# CHAPTER FOUR

# IDENTIFYING NEEDS AND ESTABLISHING REQUIREMENTS

## 4.1 Introduction

This chapter describes in detail the techniques such as contextual inquiry and evaluating existing website through task analysis and task scenarios that is used to gather requirements for Blue Air Travel Website. The contextual inquiry and the evaluation of existing website gather a list of user interface requirements and functional requirements.

## 4.2 Criteria for Selecting the Participant

Participants' age is the primary focus of the selection criteria. The participant has to be 65 years old or above and this assists to evaluate the prominent cognitive issues. Next the participant has to be someone who is not information technology (IT) illiterate and as well as not an expert in using the Internet. Though the mentioned criteria are difficult for the researcher to get participants, eventually the researcher managed to get three participants who met the criteria. The participants are from the NASCOM's computer centre catered for the elderly based in Petaling Jaya. Participants are given an informed consent form (as seen in appendix B) to be signed to give consent for the type of activity carried out at their place. Throughout the process the same participant are used as there is lack of support from elderly with these mentioned criteria.

## 4.3 Contextual inquiry

Contextual inquiry is a technique devised to collect appropriate field data from the participants through a combination of interviews and observations. The enquiry was

carried out informally with the participants. The technique contributes to the initial design concept by providing an understanding of the nature of user's work (Holtzblatt et al., 1993). Based on the findings lists of user interface recommendations are derived. The following steps are taken to conduct the contextual inquiry:

1. Preparing a set of open ended interview questions and observation checklist.

2. Gathering information through interview question and observation checklist.

3. Summary of Contextual Inquiry Finding

**4.3.1 Preparing a Set of Interview Questions and Observation Checklist**

The objective of the interview and the observation for the contextual inquiry is to understand (Gaffney, 2004):-

- The users - knowing the following aspects: age, gender, computer, Internet experience, education, occupation, language of targeted users, kinds of technology that people will use to access the site, platform, browser versions, screen resolution and Internet connection.

- Their tasks –to know what users do, or will do, with the Website and not in a theoretical fashion, but in real life. Being aware of other important aspects of the supported tasks.

- Their values, concerns and issues- to know users value and cater to those values in the design. To know users' concerns and address them in the design. Some of the values and concerns are generic such as privacy, security, speed but there may

be more that is specific to the project. Identified issues are beneficial to be addressed in the design or else they may lead to pitfalls in the design.

Table 4.1 and 4.2 present the questions for the interview and observation. Both these enquiry based questions and the observation checklist are derived from the three objectives stated above. The enquiries on task are further identified with a task analysis later.

Table 4.1: Interview Questions

| |
|---|
| 1. Describe about yourself in brief. (users) |
| 2. Please tell you previous occupation.(users) |
| 3. What is your favourite past time/leisurely activities?(e.g. travelling)(users) |
| 4. How many hours in a week do you spend browsing the Internet? Explain further about the type of Internet connection you get. Where do you browse normally?(users) |
| 5. Do you encounter any physical constraint while browsing the Internet?(user) |
| 6. How do you acquire the skills to browse online?(users) |
| 7. Please comment if you use the' accessibility tools' on the computer?(user) |
| 8. What do you normally do when browsing a website that does not go the way you expect? (Issues) |
| 9. What kind of information do you value from the websites that you browse?(Values) |
| 10. Are you aware of data privacy and security? What is your comment?(values and concerns) |
| 11. Are there any other issues with regards to website interfaces that you would like to comment on?(In usability context)(issues) |

Table 4.2: Observation Checklist

1. Is the participant proficient in English?(users)
2. What sort of functional impairments are noticeable amongst them?(users)
3. What sort of computer does the participant use in the centre?(users)
4. What type of mouse did the participants use?(users)
5. Do they have printer? Do they share them?(users)
6. What are the preferred learning styles amongst the participants?(users)
7. What other online tasks are the participants seen carrying out?(tasks)
8. Are there people around to support the participants? (tasks)

**4.3.2 Gathering Information through Contextual Inquiry**

As stated in section 4.3, contextual inquiry technique involves two main activities: interviews and observations. The interview is carried out first, followed by the observation.

