

Virtual Personal Assistant: Student Organizer Gadget

by

Siti Nurnazihah Ahmah Sawal

Dissertation submitted in partial fulfillment of
the requirements for the
Bachelor of Technology (Hons)
(Information Communication Technology)

JULY 2007

Universiti Teknologi PETRONAS
Bandar Seri Iskandar
31750 Tronoh
Perak Darul Ridzuan

CERTIFICATION OF APPROVAL

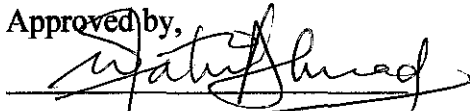
Virtual Personal Assistant: Student Organizer Gadget

by

Siti Nurnazihah Ahmah Sawal

A project dissertation submitted to the
Information Communication Technology Programme
Universiti Teknologi PETRONAS
in partial fulfillment of the requirements for the
BACHELOR OF TECHNOLOGY (Hons)
(INFORMATION COMMUNICATION TECHNOLOGY)

Approved by,



(Dr. Wan Fatimah Wan Ahmad)

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 that the original work contained herein have not been undertaken or done by unspecified sources or persons.



SITI NURNAZIHAH BINTI AHMAH SAWAL

ABSTRACT

Virtual Personal Assistant is a Microsoft Windows Vista Gadget that acts as a so-called wizard that will assist the users, in this case the students, in performing tasks in their local computer. The objective of this project is to develop a human-like virtual personal that will be an organizer as well as a digital companion. The research will cover the Virtual Personal Assistant, the Avatar and Windows Vista Gadgets. The methodology will be divided into two major parts, research methodology and design methodology. For the research methodology, questionnaire and observation will be used as tools to gain user requirements. The evolutionary system with iterative prototyping and some custom defined project phase development will be used for the design methodology. The prototype will be enhanced accordingly with the user requirements. The main focus of this project is the user requirements and how this application can ease up the task by making computer environment a more user-friendly. As for the conclusion, this system will be an evolutionary of an organizer in local computer. It will take the experience of using a computer to a whole new level.

ACKNOWLEDGEMENT

First of all, I would like to thank Allah S.W.T, for given me faith and strength to pursue on this project.

This work would not have been possible without the support of my supervisor, Dr. Wan Fatimah Wan Ahmad for supervising me and for all the time she spent to facilitate me. As my teacher and mentor, she has taught me more than I could ever give her credit for here. She has shown me, by his example, what a good lecturer (and person) should be.

I am especially indebted to Mr. Mohd Khairul Zahrir Bin Ahmed Lokman, who have been supportive of answering all my inquiries and who worked actively to provide me with the initial idea and help.

I am grateful to all of those with whom I have had the pleasure to work during this and other related projects.

Nobody has been more important to me in the pursuit of this project than the members of my family. I would like to thank my parents, whose love and guidance are with me in whatever I pursue. They are the ultimate role models, who provide unending inspiration.

TABLE OF CONTENTS

CERTIFICATION	. . . . .	i
ABSTRACT	. . . . .	iii
ACKNOWLEDGEMENT	. . . . .	iv
TABLE OF CONTENTS	. . . . .	v
LIST OF FIGURES	. . . . .	vii
LIST OF TABLES	. . . . .	vii
ABBREVIATIONS	. . . . .	viii
CHAPTER 1:	INTRODUCTION	1
	1. Overview	1
	1.1. Background Study	1
	1.2. Problem Statement	3
	1.2.1. Problem Identification	3
	1.2.2. Significant of the Project	4
	1.3. Objectives and Scope of Study	5
	1.3.1. Objectives	5
	1.3.2. Scopes of Study	5
CHAPTER 2:	LITERATURE REVIEW AND THEORY	6
	2. Overview	6
	2.1. Virtual Personal Assistant	7
	2.2. Avatar	7
	2.3. Avatar as a Student Organizer.	13
	2.4. Application Effectiveness	14
CHAPTER 3:	METHODOLOGY	15
	3. Introduction	15
	3.1. Research Methodology	15
	3.1.1. Questionnaire	15

3.1.2.	Observations and Surveys	. . .	16
3.2.	Design Methodology	. . .	16
3.2.1.	Revolutionary Methodology	. . .	17
3.2.2.	Iterative Prototyping	. . .	17
3.2.3.	Tools	. . .	18
CHAPTER 4:	RESULT AND DISCUSSION	. . .	19
4.	Introduction	. . .	19
4.1.	Research on Student Behavior.	. . .	19
4.1.1	Initial Research	. . .	20
4.1.1.1.	Finding	. . .	20
	Section 2	. . .	20
	Section 3	. . .	23
	Section 4	. . .	23
4.1.1.2.	Discussion on Finding.		24
4.1.2.	Post Research	. . .	25
4.2.	Relevant Areas to be Focused On	. . .	26
4.3.	Screen Captures and Description	. . .	27
CHAPTER 5:	CONCLUSION AND RECOMMENDATION	. . .	34
5.	Overview	. . .	34
5.1.	Conclusion	. . .	34
5.2.	Recommendation	. . .	35
REFERENCES	. . . . .	. . .	36
APPENDICES	. . . . .	. . .	39
	Appendix 1: Initial Research Questionnaires		
	Appendix 2: Post Research Questionnaires		
	Appendix 3: Gantt Chart FYP 1		
	Appendix 4: Gantt Chart FYP II		
	Appendix 5: Source Code		

LIST OF FIGURES

Figure 2.1	Windows Gadgets attached to Sidebar	7
Figure 2.2	Attractive avatars (Kim and Tom)	10
Figure 2.3	Credible avatars (Dr. Anne Schneider and Dr. Norbert Oswald)	10
Figure 2.4	No avatar (control group)	10
Figure 2.5	Zwinky character as an avatar	12
Figure 2.6	MsDewey - the usage of Avatar in website	13
Figure 4.1	Pie Chart on Computer Owning	21
Figure 4.2	Pie Chart on Operating System of Usage	21
Figure 4.3	Pie Chart on Purchasing Windows Vista	22
Figure 4.4	Pie Chart on Having Organizer Application in Own Computer	22
Figure 4.5	Pie Chart on Organizing Tools Used	22
Figure 4.6	Pie Chart on Experiencing Using Avatar	23
Figure 4.7	Pie Chart on the Likelihood of Having Virtual Personal Assistant	23
Figure 4.8	Pie Chart on Functionalities of the Gadget	24
Figure 4.9	Pie Chart on Avatar Representation	24
Figure 4.10	Pie Chart on User Friendliness	26
Figure 4.11	Pie Chart on Meeting the Requirements	26
Figure 4.12	Gadget Main Screen	27
Figure 4.13	Gadget Settings Screen.	28
Figure 4.14	Gadget Task Management Option Screen	29
Figure 4.15	Gadget Academic Folder Screen	30
Figure 4.16	Gadget About Screen	31
Figure 4.17	Gadget Help Screen	32
Figure 4.18	Gadget Appointment Info Flyout	33

LIST OF TABLES

Table 2.1	Mean and standard deviation of Americans' and Germans' perceptions of eight dependent variables, based on avatar treatment received	11
Table 3.1	Iterative/Evolutionary Prototyping	17

ABBREVIATIONS

GUI

Graphical User Interface

XPARC

Xerox Paulo Alto Research Centre

VOIP

Voice over Internet Protocol

MP3

MPEG-1 Audio Layer 3

PDA

Personal Digital Assistant

VA

Virtual Assistant

PSA

Personal Service Assistant

CHAPTER 1

INTRODUCTION

1. OVERVIEW

What would be like if a character-like human appears on the screen greeting the user with 'Hello' each times the user login to the computer? This character, avatar (a graphical image of a user, such as used in graphical real-time Chat applications, or, a graphical personification of a computer or a computer process, intended to make the computing or network environment a more friendly place) (Sigel, 1999) will be the personal assistant that will act as an organizer for daily task.

1.1. Background of Study

The essential part of being a student is to be organized. The hectic life of a student to manage the time between attending lectures, doing research for projects as well as involving in extra-curricular activities, requires lots of skills to maintain a well-balanced life.

With everything to keep up with, students should really have the proper products to keep them organized such as a notebook, planner or a Personal Digital Assistant (PDA). The invention of these products will not only make their lives easier, but they will cut out all the wasted time college students spend looking for assignments, supplies, and remembering what they are supposed to be working on.

Although this black and white paper based planner/notebook will provide the fundamental of organizing events but these products lack of interactivity and sometimes can be cumbersome. As well as using a PDA, it may become interactive but functionality could be sophisticated and hard to learn. Furthermore, not many students own a PDA especially the UTP student.

Many students perceive their computer as their companion. They do their research and work in their computer. Mostly, each of the students mainly university student has their very own computer. This gives an advantage to create an organizer which resides in their local computer that will help them to organize their work as well as being their companion.

The study will focus on how this organizer can be embedded into an avatar that can be used as a medium tool for the user to interact with the computer. An avatar is a virtual representation of a person or a person's interactions with others in a virtual environment, examples include the graphical human figure model, the talking head, and the real-time reproduction of a three-dimensional human image.

The user requirements are the major factor in developing the product where a research will be conducted in the determination of the functionality of the avatar. In this case, the functionality of the avatar will be focusing on the environment of students.

In order to make it more interesting, 3D character will be embedded and will be a standalone application. To make use of the latest innovation from Microsoft, this application will be as a gadget in the Windows Vista Operating System environment. A gadget is a mini-application for the Windows Vista desktop or the Windows Live personal portal. It is the Windows counterpart of the Macintosh "widget."

1.2. Problem Statement

1.2.1. Problem Identification

The problem arose when most of the students have problem in managing their time and to be organized. Even with the help of a planner, the students sometimes tend to forget important tasks that they need to do such as submitting their projects or attending special seminar. There is much information to be absorbed and many things need to be done. Many paper-based planners only provide the fundamental functions of calendar and the person need to write the information according to the date/day/time specified. The product does not provide an on-time reminder as to remind the student about the event.

According to the research made by Levine (1999), students vary widely in their appreciation of time and how it works, especially when it comes to meeting demands related to study-related work. Some individuals seem afloat in a misty time warp! They have trouble allocating time, estimating time, meeting deadlines, knowing when they are running behind or ahead of time, and contending with schedules. In short, they lack time management skills. They are apt to do too many things in a shoddy manner in a panicked frenzy at the last minute. They run out of time. They run away from time.

Many students experience frustration with the managing task, an ever-growing demand as they progress through their university years. They need to satisfy requirements imposed by multiple lecturers, their parents, their recreational activities, and other commitments. This requires judicious resource allocation, prioritization, and planning. Students who are easily overwhelmed in the face of multiple demands may come apart at the academic seams.

The natural habit among UTP students is to do their job in the very last minute. There is always a problem with the late submission of project or assignments. There is a quite number of projects need to be submitted every semester and the submission date for all these projects are always at the very end of the semester where the final

examination is around the corner. This eventually, will effect their grading for GPA/CGPA and the time they need to study for the final examination.

Maybe the innovation of PDA can help a lot in organizing task. But this gadget provide a sophisticated organizing software which is hard to understand and not-easy to learn. Most of the PDAs are equipped with business-oriented kind of software. This gadget does not cater for the student and not many of them own a PDA.

It would be better if there is an interactive organizer which is easy to learn and cater for student needs. It also works as an embedded avatar which may react as your virtual pets which the user can play with. If ask a student whether they want to have a formal organizer or an interactive one, of course they will choose to have the interactive one.

1.2.2. Significant of the Project

As researches were done, the number one indicator of effective learning; which is highly correlated with student achievement, is the organization of the course. Organization is not a personality trait or an inborn talent.

According to Lavine (1999), students who are well organized in time are able to plan their week in advance. They can stage their work output appropriately. For example, students with good timing know when they need to start reading a book in order to finish it and write a report to be submitted on a specific date. They seem to have a clear sense of what to do when. Such a child or adolescent can work with schedules and calendars and can pace them when to take an exam, studies for a test, or writes a report is unlikely to procrastinate. This eventually will create effective learning because they only need to concentrate in their studies because they already finish all their work.

There are many children and adolescents who require support and instruction to become better organized in school. This indicates that by organizing time and material, can lead to help smooth out academic challenge. The students need to have some sort of tools to help them support and instruction to organize their task. The

Virtual Personal Assistant will help the student to alarm/remind them whenever they need to submit work, reminding on appointment and managing their work files.

1.3. Objective and Scopes of Study

1.3.1 Objective

The objective of this study is as follows: -

- To develop a human-like virtual personal assistant that will be an organizer as well as a digital companion.

1.3.2. Scopes of Study

The final product (prototype) development will include the virtual personal assistant with required functionality:-

- To provide a more interactive organizer which cater for the needs of students.
- To be a reminder of important events and task submission.
- To be a centralized control system for managing files and folders for the academic subjects.

CHAPTER 2

LITERATURE REVIEW AND THEORY

2. OVERVIEW

“The future is in gatekeepers ... virtual butlers. Building intelligent fortresses to filter our information flow, to bring in the good stuff, throw out the junk, let in our friends, and eradicate the electronic vermin.

While today’s virtual assistants are real live people, working from remote locations, tomorrow’s virtual assistants are likely to be software agents.

With a nod to Ask Jeeves, our personal butlers will handle the mundane chores with a minimum of instruction. The nascent “follow me” technologies of today’s VOIP systems will evolve to become full-fledged personal assistants. Yesterday’s Webley will become tomorrow’s uber-Rosie, brought by Roomba. Today’s novelty celebrity ringtones will morph into celebrity-voiced virtual agents.”

Gray (2005)

A literature review is an account of what has been published on a topic by accredited scholars and researchers. These resources used to emphasize on the project topics and give a presentation on themes or identify trends, including relevant theory. To convey more understanding, this literature review will include important elements of the project; the review on virtual personal assistant, avatar and implementing the whole system as an organizer.

2.1. Virtual Personal Assistant

There were many definitions regarding the term 'Virtual Personal Assistant'. Some of the terms are defined as an 'administrative assistant' in a conventional office but to the 'on-line' world, they are called 'virtual assistants'. They are both the same type of people but with one major difference: a VA works from their own office and uses their own equipment instead of being physically present in your office to carry out the work.

But for this project, the Virtual Personal Assistant is defined as a gadget that is implemented in Windows Vista Operating System that act like an organizer which help the student to manage their task in their local computer.

The definition taken from Microsoft Gadget - Windows Vista: Feature Explained: Windows Sidebars and Gadgets (1997) on Microsoft Gadget, a gadget is light-weight single-purpose applications that can sit on the user's computer desktop, or hosted on a web page. According to Microsoft, it will be possible for the different types of gadgets to run on different environments.

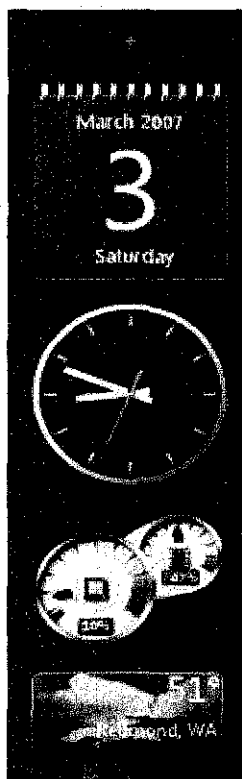


Figure 2.1: Windows Gadgets attached to Sidebar

There were researches done regarding implementing a virtual assistant in local computers to help the user to use the computer. According to Arafa (2000), current work in the Agent and Human-Computer Interaction communities have brought together an interface metaphor that acts as a mediator between human and computer, so called, the Personal Service Assistant (PSA). This work shows growing evidence that the PSA metaphor will shape the communication medium of new generation interfaces.

