution2 | Solution3 |
|---|---|---|---|---|
| Unsystematic | Fail to finish work on time | Have a planner for every day | Manage time properly: allocate things to do well | Focus on important things first |

Friday, 2 November, 2007
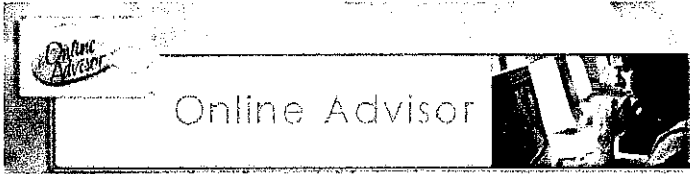
**Result for Time Management**
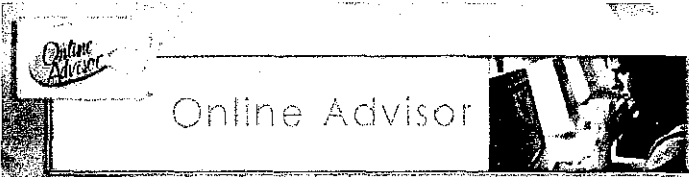
File  Edit  View  History  Bookmarks  Tools  Help
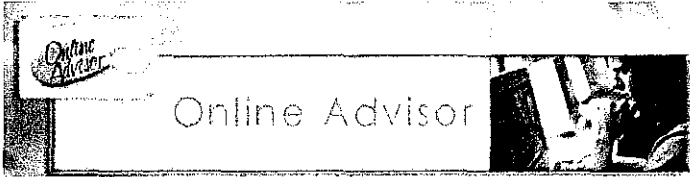
http://localhost/xoops/stressAdd.php

Getting Started  Latest Headlines

**User Menu**

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Online Advisor

Stress Management »»» Answer All Questions

| Stress Management Related Issues |
|---|

**How many times per week you get stressed?**

a) Never  b) 1-3 times  c) More than 3 times

**Usually at what time did you get it?**

a) In the morning  b) In the evening  c) At night

**How did you feel when it attact you?**

a) Headache  b) Sleepless  c) Moody and hypersensitive

**How long it takes?**

a) Less than 1 hour  b) 1-2 hours  c) More than 2 hours

**Did you sleep about 4 to 8 hours per day?**

a) Never  b) Sometimes  c) Usually

Submit

Friday, 2 November, 2007

Done

# Stress Management Page

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Online Advisor

## Results for stress management analysis

| Level of Stress | Explanation | Solution |
|---|---|---|
| Episodic Stress | stress is once-in-a while, tends to seem angry | Get enough sleep, exercise regularly, eat a balanced nutricious diet |

Friday, 2 November, 2007

Done

**Result for Stress Management**

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Done

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