Three interviews are carried out based on the questionnaires in table 4.1. The researcher scribes anecdotal notes while the interview is carried out. A tape recorder is used to record the interview. This is to prevent any missed data. Then, observation is carried out by watching the participants while they are working online at the computer centre. The researcher records the participants actions and aspects of their environment based on the checklist in table 4.2.

**4.3.2.1 Interview and the Summary of the Session with Participants**

The results of the three interviews are described below:

**Participant 1**

1. The first participant, Mr. Foo, is a 79 year old retiree.

2. He is a retired businessman.

3. He likes to learn new things on the computer from his grandson, exercising and travelling are also his favourite leisurely activities. He enjoys travelling and relaxing in places with his wife. He loves to listen to the songs from the 60's and 70's. He prefers anything that is considered relaxing.

4. He uses the Internet at least an hour a day and spends almost 10 hours a week. He has dial up service in his house. He has a Pentium 4 computer which he shares with his grandson at home.

5. He learns his tasks by trial and error, reading instructions and also from the computer class tutor.

6. He claims that obviously his eye sight is getting worse because of his age. He cannot really see small fonts and also too much florescent colour and bright colour with his eyes. He also gets irritated at blinking messages and running banners. Furthermore he cannot sit too long. The maximum he can sit is 1 hour.

7. He said that he has learned to use the accessibility tools in class before but it is too troublesome to use it. He would rather get spectacles to read.

8. He usually gets irritated and annoyed when he does not get what he expects and needs on a website. He is not very keen to revisit such web sites and this limits his access.

9. He values information which is up to date such as stock exchange reports. This is really important as he gets his income through that.

10. He was very concern about data privacy that requires credit card details. He will never trust the websites that are not established. He does not want to get into trouble as his son provides him with the credit card.

11. He said that there should be considerations towards elderly like him who likes to try to book online but have problems to book. He suggests discounts on fare for elderly as he loves travelling. Most of the time he is lost if he enters new websites which have many steps to conduct a task such as booking online.

**Participant 2**

1. The second participant, Catherine, is a beautiful women aged 78. She is a widow for the past 10 years.

2. She is a beautician before she owned her own beauty parlour.

3. She loves to relax in her free time. This includes travelling with her friends that gives her good company. She also browses the Internet to check emails and search for information.

4. She has been learning computer for the past two years. She goes online almost daily. She uses at least 30 minutes a day but in class sometimes she uses almost 1 hour 30 minutes as the tutor will help her if in doubt. She uses dial up service at home.

5. She claims she has problem in eye sight and is slow in learning. She admits she took very long to learn how to use the chat program, check her email as she often forgets the steps. Colour and too much information on certain websites hinder her from learning about the web sites. She sometimes gets irritated with clicking the mouse and also slow downloads.

6. She learns herself from trying it out and she always asks the tutor in the class in case she does not know.

7. She knows as the tutor has taught before but she does not remember.

8. She will discontinue browsing the same website if she does not get what she needs from that website.

9. She values up to date information about the latest technology on beauty products and emails from her grandchildren as they are far away studying.

10. She does not use credit card online and she uses any debit facility if available.

11. Some websites are too complicated for her. She also added that some links are not consistent.

## Participant 3

1. Mr. Chin is 80 years old .He likes to learn things and does not like to waste time.
2. He was formerly a judge.
3. He loves to meet up with his old friends. He loves travelling to local destinations during his free time. He also likes to learn further about computers and stresses that Internet is really fulfilling his free time.
4. He has been browsing the net for the past two years. He uses it almost 10 hours a week, in his house as he has bought a brand new notebook to get connected to the net. He uses the dial up to connect to Internet
5. He finds certain web pages too glaring for his eye. Some of the websites are just too complicated for him. He usually gets lost and he admits he is quite slow.