As what a project that has already been implemented; the Narval project from the Linux Gazette has developed an application that the user can create their sequence of action and named it as recipe. Narval executes recipes that are sequences of actions linked by transitions. An action can be downloading a web page, performing a database query, transforming a piece of XML, sending an e-mail or whatever the user may want to wrap in a few lines of python code. Conditions can be associated to transitions so that the user can control the execution path through the graph representing a recipe. That gives the basic vocabulary to control the flow of execution through different branches of your recipe and to coordinate concurrent tasks

According to Chauvat (2006), Narval will helps in the project group of developers to coordinate projects. Each of the developer has their own Narval that assists the programmer by filtering out junk ads from web pages, fetches the daily cartoons, summarizes in one page the news from different web sites, checks the agenda and sends reminders for appointments, accepts voice commands and answers using text-to-speech free software (Chauvat, 2000).

The FIPA Personal Assistant (PA) project which is a software agent that acts semi-autonomously for and on behalf of a user, modelling the interests of the user and providing services to the user or other users and PAs as and when required. A PA is like a secretary, it accomplishes routine support tasks to allow the user to concentrate on their real job. It is unobtrusive but ready when needed and rich in knowledge about user and their areas of work. The functionality of this software is managing a user's diaries, filtering and sorting email, managing a user's desktop environment, managing a user's activities, plans and tasks, locating and delivering multimedia

information, recommending entertainment, purchasing desired items, and, planning travel (Odell, 2001)

People have presumed that in the new generation, there will be a revolutionary of communication medium where people want to use a mediator between human and computer. This project as what have mentioned, will be a mediator between the human and the computer. The creation of this virtual personal as an organizer will help the user to interact with the computer as to manage their academic related files.

Most of the projects that have been developed are business oriented or focusing in the perspective of an organization. It would be beneficial if there is a personal assistant embedded in local computers which caters for student.

2.2. Avatar

The representation of human-like character that will be the system that acts as the middle part. This application will take user input and will communicate with the computer to execute the user command. This representation is called avatar.

An avatar is an Internet user's representation of himself or herself, whether in the form of a three-dimensional model used in computer games, a two-dimensional icon used on Internet forums and other communities, or a text construct found on early systems. The term "avatar" can also refer to the personality connected with the screen name, or handle, of an Internet user.

Johansen (2005) did the comparison between website that uses avatar and the one that does not use any avatar. Table 2.1 indicates the result that has been collected with Americans and Germany residency with the Credible and Attractive Group were sampled with the avatar and the Control Group without the Avatar. (Refer to Figure 2.1, 2.2 and 2.3).

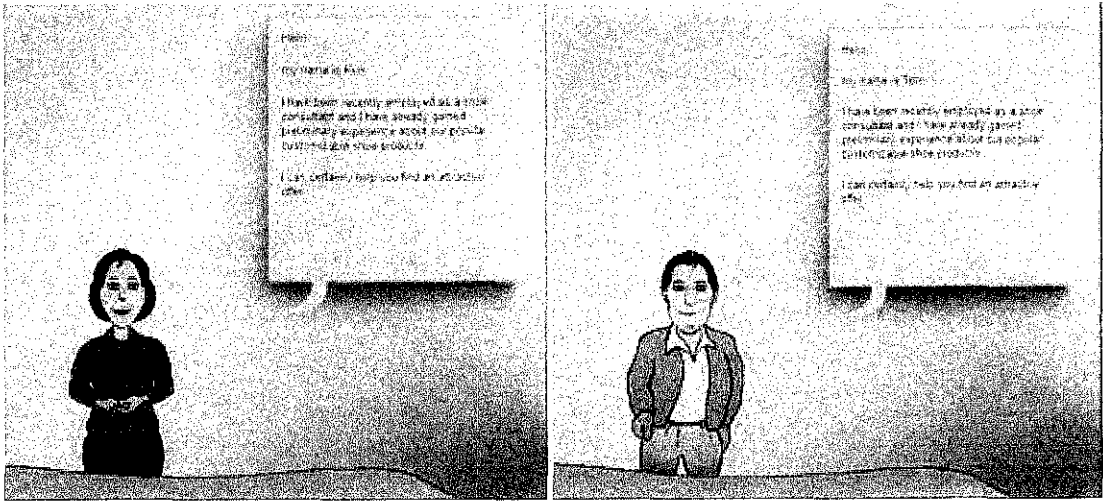


Figure 2.2: Attractive avatars (Kim and Tom)

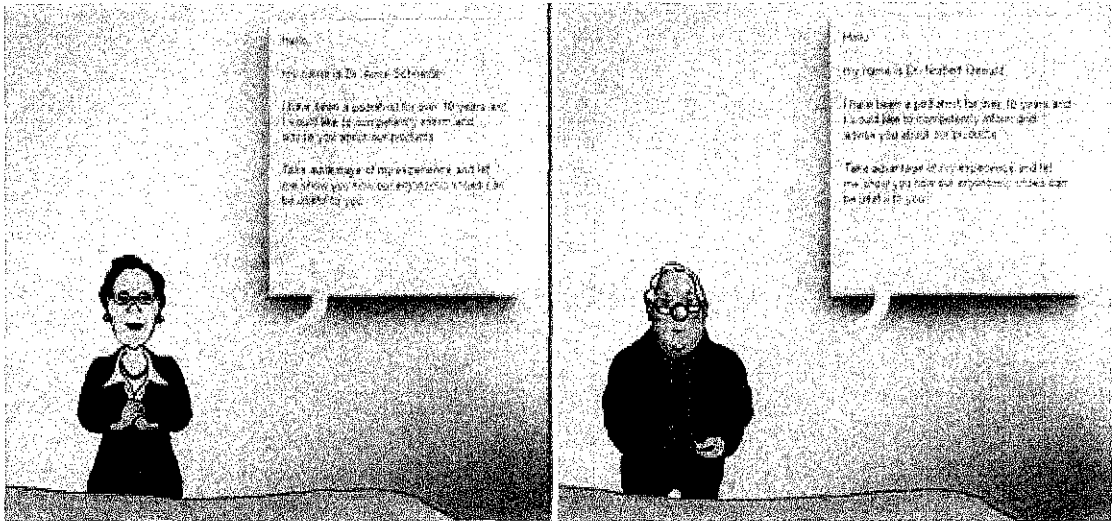


Figure 2.3: Credible avatars (Dr. Anne Schneider and Dr. Norbert Oswald)

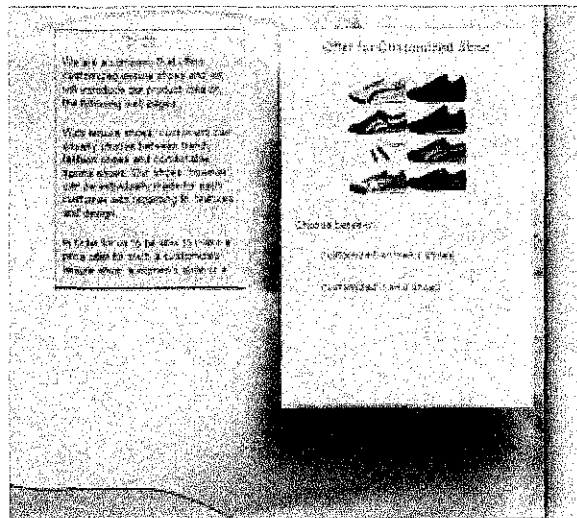


Figure 2.4: No avatar (control group)

Figure 2.2 is a sample where attractive young characters are used and Figure 2.3 is using credible avatars with sophisticated look to attract people. These avatars are used in websites for which its content is correlated with their age range represented by the avatars. Figure 2.4 is the example of websites that were being tested without the usage of avatars.

Table 2.1: Mean and standard deviation of Americans' and Germans' perceptions of eight dependent variables, based on avatar treatment received

Mean and standard deviation of Americans' and Germans' perceptions of eight dependent variables, based on avatar treatment received

Type	Credible Group				Attractive Group				Control Group			
	USA		Germany		USA		Germany		USA		Germany	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
sitee	3.786	1.285	4.246	1.426	3.977	1.291	4.273	1.391	3.855	1.563	3.908	1.434
sitei	4.175	1.311	4.041	1.489	4.008	1.311	4.000	1.166	3.841	1.654	3.539	1.166
sited	4.238	1.402	4.229	1.383	3.955	1.547	4.046	1.533	4.087	1.246	3.989	1.484
siteg	4.667	1.369	5.037	1.187	4.466	1.476	4.955	1.297	4.652	1.634	5.106	1.319
sitec	3.992	1.035	4.056	1.194	3.886	1.010	4.055	1.192	3.812	1.201	3.702	1.216
prod	4.373	1.185	4.417	1.462	4.242	1.355	4.491	1.456	4.420	1.311	4.106	1.547
sat	3.730	1.463	3.373	1.379	3.750	1.416	3.821	1.369	3.754	1.548	3.241	1.292
buy	3.413	1.659	3.455	1.695	3.432	1.571	3.718	1.691	3.333	1.608	3.142	1.732

M: mean value SD: standard deviation
sitee: Web site entertainment value sitei: Web site information value sited: Web site graphic design
siteg: Web site conceptual design sitec: Web site credibility sat: user satisfaction
prod: attitude toward product buy: buying intention

Table 2.1 displays the means and standard deviations of the results from each of the eight dependent variables tested using credible avatars. The conceptual design of the Web site, however, was the only dependent variable that yielded a highly significant result ($p < .001$ at $\alpha < .05$). From this table, the majority of the analyses showed a positive trend in consumer attitudes influenced by the use of avatars. Such identical responses show that the avatars were comparably effective for both groups; the Americans and Germans.

This shows that, implementing an avatar in a website will increase the level of users that will access through that website. This is a good sign on developing a character or avatar in local computer. Most of the avatars are embedded online in websites; this project has the advantage of embedding the avatar in local computer instead of making it online.

The cute and adorable feature of these avatars making it to be more interesting to play with. As for Zwinky avatars, the ability to changes the facial features or any body parts making it as virtual dolls; a new generation dolls replacing the real dolls. As for Miss Dewey Search Engine, the interaction that she gave whenever the user want to search or query for something making it as a unique search engine compared to others.

So, using an avatar as a metaphor to communicate between human and the computer seems a good idea. This application is not only going to be their assistant in managing their task but also a companion. The cute and adorable features that can be embedded in this application can be attractive features.

Student's life sometimes could be hectic and stressful. They do lots of their work in their computer. Whenever they want to reduce stress, they can play with the avatar.

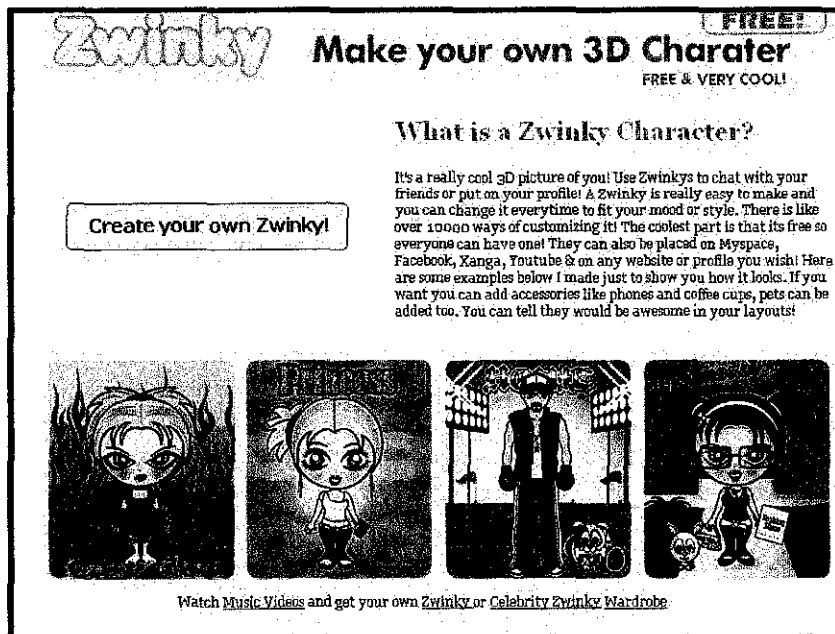


Figure 2.5: Zwinky character as an avatar (zwinky.com, 2007)



Figure 2.6: MsDewey - the usage of Avatar in website

2.3. Avatar as a Student Organizer

“Being organized can reduce the amount of stress felt in daily life, and make it easier to get things done.”
(The Parent Institute, 2007)

It is crucial for the student to get organized and to get things done, especially in the life of a student. Being organized often contributed to the secret of success. With the help of some external sources; such as an application that will help the students to assist with their daily activities, the students will have the ability to perform better in their studies. When things are organized, the percentage to perform well in studies may become higher. The students no need to worry about managing their assignments, projects, class schedule or anything. They only need to concentrate on their studies.

Four principal modes of organization can lubricate a mind's gears to help smooth out any academic challenge. The slightly overlapping organizational modes include: 1) the management of time; 2) the management of material; 3) the use of strategies; and 4) the integration of multiple tasks and task components. Some students make use of these organizational modes independently, spontaneously, and adeptly, while, for others, one or more of these ways of getting one's act together comprises a serious obstacle to quality schoolwork. (Levine, 1999)

As human tends to forget and always need to be reminded, an application that works to play as reminder and organizer is useful. Unfortunately, for some students who do not care about managing their time efficiently, this kind of so called “formal organizer” is something that does not interest them.

Microsoft has just released the latest edition for its range of operating system; Windows Vista. This gives an opportunity to develop a gadget that is not only fun but also interactive to be an organizer.

As the virtual character is just “an outer layer or mask” for the student organizer, the objective of teaching and helping students to organize their time generally is a good idea.

2.4. Application Effectiveness

The effectiveness of the application in terms of user friendly has been taken into consideration. The mission to create a user friendly type of software is crucial because the level of tendency the user will use this program is also depends on the user friendliness criteria.

The research that has been conducted by Doll (1988) emphasizing on the terms that are taken into account in developing a user friendly application are content, accuracy, format, ease of use, and timeliness. These are the essential elements that are emphasized in developing this gadget.

CHAPTER 3

METHODOLOGY

3. INTRODUCTION

In methodology part, it will be divided into two main sections, which are Research Methodology and Design Methodology. The research methodology is basically on how the data will be collected and how the is being used to extract user's requirement. On the other hand, design methodology is about the development of final prototype product. Both sections need to be combined to ensure the successfulness of the project.

3.1. Research Methodology

Questionnaire will be used as the main tool to gather information from various backgrounds of users. It will then be supported with observations and surveys that will be conducted throughout the research process.

3.1.1. Questionnaire

Questionnaire is particularly to define the functionality of the avatar in the context is of user's computer usage. Questionnaire can be easily distributed among the users which can ensure the information comes from various backgrounds. The variations are including demographic information (such as gender and age), computer usage experience and respondent opinion. The questionnaire will be design so that it will produce a fair and distributed results. There are two phase of the questionnaires, the initial research questionnaires will ask on the interest of student in using the gadget and defining the user requirements whereas the post research questionnaires is about the satisfaction level of the application in terms of user friendly and effectiveness.

3.1.2. Observations and Surveys

Observations and surveys will be conducted throughout the research process. Users will be observed on how they manage their daily task using a personal organizer and how they interact with the computer. The survey is to evaluate the functionality for the avatar. The need of observation and survey arose when not all of the respondents willingly being honest and give true data. Some of them would feel annoyed by the questionnaire.

3.2. Design Methodology

The methodology that will be used to develop this project is the iterative methodology with iterative prototyping. The usage of the prototype is that it provides an early look at the solution and it allows the customer to develop a better set of requirements through an iterative process. So, it will be discussed in briefly in the next section afterwards.

3.2.1. Revolutionary Methodology

The revolutionary methodology emphasizes creating a series of working prototypes for evaluation by the users until the objectives are accomplished and the system is ready for final release. During the process, it is critical for the actual project to balance the user's requests against the overall system constraints and platform limitations to ensure that quality and performance objectives can be met. Strengths of this system is the rapid feedback from actual users, flexibility to address evolving requirements, design flaws discovered quickly, easy to roll-out new functionality in stages, higher motivation and great productivity and very little knowledge loss between phases. (Sommerville, 2005)

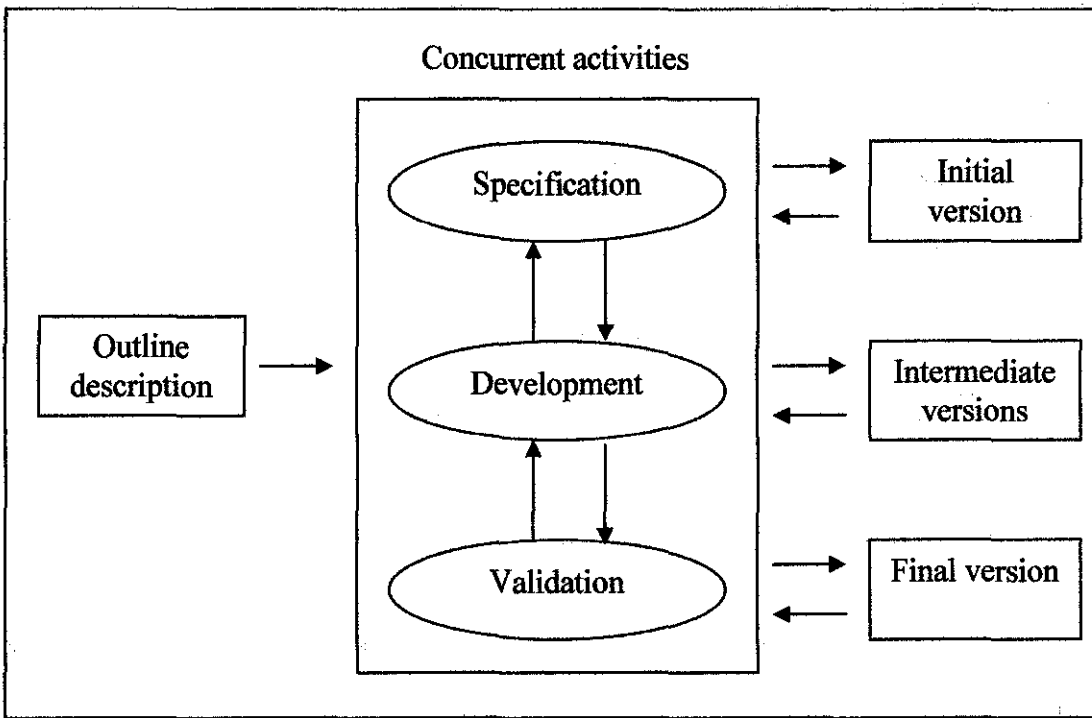


Table 3.1: Evolutionary Prototyping

3.2.2. Iterative Prototyping

This iterative prototyping is a method where a sequence of development and testing, each stage benefiting from what was learned before. Verification is proof through testing that the solution achieves the desired results. The functionality is enhanced each time for new improvement and the prototype will be revolutionizing to meet these requirements. To develop a prototype, the developer must outline the basic description of the application. Then, after it has gone through the specification from the user it will undergo the process of development. After the product has been develop, a certain criteria need to be validated before the prototype will be executed as an initial version. The same process has to be undergoing again to create intermediate version and the final version.

3.2.3. Tools

The tools that are needed to develop this application are:-

- Software

- Windows Vista Operating System
- Macromedia Director
- Macromedia Flash
- Macromedia Dreamweaver
- Adobe Photoshop
- NetBeans 5.5.1
- JCreator LE
- Poser

- Hardware

- More than 256 MB of graphics memory
- DirectX® 9 with Pixel Shader 2 in hardware, 32 bits per pixel.
- Windows Display Driver Model (WDDM) support.

CHAPTER 4

RESULT AND DISCUSSION

4. INTRODUCTION

In this section, there are two main parts which is result part based on the observations and questionnaires, and discuss the project point of view in various ways.

4.1. Research on Student Behavior

4.1.1. Initial Research

30 students from various backgrounds have been selected to fill in the questionnaires. This group of people has been selected as sample for the project. The selection of people has been done randomly and not being bias. Therefore, it can be assumed that this sample can represent students in overall view. The questionnaires have been divided into 4 sections. This is the initial finding and the objective or scope of this finding is to determine whether the students have the interest to use this kind of gadget and to determine the functionality of the gadget itself.

The sections are:

- Section 1: Student Information
- Section 2: Personal Computer Usage
- Section 3: Avatar Usage
- Section 4: Respondent Opinion

Section 1: Student Information

In Section 1, the most important thing here is to show that actually the sample is reliable to represent the whole UTP students' population. The sample is proven efficient since the result on gender and programme survey shows that it is well distributed between the options.

Section 2: Personal Computer Usage

In Section 2, the computer can be considered as a must have equipment for students these days. These items are essential in the learning process. Most of the students use product of Microsoft as their operating system and they would definitely purchased the latest operating system; Windows-Vista in the future. From the survey, conclusions can be made that many of the students don't have proper organizing tool even in their personal computer and just jot down their task or event in a note book.

Section 3: Avatar Usage

Concretely here, students have the experience of using avatar in their life

Section 4: Respondent Opinion

All of the students that have completed the questionnaires did think that having a virtual personal assistant that can be an organizer which resides in their computer is a great idea. The basic functionality of appointment reminder, managing task files and task reminder has been defined. Most of them like to have a human-like character for their avatar.