6. He learns by himself, his also ask his family members and the tutor.
7. He forgot where to find it in the computer.
8. He does not like to browse anymore as his eyes get watery if he stays too long in pages that drag him too long.
9. He values accuracy in data.

10. He says that he does not trust using credit card initially but looking onto the amount of things sold online he said he has to trust nowadays.

11. He finds it difficult to get a page which is really clear and neat in content with bigger fonts.

**The Summary of the Interview for Contextual Inquiry**

Table 4.3 presents the summary of the interview results according to the three objectives.

Table 4.3: Summary of the Interview for Contextual Inquiry

| Questions | Summary of Results from Elderly |
|---|---|
| **Users** | |
| 1. About the Participants. | Retired, widow |
| 2. Participant's Previous occupation | Businessman, beautician and judge. |
| 3. Their favourite past time. | They love relaxing, travelling and meeting friends, listening to music, reading about health, beauty, religion and surfing the Internet. |
| 4. How many hours in a week they browse the Internet. Explain further about the type of Internet service they get and where they browse. | They use 7- 10 hours a week browsing the Internet. They access computers in their computer class and as well as from home. They attend classes two to three times a week. Although they are using broadband connection, the connection is also very slow at the centre because of too many participants sharing the bandwidth. |

| | |
|---|---|
| 5. Their physical constrains | Difficult to read small fonts, florescent and bright colour fonts. Too much information on certain websites irritates them, they cannot sit too long, have poor eye sight, are quite slow to catch up, forget the steps, get annoyed with blinking messages and running banners, get irritated with clicking the mouse and get lost easily. |
| 6. How do they acquire skills to browse online? | Self learned, reading instructions, tutor and family members. |
| 7. Comment on the accessibility options on the computer. | None of them use this option and they also find this option troublesome to use. |
| **Values, Concern and Issues** | |
| 8. What do they normally do when websites do not meet their need? | Stop browsing anymore as eyes get watery and discontinue browsing because they get irritated and annoyed. |
| 9. What kind of information do they value from the websites that they browse? | Up to date and accuracy of information and email from loved ones. |
| 10. Their comment on the data privacy and security. | Concern about credit cards details online and one participant suggested debit facility. |
| 11. Other issues regards to website that they have commented. Like | The complicated web page does not encourage them to browse the particular |

| | web page again. Slow downloads. Wants discounts for elderly. Inconsistency of links area another problem. Elderly also finds that pages which are not up to date are difficult to trust. |
|---|---|
| usability. | |

### 4.3.2.2 Observation Summary of Participant

Table 4.4 shows the observations summary based on the observation checklist:

Table 4.4: Observation Result

| Questions | Observations |
|---|---|
| **Users** | |
| 1. English proficiency of the participants. | The level of English among the users is fine. |
| 2. Noticeable functional impairment. | They have a slow response time when undertaking the task, some of the cause for this is clicking the mouse, and they do not understand the task the tutor gives them, prone to be doing the wrong sequence of the tasks. |
| 3. What sort of computer are the elderly using in the centre? | Pentium 2 computers. They are not upgraded and have too small a memory on the computer so it slows down the process of doing any tasks. |
| 4. What type of mouse does the elderly participant use there? | Old serial mousses |

| | |
|---|---|
| 5. Technology around them? | Old model of printer which is not shared |
| 6. How do they learn the tasks? What type of learning style do the elderly has? | Through themselves, reading instructions, by asking tutor. They have 'read then do' style. They are noticed to read carefully if there are instructions before they do any move. They tend to read almost everything on the page. |
| **Tasks** | |
| 7. Other online tasks that the participants carry out. | Searching in Google and Yahoo |
| 8. Are there people around to support the participants? | The tutors or they are seen reading instructions on the screen to help them. When reading takes place, they read word by word. |

### 4.3.3 Outcomes from Contextual Inquiry

Table 4.5 presents the outcomes from contextual inquiry which is based on the interview summary and the observation summary. The outcomes are the recommendations to user interface, functional and data requirements. The table is divided into user, task, concern, values, environment and issues category.