4.1.1.1. Finding

Section 2: Personal Computer Usage

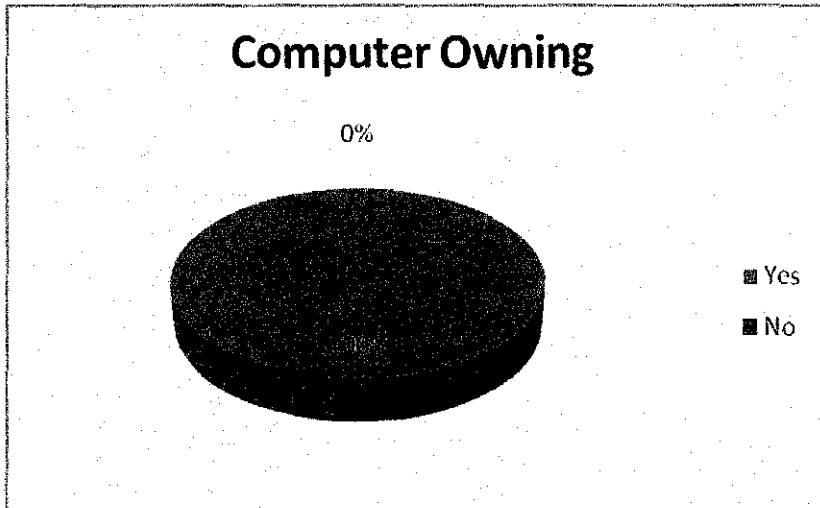


Figure 4.1: Pie Chart on Computer Owning

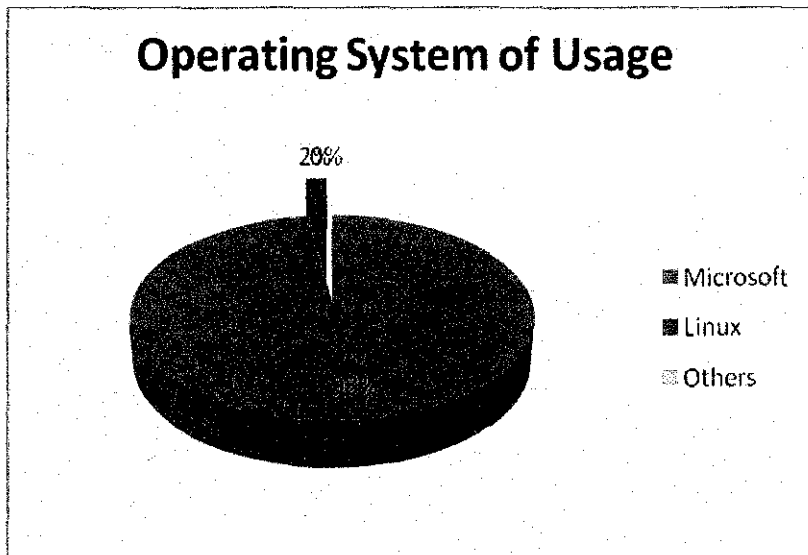


Figure 4.2: Pie Chart on Operating System of Usage

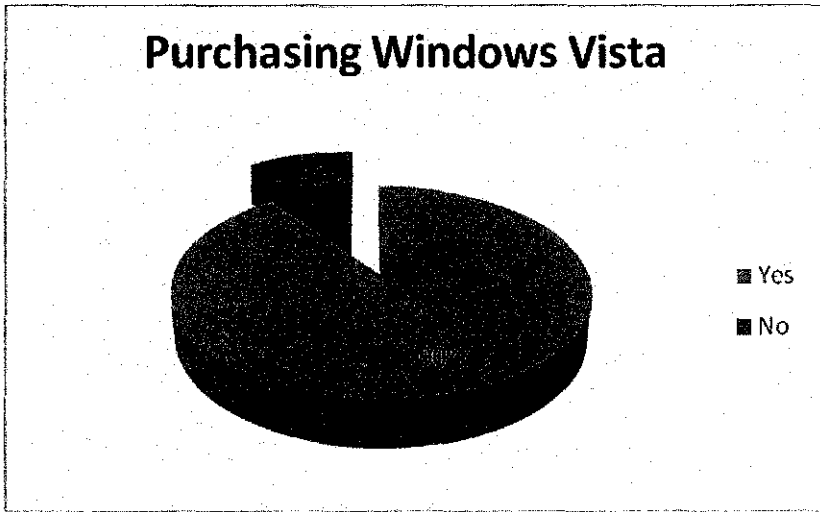


Figure 4.3: Pie Chart on Purchasing Windows Vista

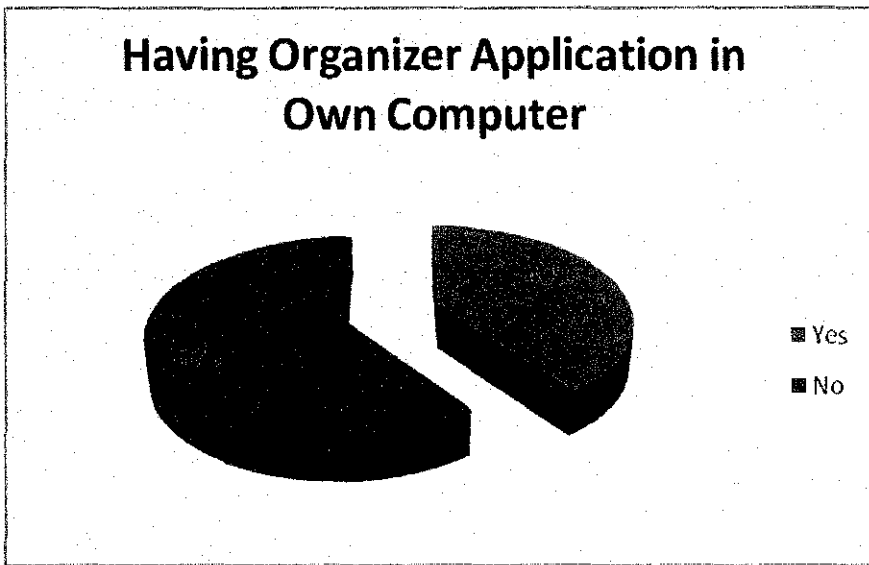


Figure 4.4: Pie Chart on Having Organizer Application in Own Computer

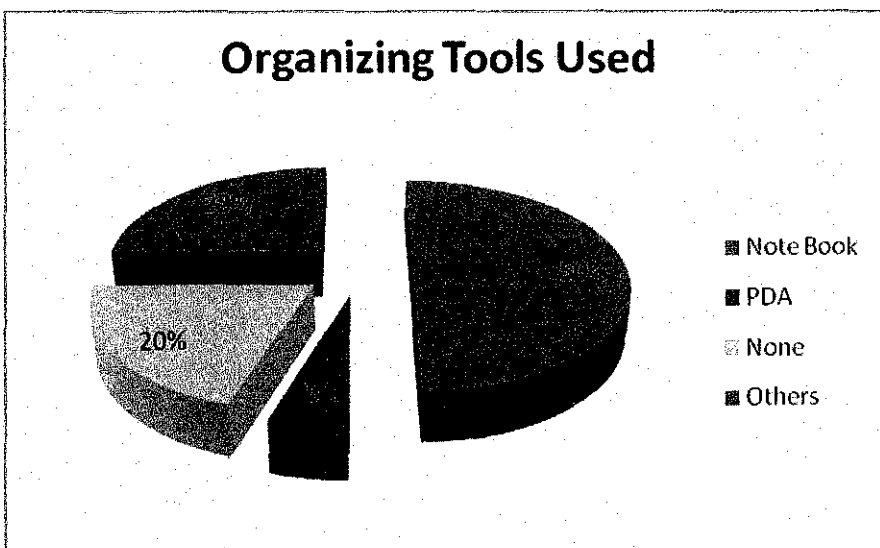


Figure 4.5: Pie Chart on Organizing Tools Used

Section 3: Avatar Usage

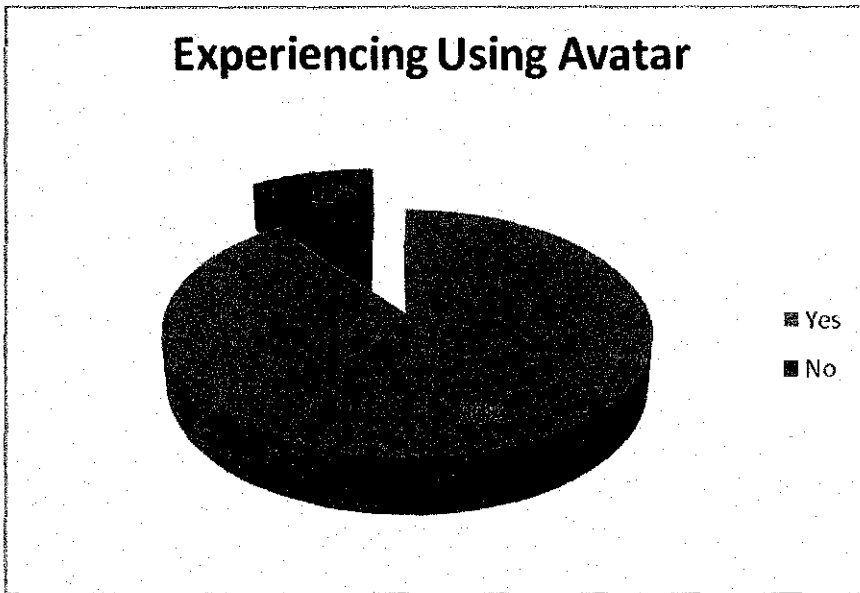


Figure 4.6: Pie Chart on Experiencing Using Avatar

Section 4: Respondent Opinion

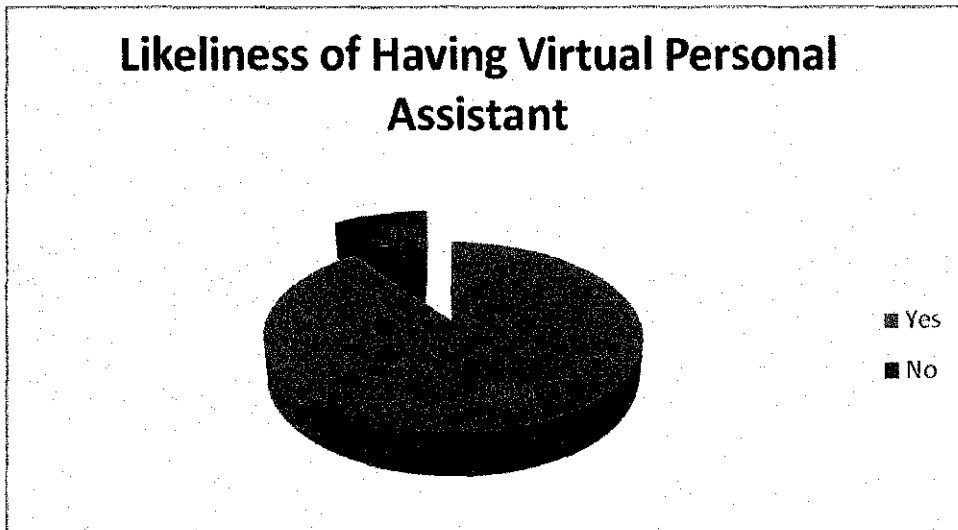


Figure 4.7: Pie Chart on the Likelihood of Having Virtual Personal Assistant

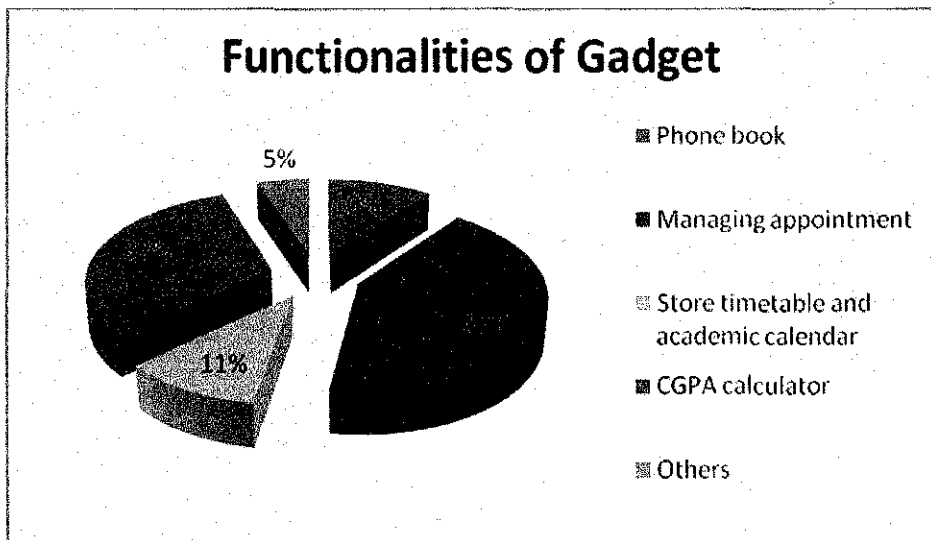


Figure 4.8: Pie Chart on Functionalities of the Gadget

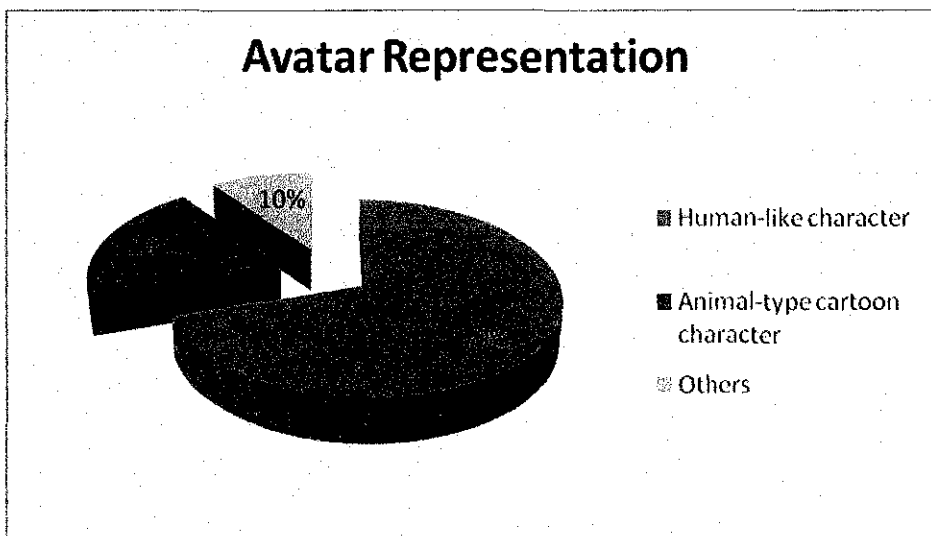


Figure 4.9: Pie Chart on Avatar Representation

4.1.1.2. Discussion on Finding

From the result taken from the questionnaires, the functionalities of the gadget are determined.

A reminder will prompt the user if any important events occur. This will help the students to be alert of important events as well as keeping tracks with all their friends.

This avatar also can be the centralized control system where the characters will hold favorite icons and manages work files such as the projects, assignments and quizzes and put in easy-searchable and manageable folders. Reduce the time consume to search for any files, easy for the student to organize their work according to their subjects.

Some computer's environment may still be a hassle and would be difficult for the first timer. This project will give the user a fast learning experience in using the computer and will be their personal assistant as the application developed will be more user friendly with familiar features.

To give it a more interactive feature, the avatar will be generated with human-like features. This gives the user more fun in using this product as compared to others which is duller and business-looking type.

4.1.2. Post Research

The observation has been made in order to investigate the satisfaction level of usage for the avatar. This research is conducted throughout the development of the prototype and the functionalities of the avatar have been refined according to user requirement and in the terms of user friendliness.

For the feedback, conclusion has been made that the gadget is user friendly and easy to learn. The gadget covers the basic requirements and needs of students.

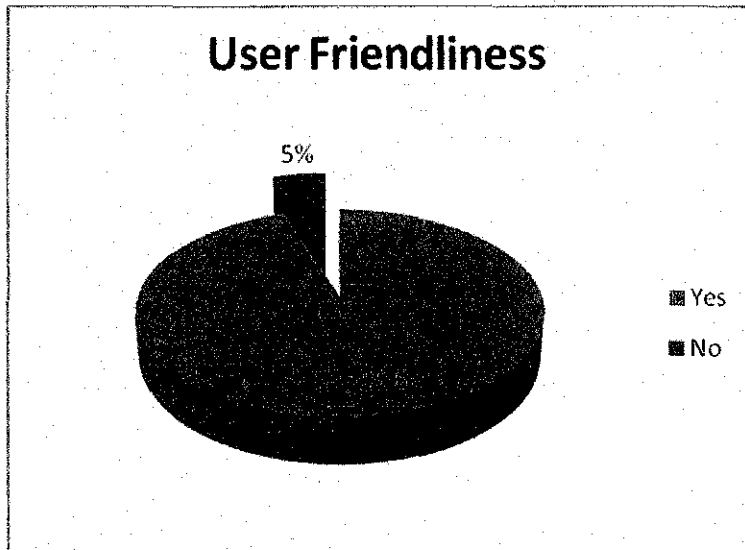


Figure 4.10: Pie Chart on User Friendliness

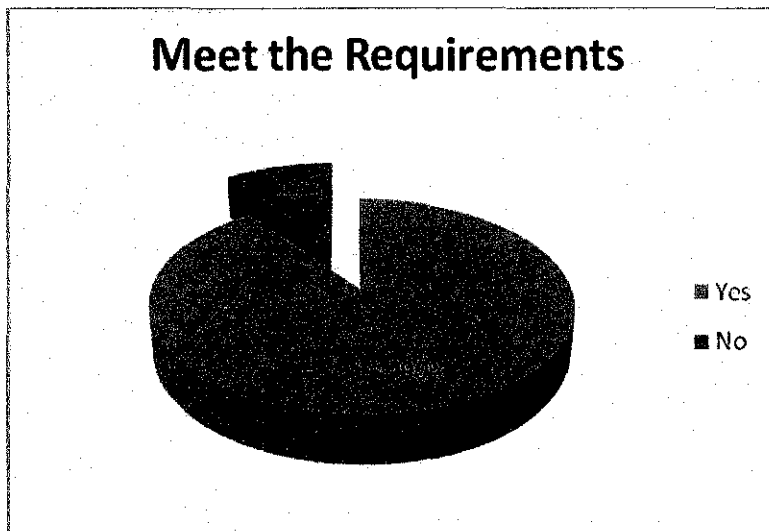


Figure 4.11: Pie Chart on Meeting the Requirements

4.2. Relevant Areas to be focused on

In order to develop a good avatar application, there is a need to understand the platform to use in order to develop the avatar and how it will react with the computer. The development method need to be focus on too as well as fulfilling user's requirements.

Also been mentioned in Literature Review part under subtopic of Application Effectiveness, the elements of a user-friendly application are: -

- Content,
- Accuracy
- Format
- Ease of use
- Timeliness

In order to create a good gadget in perspective of users, user friendly application with ease of use is essential to create the interest in using this product.

4.3. Screen Captures and Description

The product is also known as Student Organizer Gadget.



Figure 4.12: Gadget Main Screen

This is the main look of the gadget. The main screen refers to the outlook of the gadget that is being displayed when the user launch the gadget. This 3D human-like character is the representation of the virtual personal assistant and will reside in the gadget dock. She will have the capability to talk and alert the user when there is an appointment and task to submit.

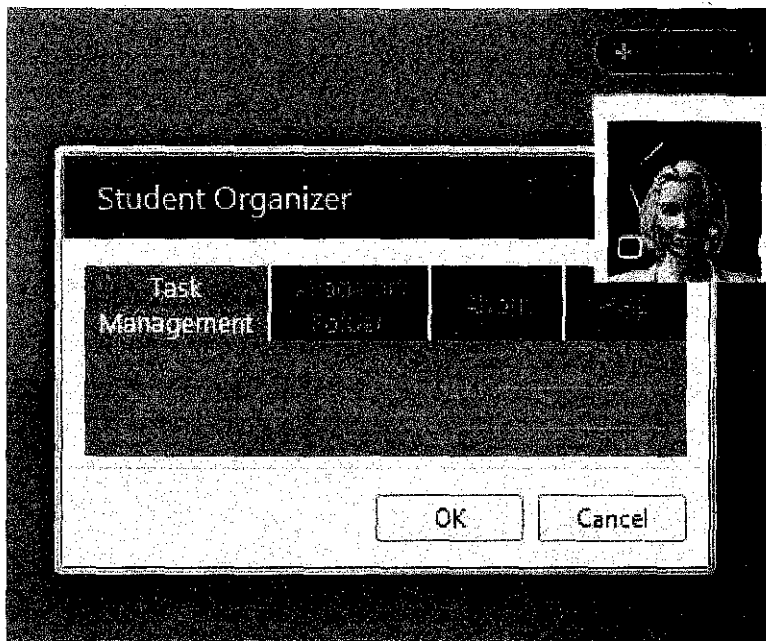


Figure 4.13: Gadget Settings Screen

Figure 4.13 shows the settings of the gadget cum the main menu. This is the main access to the application. In the main menu, there are several links to:

- Task Management
- Academic Folder Management
- About
- Help

The Task Management Option will link to the task management. The user inserts all the details regarding their task and the submission date. The Academic Folder Management will have the capabilities to handle the files of academic related and put in specific folder. The user just drag the file onto the gadget and the gadget will specify the user where to put the file. Meanwhile, the About and Help page will link the user to the about and help screen.

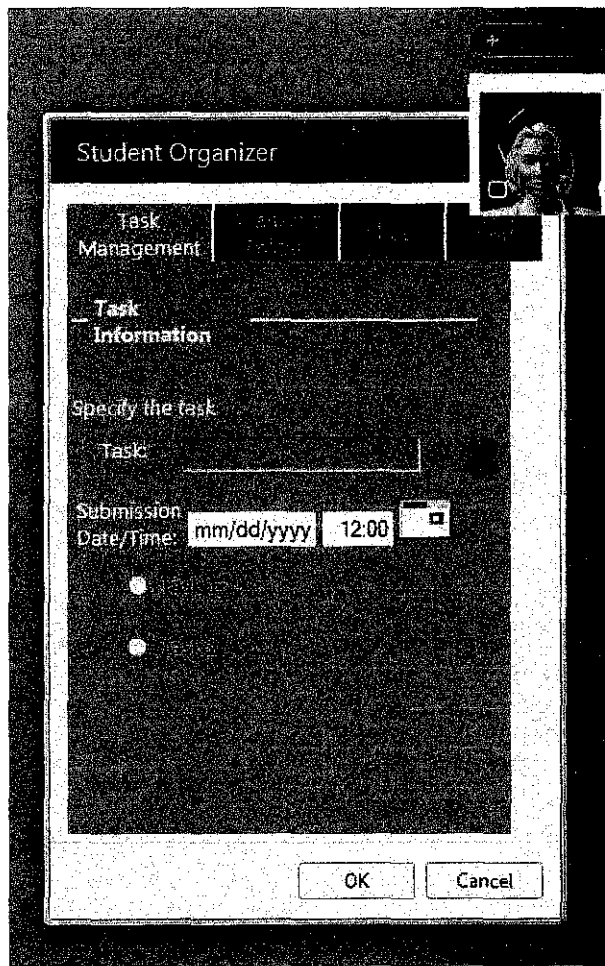


Figure 4.14: Gadget Task Management Option Screen

In Figure 4.14, the user need to insert the task name and when is the submission date for the task, assignment or project. This screen will also list down the entire tasks that have been entered.

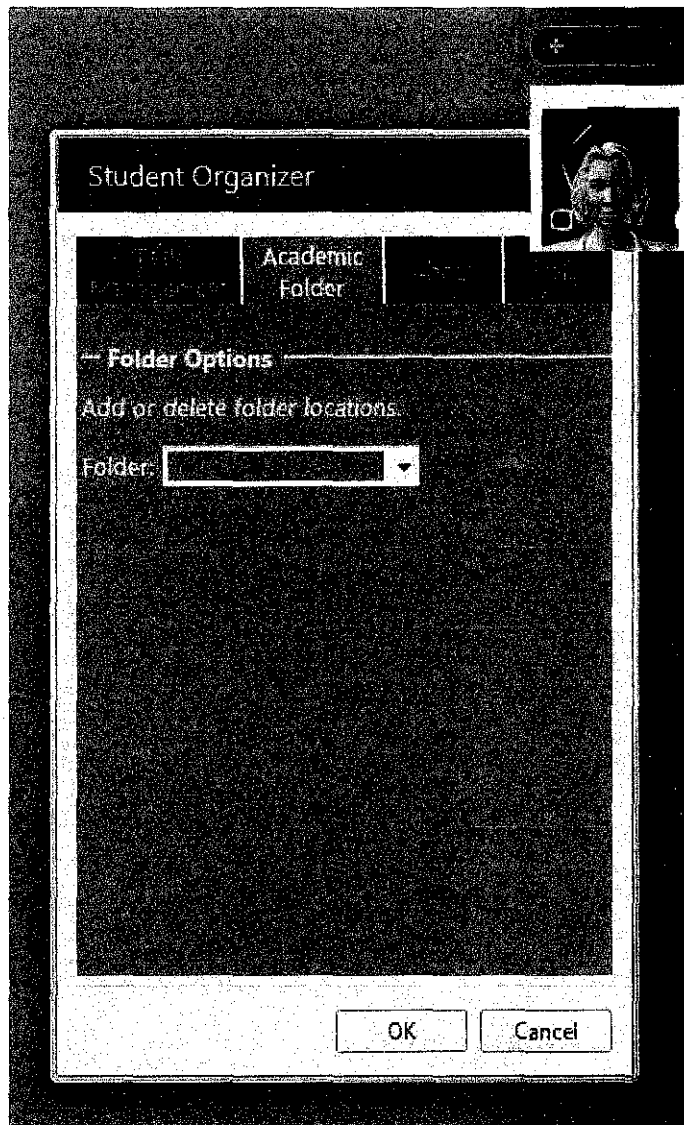


Figure 4.15: Gadget Academic Folder Screen

The Gadget Academic Folder Screen will show the user an option to specify the location of the folder. This page also can help the user to delete and add certain folders.

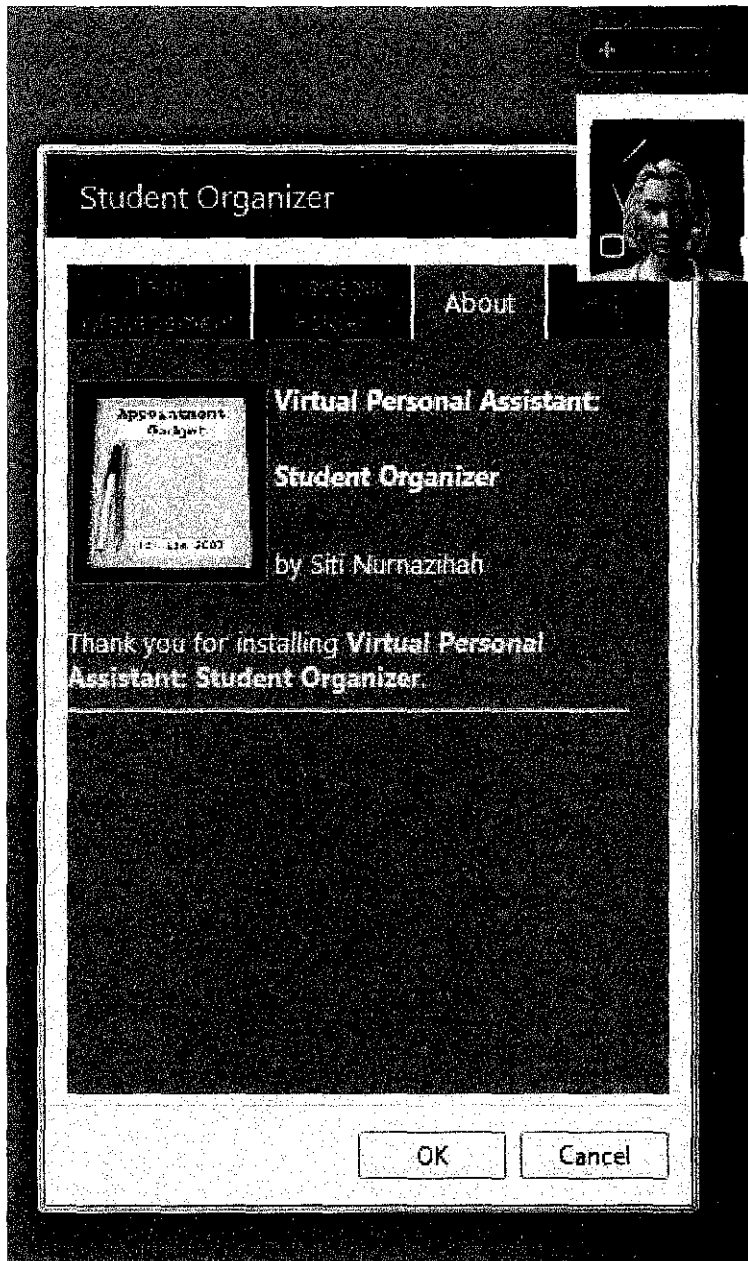


Figure 4.16: Gadget About Screen

Figure 4.16 shows the about screen. The about screen is functioning to give information to the user regarding the creator of this gadget and any necessary information that needs to be displayed.

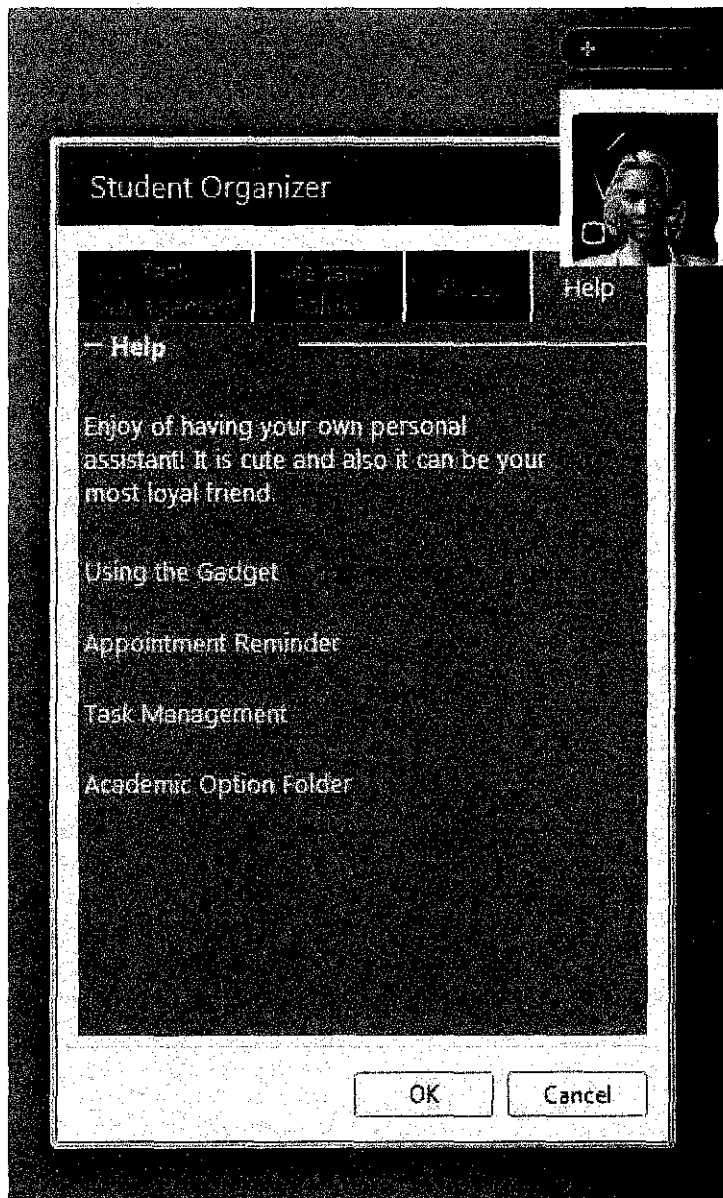


Figure 4.17: Gadget Help Screen

In Figure 4.17, the help page is basically giving a general idea about the gadget and how it works. The help section will be divided into subtopics for easy understanding.

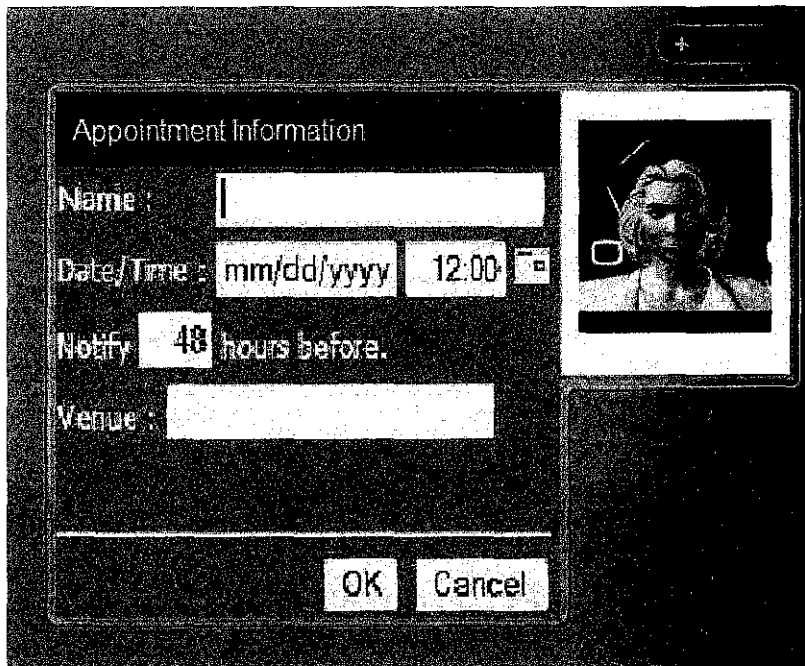


Figure 4.18: Gadget Appointment Info Flyout

The flyout that has been displayed by Figure 4.18 is the gadget appointment information page. The user can insert particulars about the appointment. Setting the name of the appointment, date/time and where the appointment would be. The talking avatar will remind the user about the appointment according to the time specified.

CHAPTER 5

CONCLUSION AND RECOMMENDATION

5. OVERVIEW

This part will focus on overall conclusion about the project as well as recommendation for future expansion. The idea is solid and can be expanded into various kind of expansion.

5.1 Conclusion

As to create a latest trend in term of Graphical User Interface, this product will bring a new phenomenon in the experience of computer interaction. The standalone application does not only centralize the browsing system but also be a companion as well as a personal assistant.

There is a major need for Student Organizer as from experiences and observations, most of students does not aware on managing their time. This is especially happens for first and second year students as they are going through adolescence period.

The idea of this project is not producing a 'formal' or typical type of Student Organizer. The organizer features that will be hidden under the cute character will work as 'mask' to cover it. This is based on the nature of human beings itself that likes good-looking things.

After some surveys, this gadget has been decided as the best option. This Virtual Personal Assistant also known as Student Organizer gadget can work as a reminder and organizer for students, in the same time it is a good companion.

These requirements meet this project's objective as to create a human-like virtual assistant that will be an organizer as well as a digital companion.

A good remark has been given to the creation of Ms. Dewey, this calls for a challenge to create a standalone application that will react the same with some other customize features.

5.2 Recommendation

This project, virtual personal assistant in as a gadget that has capability of an organizer is a solid idea. Furthermore, the project can be expanded into various ways, depends on the interest of the person that want to take the product a step further than today.

In order for students to keep on managing their time, the idea of this project is about a virtual assistant with a capability of organizer. The interactive animation that resides on the computer's desktop and will be the first thing being viewed upon starting the operating system of the computer. This feature will help in a way to remind them on the existence of the organizer and they will have the tendency to use it often.

In order to make the product more interesting and appealing for the student to use, one of the good suggestions is to implement an option where the student can choose variety of characters in one gadget instead of just only one. This way they can see the figure of their favourite, and the tendency to use this gadget will be higher.

Furthermore, adding the online capability to the application is another way to increase the interactivity. For example, the user can interact with other user using Virtual Personal Assistant gadget as a medium. It will have text exchange messaging system something like Yahoo Messenger, Google Talk (GTalk) or MSN Messenger.

Highlighting the importance of being organized in the life of students, replacing the conventional organizer with this product would definitely results in increase of awareness in terms of organizing.

REFERENCES

- Arafa, Y and Mandame, A, 2000, *Virtual personal service assistants: towards real-time characters with artificial hearts*, Imperial College of Science, Technology and Medicine
- Chauvat, N, 2000, *Narval, the Intelligent Personal Assistant*, Linux Gazette, - (November Journal)
- Doll, W, 1988, *The Measurement of End-User Computing Satisfaction*, Gholamreza Torkzadeh MIS Quarterly, pp. 259-274 - (Jun Journal)
<[http://links.jstor.org/sici?sici=02767783\(198806\)12%3A2%3C259%3ATMOECS%3E2.0.CO%3B2-J](http://links.jstor.org/sici?sici=02767783(198806)12%3A2%3C259%3ATMOECS%3E2.0.CO%3B2-J)>
- Gray, D, 2005, *Tomorrow's Personal Assistant*, Retrieved on 17th March 2007 from the World Wide Web. – (May 2)
<<http://www.lockergnome.com/nexus/technobabble/2005/05/02/tomorrows-personal-assistant>>
- Graphical User Interface Timeline – Toasty Tech. Retrieved on 13th February 2007 from the World Wide Web.
<<http://toastytech.com/guis/guitimeline4.html>>
- Johansen, S, 2005, *Avatars in Global E-Commerce: A Cross-Cultural Analysis of the Effects of Avatars on Online Consumer Behavior in Germany and the U.S.*, University of Florida – (July/August Journal)
- Kruse, M, *CalendarPopup.js*
<<http://www.mattkruse.com>>
- Levine, M, 1999, *The Realization and Utilization of Organization*, All Kinds of Mind – (1999 – 2007 Article)

Microsoft Gadget – Windows Vista: Feature Explained: Windows Sidebars and Gadgets. Retrieved on 18th March 2007 from the World Wide Web.

<<http://www.microsoft.com/windows/products/windowsvista/features/details/sidebargadgets.aspx>>

Ms. Dewey - Microsoft Live Search.