Table 4.5: Recommendation and Requirements Identified from Contextual Inquiry

| **User** | **Recommendation/Requirements** |
|---|---|
| Age 65 and above. Retired and widow | Website should take into consideration all the functional impairment such as eye sight constraint and simple |

| | design of web pages as well as information which interest them. |
|---|---|
| They love to relax, read about health, beauty and travelling. | The website should include rest and relax information. |
| Participants using dial up at home. | The website should have quickly to download pages. |
| Cannot see small fonts. | Fonts must be big and to provide buttons to increase font size. |
| Florescent and bright colour and glary websites are not liked by them. | Colour which are glaring and bright to be avoided. |
| Too much information on certain websites irritate them, forgets the steps. The complicated web page does not attract for the second time. | Too many information on the pages to be avoided. |
| Gets annoyed with blinking messages and running banners | Website is to avoid blinking message and running banners |
| Gets lost easily. | To provide breadcrumbs on the design of pages. Try to make fewer steps so that easy to remember. To have |

| | consistency in design and in links to other pages. |
|---|---|
| Other than tutors, users learn the skills to browse through instructions and family members. | Website to provide instructions to read. |
| The accessibility is not well received by the users | The font increase button and decrease button is essential to be on each pages as users do not use the magnifier in the accessibility option. |
| English proficiency is good. | Website can be in English with easy English Verb and Nouns for wider range of users. |
| Slow in any task they did, they have problems clicking the mouse, take very long to finish the task the tutor gave them .They sometimes get the wrong sequence of tasks. | Website to provide easier steps to achieve the tasks. Also easy to read instructions with the each step they carry out, in order to easily carry out the tasks. |
| Old computers. | The web pages must have fewer pixels for quick downloads. Should consider less images too as old computers are slower. |
| Old serial mouse | Every link should be in single click of mouse. |
| As they do not always have people to help they learn tasks by themselves too. | There should be instructions on each page. |

| | |
|---|---|
| They read then do. | They are to be provided with clear step by step instructions on the relevant pages. |
| Printer not shared. | The website should include a print function on the itinerary display page as well as to provide link to send itinerary to email address. |
| **Task** | **Recommendation/Requirements** |
| Tasks which do not go the way users want irritate users till they stop browsing. | Website to provide steps which are clear and expected moves. |
| They like to search in Google and Yahoo | To include link to search Engine |
| **Values, environment, concerns and issues** | **Recommendation/Requirements** |
| **Values**: Accurate data, speed | Data to be up to date and correct information and fast to download pages. |
| **Concerns**: Credit Card Details online | There should be debit facility included to avoid deterring the elderly from using the online bookings. |
| **Issues**: Trust | To make sure the last update date is included. To provide Debit facility too. |

## 4.4 Evaluation of Existing Website

Evaluation of existing website is focused on task analysis and task scenarios. Task analysis identifies the elderly goals, tasks, actions of accessing the Blue Air Travel

website. The goals are what the elderly want to achieve at the site. Meanwhile the tasks are what they have to do in order to accomplish the goal. Actions on the other hand are the steps taken as part of the task. The finding establishes the functional requirements. These tasks are used to create task scenarios to derive user interface requirements which are specifically related to the procedure of accomplishing the tasks for the Blue Air Travel Website.

### 4.4.1 Task Analysis-Gathering the Goals from the Participant

The session is carried out through observation and analyzing the participants while they are accessing 'Air Asia', the existing travel website. The mentioned website is a very popular airline website in Malaysia. The Airasia website is considered to be in a travelling website category because its website has services which are more than just flight bookings. It has other functionalities such as hotel bookings, package booking (hotel +flight), destination information, car rental and many other elements which can be very useful to be reviewed for adapting into a prominent travel website.