<<http://www.msdevery.com>>

Odell, J, 2001, *FIPA Personal Assistant Specification*, the Foundation for Intelligent Physical Agents” – (October 2001)

Pelka, F, 1996, *Guidance from the Graphical User Interface Experience: What GUI Teaches About Technology Access*, National Council on Disability – (March 28 Journal)

Sigel, T, 1999, Definitions of Avatar – GNRT Appendix: Glossary. Retrieved on 13th February 2007 from the World Wide Web. – (May 24)

<<http://www.acad.bg/beginner/gnrt/appendix/glossary.html>>

Sommerville, 2005, *Software Engineering* Pearson, Addison Wesley – (2005 edition)

Stearns, G, 2006, *SWFObject* and is released under the MIT License:

<<http://www.opensource.org/licenses/mit-license.php>>

The Motive Web Design Glossary. Retrieved on 13th February 2007 from the World Wide Web.

<<http://www.motive.co.nz/glossary/gui.php>>

The Parent Institute, 2007, *Helping Children Get Organized for Homework and Schoolwork*. Retrieved on 13th February 2007 from the World Wide Web

<<http://www.parent-institute.com/educator/products/guides/organized.php>>

West, D (Microsoft MCP)

<<http://www.liveside.net/blogs/developer/Default.aspx?p=2>>

Windows Vista – Windows Vista: Home Page. Retrieved on 18th March 2007 from the World Wide Web.

<<http://www.microsoft.com/windows/products/windowsvista/default.aspx>>

Zwinky

<www.zwinky.com>

APPENDICES

APPENDIX 1: INITIAL QUESTIONNAIRES

Objective/ Scope: To define the functionality of the Virtual Personal Assistant in accordance to student.

Instruction: Please complete all the questions by ticking at the small box provided at the right side of each answers. You are required to tick only in one of the boxes provided for the Yes/No type of questions. For the other types, you can tick more than once.

Section 1: Student Information

Gender: Male or Female

Age:

Programme: *(please tick underneath)*

Engineering Programme

Chemical Engineering Mechanical Engineering

Civil Engineering Petroleum Engineering

Electrical & Electronics Engineering

Technology Programme

Business Information System

Information & Communication Technology

Section 2: Personal Computer Usage

1. Do you own a computer?

- a) Yes b) No

2. If yes, which product of Operating System that you use?

- a) Microsoft
- b) Linux
- c) Others (please specify) _____

3. Which version of Operating System that you use if you are using Microsoft product?

- a) Windows – Vista b) Windows – XP
- c) Windows – NE d) Windows – 2000
- e) Windows – 1998 f) Windows – 1995
- g) Others (please specify) _____

4. If your Operating System is not Windows – Vista, would you like to purchase one (Window – Vista) in the future?

- Yes b) No

5. Does your computer have an organizer application?

- a) Yes b) No

6. If no, what do you use to organize your tasks?

- a) Note book
- b) PDA
- c) None
- d) Others (please specify) _____

7. If yes, please specify what your organizer can do.

- a) Reminder
- b) Manage appointment
- c) Calendar
- d) Others (please specify) _____

8. If yes, how frequent do you use it?

- a) Everyday
- b) Only for really important event
- c) Once a week
- d) A few times

If no, why?
Specify your reason.

Section 3: Avatar

9. Have you any experience in using avatar (e.g. Yahoo Messenger's avatar, Zwinky or IMVU)?

- a) Yes
- b) No

10. If yes, what kind of avatar?

- a) Yahoo Messenger's Instant Messaging Avatar
- b) Zwinky
- c) Others (please specify) _____

Section 4: Respondent Opinion

11. Do you want a virtual personal assistant that resides in your personal computer that can remind you about any important event in your daily life?

- a) Yes
- b) No

12. What are other functionalities that you want the avatar to have?

- a) Phone book (restoring contact list such as phone number, home address, e-mail address)
- b) Managing appointment (restore information on appointments such as date, day, time and venue)
- c) Store timetable and academic calendar
- d) Managing assignments and project (arranging the projects and assignments according to subjects)
- e) GPA and CGPA tracker or calculator
- f) Others (please specify) _____

13. If yes, what would you want your avatar be like?

- a) Human-like character
- b) Animal-type cartoon character
- c) Others (please specify) _____

14. If you choose animal-type character, what are the abilities that you want the avatar to have?

- a) Walk
- b) Jump
- c) Sleep
- d) Talk
- d) Eat/Drink
- e) Grow
- e) Others (please specify) _____

Thank you for your time and participation.

APPENDIX 2: POST QUESTIONNAIRES

- Objective/Scope:**
- To define the user effectiveness of the Virtual Personal Assistant in accordance to student.
 - To know whether the prototype have met the user requirements.

Instruction: Please complete all the questions by ticking at the small box provided at the right side of each answers. You are required to tick only in one of the boxes provided.

1. After you have experiencing in using the provided gadget, do you find it easy to use and user friendly?

b) Yes b) No

If yes, can you define the terms or functions which are easy to use and user friendly?

If no, can you define the difficulties?

2. Do the functionalities provided meet your basic requirements as a student?

a) Yes b) No

If no, can you define the functionalities that you required?

APPENDIX 3: GANTT CHART FYP 1

Task No.	Detail/ Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	Selection of Project Topic -Propose Topic	■													
2	Preliminary Research/Design Work		■	■											
	• Submission of Preliminary Report			●											
3	Refine recommendations				■	■	■	■							
	• Submission of Progress Report								●						
4	Propose best design for improvement				■	■	■	■							
5	Research & Development process							■	■	■	■	■	■	■	■
7	Submission of Dissertation Final Draft													●	
8	Oral Presentation														●
9	Submission of Project Dissertation												●		

● Suggested milestone

■ Process

Legend:

1. Task 1 - Study and revise on the process of developing the prototype.
2. Task 2 - Identify the functionality of the avatar by questionnaire and observation.
3. Task 3 - Refine the recommendations made by the user. Research on the most suitable methods to be used for improvements of functionality. The research covers these topics in particular:
 - i. Graphical User Interface (GUI) section – how to improve the GUI to assist computer users.
 - ii. Development – the best development method to build the project.
4. Task 4 - Propose the best prototype for each of the improvements to the supervisor and test it on the user. Should the prototype get rejected by the supervisor or user; further improvements should be made within the time frame.

APPENDIX 4: GANTT CHART FYP II

Task No.	Detail/ Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	Project Development: Phase 1	■	■	■											
2	Progress Report 1: preparation		■	■											
	• Submission of Progress Report 1			●											
3	Project Development: Phase 2				■	■	■	■							
4	Progress Report 2: preparation						■	■							
	• Submission of Progress Report 2							●							
4	Seminar preparation									■					
5	Seminar presentation									●					
7	Project Development: Phase 3									■	■				
8	PreEDX Exhibition										●				
9	Submission of Final Report										●				
10	Project Development: Final Phase										■	■	■	■	
11	Oral Presentation: Final Reporting													●	
14	Dissertation: submission														■



Milestone



Process

Legend:

1. Project Development: Phase 1
 - a. All the requirements for the gadget have been defined.
 - b. Developing the 'Appointment Options' section.
 - i. Developing the basic function: adding appointment, alerting the user and saving appointment.
2. Project Development: Phase 2
 - a. Developing the 'Academic Options' section.
 - b. Combining the avatar into the gadget.
 - c. Linking appointment page to the gadget.
3. Project Development: Phase 3
 - a. Developing the 'Task Options' section
 - b. Inserting the voice outcome of the project.
4. Project Development: Final Reporting
 - a. Increasing the user effectiveness of the gadget.
 - b. Finalise coding.

APPENDIX 5: SOURCE CODE

Gadget Manifest File

```
<gadget>
  <name>Virtual Personal Assistant: Student Organizer Gadget</name>
  <version>1.0.0</version>
  <author name="Siti Nurnazihah">
    <logo src="images/logo.png"/>
  </author>
  <copyright>© 2007</copyright>
  <description>Virtual Personal Assistant: Student Organizer Gadget</description>
  <icons>
    <icon width="130" height="67" src="images/icon.png"/>
  </icons>
  <hosts>
    <host name="sidebar">
      <base type="HTML" apiVersion="1.0.0" src="html/main.html"/>
      <permissions>Full</permissions>
      <platform minPlatformVersion="1.0"/>
    </host>
  </hosts>
</gadget>
```

Gadget Main File

```
<head>
  <title> Virtual Personal Assistant: Student Organizer Gadget </title>

  <!-- SCRIPTS -->
  <script src="../scripts/main_events.js" type="text/javascript"></script>
  <script src="../scripts/prototype.js" type="text/javascript"></script>
  <script src="../scripts/core.js" type="text/javascript"></script>
  <script src="../scripts/helper.js" type="text/javascript"></script>
  <script src="../scripts/fso.vbs" type="text/vbscript"></script>
  <script src="../scripts/alert.vbs" type="text/vbscript"></script>
  <script type="text/javascript" src="../scripts/swfobject.js"></script>
</head>
<!-- END HEAD SECTION -->

<!-- BEGIN BODY SECTION -->
<body class="body-style" unselectable="off" ondragenter="javascript:event.returnValue
= false" ondragover="javascript:event.returnValue = false"
ondrop="fileDragDropped();" onload="setupGadget();" onclick="clickGadget();">

<!-- TOP OF GADGET -->
<div align="center"><a href="../html/Document.htm" id="Document"></a>
  <br />
  <span id="mainPanel"></span>
</div>

<div id="flashcontent" unselectable="off"
style="position:absolute;top:18px;left:10px;" onclick="mainPanel_onclick()">
  Virtual Personal Assistant: Student Organizer
</div>

  <script type="text/javascript">
    var so = new SWFObject("Avatar.swf", "mymovie", "110", "140", "8", "#000000");
    so.write("flashcontent");
  </script>

<!--<object style="position:absolute;top:18px;left:10px;" classid="clsid:d27cdb6e-
ae6d-11cf-96b8-444553540000"
codebase="http://download.macromedia.com/pub/shockwave/cabs/flash/swflash.cab#version
=8,0,0,0" width="110" height="140" id="Flash" align="middle"><param
name="allowScriptAccess" value="sameDomain" /><param name="movie" value="Avatar.swf"
/><param name="quality" value="high" /><param name="bgcolor" value="#ffffff"/>
```

```

<embed src="Avatar.swf" quality="high" bgcolor="#ffffff" width="110" height="140"
name="Flash" align="middle" allowScriptAccess="sameDomain" type="application/x-
shockwave-flash" pluginspage="http://www.macromedia.com/go/getflashplayer" />
</object>-->

</body>
<!-- END BODY SECTION -->

</html>

```

Gadget Setting File

```

<html>
<head>
<title> Virtual Personal Assistant: Student Organizer Gadget</title>

<!-- MAIN & ACADEMIC FOLDER OPTION SCRIPTS -->
<link href="../css/styles.css" type="text/css" rel="stylesheet" />
<script src="../scripts/core.js" type="text/javascript"></script>
<script src="../scripts/helper.js" type="text/javascript"></script>
<script src="../scripts/settings_events.js" type="text/javascript"></script>
<script src="../scripts/prototype.js" type="text/javascript"></script>
<script src="../scripts/alert.vbs" type="text/vbscript"></script>

<!-- TASK MANAGEMENT FOLDER OPTION SCRIPTS -->
<script src="../scripts/appointment/CalendarPopup.js"
type="text/javascript"></script>
<script type="text/javascript">document.write(getCalendarStyles());</script>
</head>
<!-- END HEAD SECTION -->

<!-- BEGIN BODY SECTION -->
<body onLoad="init();" class="body-style-settings">
<table class="table-tabs">
<tr>
<td id="tab0" class="tab-back" onclick="loadTab(0)">Task Management</td>
<td id="tab1" class="tab-back" onclick="loadTab(1)">Academic Folder</td>
<td id="tab2" class="tab-back" onclick="loadTab(2)">About</td>
<td id="tab3" class="tab-back" onclick="loadTab(3)">Help</td>
</tr>
</table>

<!--
=====
TASK OPTIONS PAGE
=====
-->

<div id="div0" class="div-settings" style="display:none;">
<br />

<table style="border:solid 1px #959492;background:#ebebea">
<tr>
<td valign="top">
<form name="form1" method="post">
<textarea name="code" wrap="soft" onclick="focus(this.code)"
style="border:solid 1px #b9b8b6;scroll:auto;">
</textarea></form></td>
</tr>
<tr>
<td valign="top">
<iframe src="about:blank" name="preview" style="width:191;border:solid 1px
#b9b8b6;background:#ffffff" frameborder="0">
</iframe></td>
</tr>
</table>

<button onclick="preview.document.write (document.getElementsByTagName
('TEXTAREA')[0].value); preview.document.close(); preview.focus()">List Task</button>
<button onclick="window.document.form1.code.value='';preview.document.write
(document.getElementsByTagName ('TEXTAREA')[0].value); preview.document.close();
preview.focus()">Clear Task</button>
<br />
<p>

```

```

<table width="511" class="table-style">
<tr>
    <td style="width: 41px; height: 21px" class="info-style"> Submission Date</td>
    <td colspan="2" style="width: 211px"> <input id="EventDate" type="text"
value="mm/dd/yyyy" size="9" style="text-align:right;"/><a href="#"
onClick="ShowCalendar(); return false;" id="Anchor"></a>
        <div id="Calendar"></div>
    </td>
</tr>
</table>

</p>
</div>

<!--
=====
ACADEMIC FOLDER OPTIONS PAGE
=====
-->

<div id="div1" class="div-settings" style="display:none;">
<br />

<!-- TABLE: BANNER -->
<table class="table-style" style="width: 263px">
<tr>
    <td style="width:10px;"><hr /></td>
    <td style="width:95px">
        <span class="banner-style">Folder Options</span></td>
    <td><hr /></td>
</tr>
</table>

<!-- TABLE: INSTRUCTIONS -->
<table width="191" height="30" class="table-style">
<tr>
    <td colspan="3" rowspan="2"> <span class="info-style"><font color="#FFFF00">Add
or delete folder locations.</font><br /></span></td>
</tr>
</table>

<!-- TABLE: SELECT FOLDER / ADD / REMOVE -->
<table class="table-style" id="folderEditTable">
    <tr>
        <td style="width: 46px; height: 12px" class="info-style">
            Folder:</td>
        <td style="width: 194px; height: 12px;">
            <select class="control-style" id="selItems" style="width: 144px"
onChange="return selItems_onchange()">
                <option selected="selected"></option>
            </select>
        </td>
        <td style="width: 211px; height: 12px;">
            
            
        </td>
    </tr>
</table>
<br />

<!-- TABLE: NEW ITEM / BROWSE / SAVE / CANCEL -->
<table class="table-style" style="visibility: hidden;" id="newTable">
<tr>
    <td colspan="3" rowspan="2"> <span class="info-style"><font
color="#FFFF00">Modify existing folder locations.</font><br /></span>
</td>
</tr>
</table>

<tr>
    <td style="width: 41px; height: 21px" class="info-style">Name:</td>
    <td colspan="2" style="width: 211px"><input class="control-style"
id="nameText" style="width: 216px" type="text" disabled="disabled" /></td>
</tr>

```

```

<tr>
    <td style="height: 21px; width: 41px;" class="info-style">Path:</td>
    <td><input class="control-style" id="pathText" style="width: 184px"
type="text" onKeyPress="return pathText_onkeypress()" /></td>
    <td></td>
</tr>

<tr>
    <td colspan="3" style="height: 21px;" align="right"></td>
</tr>

</table>

<!-- MESSAGE TABLE -->
<table class="table-style">
<tr>
    <td align="center"><span id="messageFolder" class="message-
style"></span></td></tr>
</table>

</div>

<!--
=====
TASK PAGE
=====
-->

<div id="div2" class="div-settings" style="display:none;">
<br />

<div class="info-style">
<table style="width: 263px">
<tr>
    <td width="96" rowspan="2" style="width: 3px"></td>
    <td width="221" height="53" colspan="2" style="width: 223px"><span
style="color: #ffffff"><h5>Virtual Personal Assistant:</h5><h5>Student Organizer</h5>
</span></td>
</tr>

<tr style="font-size: 10pt">
    <td colspan="2" style="height: 21px; width: 223px;"><span style="color:
#ffffff">by Siti Nurnazihah<br /></span></td>
</tr>

</table>
<br />

<span> Thank you for installing <strong style="color:Yellow">Virtual Personal
Assistant: Student Organizer</strong>. </span>

<br />

</div>
<hr />

</div>

<!--
=====
HELP PAGE
=====
-->

<div id="div3" class="div-settings" style="display:none;">
<br />

<table class="table-style" style="width: 263px">
<tr>
    <td style="width:10px;"><hr /></td>
    <td style="width:40px"> <span class="banner-style">Help</span> </td>
</tr>

```

```

</tr>
</table>

<br />

<table width="191" height="30" class="table-style" dwcopytype="CopyTableRow">
<tr>
  <td colspan="3" rowspan="2">
    <p><span class="info-style">Make Appointment - click on the 'Add New'
      link in the 'Appointment' section and insert the particulars of the
      appointment. You will be alerted when the event occurs.</span></p>
    <p><span class="info-style">Managing file - clear up your desktop by simply
      drag the file/folder onto the gadget. The gadget will specify an
      appropriate
      academic-related folders on where to put the file/folder.</span></p>
    <p><span class="info-style">Task Management - be reminded on your task
      by fulfilling the details on the due date in the 'Task Management'
      section.</span></p>
    <p><span class="info-style"><br />
      </span> </p></td>
</tr>
</table>

</div>

</body>
</html>

```

Gadget Document File

```

<html>
<head>
  <title>Events Manager</title>

  <link href="../css/Document.css" type="text/css" rel="stylesheet" />
  <script src="../scripts/appointment/Document.js" type="text/javascript"></script>
  <script src="../scripts/appointment/EventsManager.js"
type="text/javascript"></script>
  <script src="../scripts/appointment/Notification.js"
type="text/javascript"></script>
  <script src="../scripts/appointment/Settings.js" type="text/javascript"></script>
  <script src="../scripts/appointment/CalendarPopup.js"
type="text/javascript"></script>
</head>

<body id="Body">
<form id="MainForm">
<div id="Header"></div>
<div id="Footer"></div>
<div id="LeftPage">
  <div id="LeftPageContent">
    <nobr>
      <div id="Events">
        <div id="EventsList"></div>
        <div id="Slider">
          <script type="text/javascript">new slider(A_INIT);</script>
        </div>
      </div>
    </nobr>

    <div id="GrayPanel"> <a href="javascript:ShowAddEventFlyout();">Add New</a></font>
</div>
    <div><a href="../html/main.html"></a></div>

  </div>
</div>

<div id="RightPage">
  <div id="EventInfo">
    <nobr><div id="EventInfoName"></div></nobr>
    <div class="eventInfoGray">Date:</div>
    <div id="EventInfoDate"></div>
    <div class="eventInfoGray">Venue:</div>

```

```

        <div id="EventInfoDescription"></div>
        <div style="text-align:right;">
            <a href="#" id="DeleteEvent">Delete</a> | <a
href="javascript:ShowEditEventFlyout();">Edit</a> | <a
href="javascript:HideEventInfo();">Close</a>
        </div>
    </div>
</div>
<div id="Binder"></div>
<input type="hidden" id="SliderInput" value="100"/>
</form>

<script type="text/javascript">
<!--
    Init();
-->
</script>
</body>
</html>

```

Gadget Flyout File

```

<html>
<head>
    <title>Add Event</title>
    <link href="../css/AddEvent.css" type="text/css" rel="stylesheet" />
    <script src="../scripts/appointment/AddEvent.js" type="text/javascript"></script>
    <script src="../scripts/appointment/CalendarPopup.js"
type="text/javascript"></script>
    <script
type="../scripts/appointment/javascript">document.write(getCalendarStyles());</script
>
</head>

<body >
<form id="MainForm">
<div id="Title">Appointment Information</div>
<hr />

<table id="MainTable" bgcolor="#808000">

<tr>
    <td><font size="2" face="Segoe UI" color="#FFFFFF">Name :</font></td>
    <td><input id="Name" type="text" /></td>
</tr>

<tr>
    <td><font size="2" face="Segoe UI" color="#FFFFFF">Date/Time :</font></td>
    <td>
        <input id="EventDate" type="text" value="mm/dd/yyyy" size="9" style="text-
align:right;"/>
        <input id="EventTime" type="text" value="12:00" size="3" style="text-
align:right;"/>
        <a href="#" onClick="ShowCalendar(); return false;" id="Anchor"></a>
        <div id="Calendar"></div>
    </td>
</tr>

<tr>
    <td colspan="2"><font size="2" face="Segoe UI" color="#FFFFFF">Notify
    <input id="NotifyBefore" type="text" value="2" size="1" style="text-
align:right;"/>
        hours before.</font></td>
</tr>

<tr>
    <td colspan="2"><font size="2" face="Segoe UI" color="#FFFFFF">Venue
:</font></td>
</tr>

<tr>
    <td colspan="2"><input id="Description" type="text" style="text-
align:left;"/></td>
</tr>

```

```

<tr>
  <td colspan="2" align="right">
    <hr />
    <input type="button" value=" OK " onClick="AddEvent();"/>
    <input type="button" value="Cancel" onClick="Cancel();"/>
  </td>
</tr>

</table>

</form>

<div id="ErrorMessage">
<div style="position:absolute; top:0px; right:5px;"><a
href="javascript:CloseErrorMessage();" id="CloseButton">x</a></div>
<div><b>Validation errors occured.<br />Please correct the following errors
:</b></div>
<ul id="ErrosList"></ul>
</div>

<script type="text/javascript">
<!--
  Init();
-->
</script>
</body>
</html>

```

Gadget Core File

```

var APP_NAME = "Student Organizer";
var APP_NAME_INSTALL = "Student Organizer Gadget";
var NAMESPACE = "Microsoft";
var SIDEBAR = "windows sidebar";
var WARNING_COLOR = "Red";
var VERSION = "1";

// GLOBAL VARS
var sections = new Array();
var extensions = new Array();
var paths = new Array();
var settings = new Array();
var itmCnt = 0;
var settingCnt = 0;

function corePath()
{
  var retVal = new String();
  // get a File System Object reference
  var fso = getFSO();
  if (fso == null ) return "";
  // connect to the AppData folder
  var retVal = System.Environment.GetEnvironmentVariable("APPDATA");
  retVal += "\\\" + NAMESPACE + "\\\" + SIDEBAR;
  // verify that each folder exists - one step at a time
  if (fso.folderExists(retVal)==false)
    fso.CreateFolder(retVal);
  retVal+="\\"+APP_NAME_INSTALL;
  if (fso.folderExists(retVal)==false)
    fso.CreateFolder(retVal);
  // return the result
  return retVal;
}

function coreReadAll()
{
  itmCnt = 0; // reset!
  var fil = coreOpenSettings(1);
  try{
    // read in all the contents
    while(fil.AtEndOfStream==false)
    {
      sections[itmCnt] = fil.ReadLine();
      extensions[itmCnt] = fil.ReadLine();
      paths[itmCnt] = fil.ReadLine();
    }
  }
}

```

```

        itmCnt++;
    }
    fil.Close();
} catch (err) {
    throwError("Reading settings file. " + err.description);
    return false
}

// success
return true;
}

function coreOpenSettings(mode)
{
    var fso = getFSO();
    if ( fso == null ) return null;
    try {
        var fil = fso.OpenTextFile(getFile(),mode);
    } catch (err) {
        throwError("Opening settings file. " + err.description);
        return null;
    }

    return fil;
}

function getFSO()
{
    try {
        var fso = new ActiveXObject("Scripting.FileSystemObject");
    } catch (err) {
        throwError("Initializing FSO. " + err.description);
        return null;
    }

    return fso;
}

function writeNewExtension(s, v)
{
    // read all the settings into memory
    if(!coreReadAll()) return false;
    // open the settings file for writing
    // get a reference to a FSO.File

    var fil = coreOpenSettings(2);
    if (fil != null)
    {
        try {
            for(i=0;i<itmCnt;i++)
            {
                fil.WriteLine(sections[i]);
                if(sections[i]==s)
                    fil.WriteLine(extensions[i] + v + ";");
                else
                    fil.WriteLine(extensions[i]);
                fil.WriteLine(paths[i]);
            }
            fil.Close();
        } catch (err) {
            throwError("Updating the settings file. " + err.description);
            return false;
        }
    }
    else
    {
        return false;
    }

    // success
    return true;
}

function writeNewType(s, v, p)
{
    var fil = coreOpenSettings(8);

```



```

    if (fil==null) return false
    try {
        fil.WriteLine(s);
        fil.WriteLine(v + ";");
        fil.WriteLine(p);
        fil.Close();
    } catch (err) {
        throwError("Updating the settings file. " + err.description);
        return false;
    }

    // success
    return true;
}

function updateType(s, p)
{
    if(coreReadAll()==false) return false;

    var fil = coreOpenSettings(2);
    if (fil==null) return false;

    // now write the file back...
    try {
        for(i=0;i<itmCnt;i++)
        {

            // write the data to the file
            fil.WriteLine(sections[i]);
            fil.WriteLine(extensions[i]);
            if(sections[i] != s)
            {
                fil.WriteLine(paths[i]);
            }
            else
            {
                fil.WriteLine(p);
            }
        }
        fil.Close();

    } catch (err) {
        throwError("Updating the settings file. " + err.description);
        return false;
    }

    // success
    return true;
}

function removeType(s)
{
    if(coreReadAll()==false) return false;

    var fil = coreOpenSettings(2);
    if( fil==null) return false;

    try {
        for(i=0;i<itmCnt;i++)
        {
            if(sections[i] != s)
            {
                // write th data to the file
                fil.WriteLine(sections[i]);
                fil.WriteLine(extensions[i]);
                fil.WriteLine(paths[i]);
            }
        }
        fil.Close();

    } catch (err) {
        throwError("Updating the settings file. " + err.description);
        return false;
    }

    // success
    return true;
}

```

```

}

function getFocus()
{
    self.focus();
}

function loadpage(p)
{
    location.replace(p);
}

function changeButton(o, p)
{
    if(o.disabled=="")
    {
        o.src=p;
    }
}

function initEvents(o)
{
    try{
        versionSpan.innerText=VERSION;
    } catch (ex)
    { //do nothing
    }

    // get all th image elemets
    var imgs=o.getElementsByTagName("img");

    // loop though the images
    try {
        for(i=0;i<imgs.length;i++)
        {
            // if they are from the specified class
            if(imgs[i].className=="img-button")
            {
                // build the image paths...
                var a = imgs[i].alt;

                var std = "../images/" + a + ".png";
                var hvr = "../images/" + a + "-h.png";
                var dwn = "../images/" + a + "-p.png";

                // apply the events
                imgs[i].onmouseover= new Function("changeButton(this,'" + hvr +
                "'");
                imgs[i].onmouseout= new Function("changeButton(this,'" + std + "'");
                imgs[i].onmousedown= new Function("changeButton(this,'" + dwn +
                "'");
                imgs[i].onmouseup= new Function("changeButton(this,'" + hvr + "'");
            }
        }
    } catch (err) { throwError("Initializing button animations. " + err.description);
    }
}

function changeTab(o,c)
{
    if(o.className="tab-disabled" || o.className=="tab-hover")
    {
        o.className=c;
    }
}

function disableButton(o)
{
    o.disabled = "disabled";
    o.src = "../images/" + o.alt + "-d.png";
}

function enableButton(o)
{
    o.disabled = "";
    o.src = "../images/" + o.alt + ".png";
}

```

```

function throwError(s)
{
    // set a timeout first before we show it
    System.Gadget.Settings.writeString("errorInfo",s);
    System.Gadget.Flyout.file="../html/fo_error.html";
    window.setTimeout("showError()",300);
}

function showError()
{
    try {
        if(System.Gadget.Flyout.show!=true)
        {
            System.Gadget.Flyout.show = true;
        }
    } catch (err) {
        // nothing
    }
}

function showMessage(s)
{
    messageExt.innerText=s;
    messageFolder.innerText=s;
    window.setTimeout("messageExt.innerText='',4000);
    window.setTimeout("messageFolder.innerText='',4000);
}

function getSetting(s)
{
    var path = corePath() + "\\\" + s;
    var retVal="";

    var fso=getFSO();
    if(fso.FileExists(path))
    {
        var fil=fso.OpenTextFile(path);
        retVal=fil.ReadLine();
        fil.Close();
    }

    return retVal;
}

function saveSetting(s, v)
{
    var path = corePath() + "\\\" + s;
    var fso = getFSO();

    if(fso.FileExists(path))
    {
        fso.DeleteFile(path);
    }

    var fil = fso.CreateTextFile(path);
    fil.WriteLine(v);
    fil.close();
}

function isValidFolder(path)
{
    try{
        var fso = getFSO();
        return fso.FolderExists(path);
    } catch (err) {
        throwError("Could not validate the path: " + err.description);
        return false;
    }
}

```

Gadget Main Events File

```
// GLOBALS
var exts;
var paths;
var names;
var bStatusFlash = false;
var moveFlags = 0; //maybe a future option here...
var fPromptOff = false;

// PARAMETERS, RESULTS AND SHARED VARS
var mainEventDetect_moveCancel = false;
var mainEventDetect_bulkCancel = false;
var mainProcess_bulkMove = false;
var mainResult_bulkPath = new String();
var mainResult_newPath = new String();
var mainParam_fileName = new String();
var mainParam_typeName = new String();
var mainParam_folderPath = new String();
var mainParam_extension = new String();

// for DRAG-DROP
var dragDropFileItems;
var dragDropFileExts;
var dragDropFolders;
var dragDropItemCnt=0;
var dragOrigCnt=0;
var dragDropFolderCnt=0;

// UI STUFF
System.Gadget.settingsUI="../html/settings.html";
System.Gadget.onSettingsClosed = settingsClosed;

function detectDPI()
{
    var path = System.Gadget.path + "\\css\\";
    var dpi = new Number(dpiTest.offsetWidth);
    var fso = getFSO();
    if(dpi>96) // hi-res fonts
    {
        fso.GetFile(path + "styles-120dpi.css").Copy(path + "styles.css",true);
    }
    else
    {
        fso.GetFile(path + "styles-96dpi.css").Copy(path + "styles.css",true);
    }
}

function clickGadget()
{
    System.Gadget.Flyout.show = false;
}

function fileDragDropped()
{
    var oFile;
    // initialize
    dragDropFileItems = new Array();
    dragDropFileExts = new Array();
    dragDropFolders = new Array();
    dragDropItemCnt = 0;
    dragOrigCnt = 0;
    dragDropFolderCnt = 0;

    // load all the files into an array...
    try {
        for (var i=0; (oFile = System.Shell.itemFromFileDrop(event.dataTransfer, i))
!= null; i++)
        {
            var theFile = System.Shell.itemFromPath(oFile.path);

            // verify it is NOT a folder first
            if(!theFile.isFolder || isZipFile(theFile))
            {
                updateStatus(1);
                // catalog the single file
            }
        }
    }
}
```

```

        catalogFile(theFile);
    }
    else
    {
        // Process the folders
        updateStatus(1);
        // we need to catalog all the files in all of the subfolder
        if(getSetting("extUse")=="true")
        {
            catalogFolder(theFile);
            // NOTE: The previous line is executed in
            //       FSO.VBS. This is due to a limitation
            //       when iterating subfolders...
        }
        else
        {
            // extension are disabled - so in this case instead
            // of gutting a file we will move the whole thing.
            // So here we catalog the folder.
            dragDropFolders[dragDropFolderCnt++] = oFile.path;
        }
    }
}
} catch (err) {
    updateStatus(0);
    throwError("Drag/Drop Operation. " + err.description);
}

// If here...all the file data from the items
// dragged onto the gadget are in memory.
// Set the windowTimeout can call the handler
// for the items...
if(dragDropItemCnt>0 || dragDropFolderCnt>0)
{
    dragOrigCnt = dragDropItemCnt;
    window.setTimeout("processDraggedItems()",100);
}
else
{
    // turn off any notifications...
    updateStatus(0);
}
}

function getFileExtension(oFile)
{
    var fso = getFSO();
    var filItem = fso.GetFile(oFile.path);
    var start = instrrev(filItem.Path, ".");
    var len = filItem.Path.length - start;
    var fileExt = new String(filItem.Path.substr(start, len));
    return fileExt;
}

function isZipFile(o)
{
    try{
        var s = getFileExtension(o);
        return s.toUpperCase()=="ZIP" || s.toUpperCase()=="CAB";
    } catch (err) {
        // return false because it is an error
        return false;
    }
}

function catalogFile(oFile)
{
    // now extract the extension
    var fileExt = getFileExtension(oFile);
    // if the file does not have an extension the following will
    // be true - so the extension is nixed
    if(fileExt==oFile.name)
        fileExt="";

    // load the settings into the proper arrays...
    dragDropFileItems[dragDropItemCnt]=oFile;
    dragDropFileExts[dragDropItemCnt]=fileExt;
}

```

```

    dragDropItemCnt++;
}

function processDraggedItems()
{
    // process as long as the flyout is NOT shown
    if(!System.Gadget.Flyout.show)
    {
        // next, does user want process by extensions...
        if(getSetting("extUse")=="true" && dragDropItemCnt>0)
        {
            // reset and clean up
            resetParams();

            // process the files in reverse...
            dragDropItemCnt--;
            // is this a registered file extension?
            if(findItemInArray(exts,dragDropFileExts[dragDropItemCnt])!=-1)
            {
                // UNKNOWN FILE TYPE - show the unknown extension panel...
                mainEventDetect_moveCancel = false;
                mainParam_filePath = dragDropFileItems[dragDropItemCnt].path;
                mainParam_fileName = dragDropFileItems[dragDropItemCnt].name;
                mainParam_extension = dragDropFileExts[dragDropItemCnt];
                System.Gadget.Flyout.file="../html/fo_unknown.html";
                System.Gadget.Flyout.onHide=moveUnknown;
                System.Gadget.Flyout.show = true;
                return;
            }
            else
            {
                // cleanup first
                resetParams();

                // KNOWN FILE TYPE - MOVE IT
                var num = findItemInArray(exts,dragDropFileExts[dragDropItemCnt]);
                if(isValidFolder(paths[num]))
                {
                    var oFolder = System.Shell.itemFromPath(paths[num]).SHFolder;
                    oFolder.moveHere(dragDropFileItems[dragDropItemCnt], moveFlags);
                    // write to settings...
                    mainParam_fileName = dragDropFileItems[dragDropItemCnt].name;
                    mainParam_typeName = names[num];
                    mainParam_folderPath = paths[num];
                }
                else
                {
                    throwError("Invalid or missing folder: \n\n" + paths[num]);
                    updateStatus(0);
                    return;
                }
            }
        }
        else if(getSetting("extUse")!="true" && (dragDropItemCnt>0 ||
dragDropFolderCnt>0) )
        {
            // clean up first
            resetParams();

            // extensions are not enabled...(BULK MODE)
            mainProcess_bulkMove=true;
            System.Gadget.Flyout.file="../html/fo_jump.html";
            System.Gadget.Flyout.onHide=moveBulk;
            System.Gadget.Flyout.show = true;
            return;
        }

        // is the process completed?
        if(dragDropItemCnt>0)
        {
            window.setTimeout("processDraggedItems()",100);
        }
        else
        {
            showPrompt();
        }
    }
}

```

```

    }
}

function resetParams()
{
    mainEventDetect_moveCancel = false;
    mainEventDetect_bulkCancel = false;
    mainProcess_bulkMove = false;
    mainResult_bulkPath = "";
    mainResult_newPath = "";
    mainParam_fileName = "";
    mainParam_typeName = "";
    mainParam_folderPath = "";
    mainParam_extension = "";
}

function moveBulk()
{
    System.Gadget.Flyout.onHide = function(){};

    if(mainEventDetect_bulkCancel==false)
    {
        // get the folder
        if(isValidFolder(mainResult_bulkPath))
        {
            // move files
            for(i=0;i<dragDropItemCnt;i++)
            {
                // move it...
                moveFile(mainResult_bulkPath,dragDropFileItems[i].path);
                // write to settings...
                mainParam_fileName=dragDropFileItems[i].name;
                mainParam_folderPath=mainResult_bulkPath;
            }

            // move fodlers
            for(i=0;i<dragDropFolderCnt;i++)
            {
                // move it
                moveFolder(dragDropFolders[i],mainResult_bulkPath);
                mainParam_fileName=getFolderNameFromPath(dragDropFolders[i]);
                mainParam_folderPath=mainResult_bulkPath;
            }

            showPrompt();
        }
        else
        {
            throwError("Invalid or missing folder: \n\n" + mainResult_bulkPath);
        }
    }

    //clean-up
    mainEventDetect_bulkCancel = false;
    mainParam_bulkMove = false;
    mainParam_bulkPath = "";
    updateStatus(0);
    dragDropItemCnt=0;
    dragDropFolderCnt=0;
}

function moveUnknown()
{
    System.Gadget.Flyout.onHide = function(){};

    if(!mainEventDetect_moveCancel)
    {
        // first, process any items that need to be moved....
        if(isValidFolder(mainResult_newPath))
        {
            moveFile(mainResult_newPath,mainParam_filePath);
            fNoCheckForUpdate = true;
            // reload the settings
            setupGadget();
            //reset the window timeout...
            window.setTimeout("processDraggedItems()",100);
        }
    }
}

```

```

        else
        {
            throwError("Invalid or missing folder: \n\n" + mainResult_newPath);
        }
    }
    else
        mainPanel.innerText="";

    // clean-up...
    mainEventDetect_moveCancel = false;
    mainResult_newPath = "";
    updateStatus(0);
}

function moveFile(path, file)
{
    try {
        if(file.length>0 && path.length>0)
        {
            var oFile = System.Shell.itemFromPath(file);
            var oFolder = System.Shell.itemFromPath(path).SHFolder;
            oFolder.moveHere(oFile, moveFlags);
        }
    } catch (err) { throwError("Move file, Drag/Drop Operation. " + err.description); }
}

function moveFolder(src, dest)
{
    try {
        var fso = getFSO();
        dest += '\\\' + getFolderNameFromPath(src);
        fso.MoveFolder(src,dest);
    } catch (err) { throwError("Move folder, Drag/Drop Operation. " + err.description); }
}

function getFolderNameFromPath(folPath)
{
    var startPos = folPath.lastIndexOf('\\') + 1;
    return folPath.substring(startPos, folPath.length);
}

function showPrompt()
{
    // now show the flyouts.
    if((dragOrigCnt + dragDropFolderCnt)==1)
    {
        // may sure the flyout is hidden
        System.Gadget.Flyout.show = false;
        // set the timeout...
        window.setTimeout("return showFlyout('../html/fo_confirm.html')",1000);
    }
    else
    {
        // may sure the flyout is hidden
        System.Gadget.Flyout.show = false;
        // set the timeout...
        window.setTimeout("return showFlyout('../html/fo_confirm2.html')",1000);
    }
    updateStatus(0); // turn off notify
}

function updateStatus(b)
{
    switch(b)
    {
        case 0:
            mainPanel.innerHTML="";
            bStopUpdateStatus = true;
            break;
        case 1:
            window.setTimeout("statusLoop()", 500);
            break;
    }
    self.focus();
}

```



```

}

function statusLoop()
{
    if(bStopUpdateStatus)
    {
        window.setTimeout("resetStatus()",1000);
        return;
    }

    if(bStatusFlash)
    {
        mainPanel.innerHTML="<img src='../images/light-red.gif' />";
        bStatusFlash = false;
    }
    else
    {
        mainPanel.innerHTML="<img src='../images/light-yellow.gif' />";
        bStatusFlash = true;
    }

    window.setTimeout("statusLoop()",500);
}

function resetStatus()
{
    bStopUpdateStatus = false;
    mainPanel.innerHTML="<img src='../images/light-green.gif' />";
    window.setTimeout("mainPanel.innerHTML='';",3000);
}

function showFlyout(s)
{
    System.Gadget.Flyout.file=s;
    System.Gadget.Flyout.show = true;
}

function mainPanel_onclick()
{
    System.Gadget.Flyout.file="../html/fo_jump.html";
    System.Gadget.Flyout.show = true;
}

```

Gadget Add Events File

```

function Init()
{
    // new calendar
    cal = new CalendarPopup("Calendar");
    // disable days before today
    var today = new Date();
    today.setDate(today.getDate()-1);
    cal.addDisabledDates(null, formatDate(today, "yyyy-MM-dd"));
    // if edit mode, fill the form
    if(System.Gadget.Flyout.document.EditEvent) PopulateForm();
}
// show calendar
function ShowCalendar()
{
    // see CalendarPopup.js for more details
    cal.select(document.getElementById('EventDate'),'Anchor','M/d/yyyy');
}
// Validate and add an event to events list
function AddEvent()
{
    // clear error message
    ErrorMessage = "";
    // get data from form
    var name = document.getElementById("Name").value;
    var description = document.getElementById("Description").value;
    var date = document.getElementById("EventDate").value;
    var time = document.getElementById("EventTime").value;
    var notifyBefore = document.getElementById("NotifyBefore").value;

    // if data is valid :

```

```

if(ValidateData(name, date, time, notifyBefore)==true)
{
    // retrieve the appropriate Id to use
    var eventId = System.Gadget.Flyout.document.EventId;
    var radical = "Event" + eventId;
    // save data using System.Gadget.Settings.write
    System.Gadget.Settings.write(radical+"Id", eventId);
    System.Gadget.Settings.write(radical+"Name", name);
    System.Gadget.Settings.write(radical+"EventDate", date + " " + time);
    System.Gadget.Settings.write(radical+"Description", description);
    System.Gadget.Settings.write(radical+"NotifyBefore", parseInt(notifyBefore));

    if(!System.Gadget.Flyout.document.EditEvent)
    {
        // add a new event
        System.Gadget.Flyout.document.MainScript.AddEvent();
    }
    else
    {
        // just reload the events (edit mode)
        System.Gadget.Flyout.document.MainScript.LoadEvents();
        System.Gadget.Flyout.document.MainScript.DisplayEventInfo(eventId);
    }
    System.Gadget.Flyout.show = false;
}
// if data isn't valid :
else
{
    // show error message
    document.getElementById("ErrosList").innerHTML = ErrorMessage;
    document.getElementById("ErrorMessage").style.visibility = "visible";
}
}
// called by the cancel button
function Cancel()
{
    // hide the flyout (AddEvent.htm)
    System.Gadget.Flyout.show = false;
}

function ValidateData(name, date, time, notifyBefore)
{
    var result = true;
    // validate name
    if(name==null || name == "")
    {
        result = false;
        ErrorMessage += "<li>Event's name is obligatory.</li>";
    }
    // validate notification delay
    var notifyBeforeInteger = parseInt(notifyBefore, 10);
    if(notifyBefore==null || notifyBefore=="")
    {
        result = false;
        ErrorMessage += "<li>Notification's field is obligatory.</li>";
    }
    else if(isNaN(notifyBefore))
    {
        result = false;
        ErrorMessage += "<li>Notification's value should be an integer.</li>";
    }
    else if(notifyBeforeInteger <= 0)
    {
        result = false;
        ErrorMessage += "<li>Notification's value should be superior to 0.</li>";
    }
    // validate date
    if(!ValidateDate(date, time)) result = false;
    return result;
}

function ValidateDate(date, time)
{
    var result = true;
    // validate date
    if(date==null || date=="")
    {

```

```

        result = false;
        ErrorMessage += "<li>Event's date is obligatory.</li>";
    }
    else if(!isDate(date, "M/d/yyyy"))
    {
        result = false;
        ErrorMessage += "<li>Event's date is not valid.</li>";
    }
    // validate time
    if(time==null || time=="")
    {
        result = false;
        ErrorMessage += "<li>Event's time is obligatory.</li>";
    }
    else if(!isDate(time, "H:m"))
    {
        result = false;
        ErrorMessage += "<li>Event's time is not valid.</li>";
    }
    // make sure if datetime isn't before now
    else if(compareDates(date + " " + time , "M/d/yyyy H:m", formatDate(new Date(),
"M/d/yyyy H:m"), "M/d/yyyy H:m")==0)
    {
        result = false;
        ErrorMessage += "<li>Event's date time should be greater than the actual date
time.</li>";
    }
    return result;
}
// called in edit mode to fill the form
function PopulateForm()
{
    // retrieve the appropriate Id to use
    var eventId = System.Gadget.Flyout.document.EventId;
    var radical = "Event" + eventId;
    // fill form
    document.getElementById("Name").value =
System.Gadget.Settings.read(radical+"Name");
    document.getElementById("Description").value =
System.Gadget.Settings.read(radical+"Description");
    document.getElementById("NotifyBefore").value =
System.Gadget.Settings.read(radical+"NotifyBefore");

    var datetime = System.Gadget.Settings.read(radical+"EventDate");
    document.getElementById("EventDate").value = datetime.split(" ")[0];
    document.getElementById("EventTime").value = datetime.split(" ")[1];
}
// Hide the error window (div)
function CloseErrorMessage()
{
    document.getElementById("ErrorMessage").style.visibility = "hidden";
}

```