While the participants are browsing and interacting with the website they are encouraged to verbalize and give running commentary on every step they are taking (think-aloud technique). The observer monitors participants on what task the participants carry out and how they are carrying out the task. To clarify further the researcher also informally asks questions pertaining to the task they are doing and actions they carry out to achieve certain goals.

**4.4.1.1 Goals, Task and Actions**

There were a few goals discovered while the users browsed. This determined a scope of content for Blue Air Travel website. Although the findings were not consistent for all users but a summary has been made as per the following:-

1. Booking a Flight

2. Booking  a Hotel

3. Booking a Package

4. Finding for Travel Tips

5. Looking for Travel destination Information

6. Signing as member

The goals are achieved through the following list of tasks and actions (subtasks).

**Goal 1: Book a Flight**

Task 1: Entered wanted criteria to search a return trip flight ticket

Subtask 1:     Select either return trip or one way

Subtask 2:     View the Country available

Subtask 3:     Select the Departing Country

Subtask 4:     View the Country available

Subtask 5:     Select the Arrival Country

Subtask 6:     Select the departure date and month

Subtask 7:     Select the arrival date and month

Subtask 8:     Select the number of passengers and infant

Task 2: Selecting the appropriate flight

    Subtask 1:    View the available flight

    Subtask 2:    Select the flight

Task 3: Confirmation

    Subtask 1:    View Flight Details and Price breakdown

    Subtask 2:    Enter Passengers details

    Subtask 3:    Billing address

    Subtask 4:    Choose credit or debit payment

    Subtask 5:    Enter confidential information

    Subtask 6:    Confirm

Task 4: Itinerary display with Reservation Code

**Goal 2: Book a Hotel**

Task 1: Setting wanted search for the wanted destination of the hotel

    Subtask 1:    View the City available

    Subtask 2:    Select the City

    Subtask 3:    Select the dates

    Subtask 4:    Select the number of rooms

    Subtask 5:    Select the number of people adults and children

Task 2:  Selecting the Hotel

    Subtask 1:    View the available hotel

    Subtask 2:    Select the hotel

Task 3:  Select Room Type

    Subtask 1:    View the Selected Details with different types of room

    Subtask 2:    Select the room type

Task 4: Confirm payment and Reservation Information

    Subtask 1:    View total and Itinerary

    Subtask 2:    Enter purchaser's details

    Subtask 3:    Enter confidential information

    Subtask 4:    Confirm

Task 5: Itinerary display

**Goal 3: Package Booking**

Task 1:  Setting wanted search for the flight ticket and the hotel

    Subtask 1:    Select either return trip or one way

    Subtask 2:    View the Country available

    Subtask 3:    Select the Departing Country

    Subtask 4:    View the Country available

    Subtask 5:    Select the Arrival Country

    Subtask 6:    Select the departure date and month

    Subtask 7:    Select the arrival date and month

    Subtask 8:    Select the number of rooms

    Subtask 9:    Select the number of passengers of passengers and infant

Task 2: Selecting the appropriate hotel

    Subtask 1:    View the available hotel

Subtask 2:     Select the hotel

Task 3: Selecting the flight

Subtask 1:     View the available flights

Subtask 2:     Select the flight

Task 4:  Enter Passengers Details

Subtask 1:     View Flight Details and Price total

Subtask 2:     Enter Passengers details

Task 5:  Enter Purchasers Details

Subtask 1:     Enter purchasers/passenger details

Subtask 2:     Register as member

Task 6: Confirm payment and Itinerary

Subtask 1:     Choose credit or debit payment

Subtask 2:     Enter confidential information

Subtask 3:     Billing address

Subtask 4:     Confirm

Subtask 5:     Itinerary display

## Goal 4: Travel Tips

Task 1: Select the Travel Tips

Task 2: View the information Requested

## Goal 5: Travel destination Information

Task 1:     Select the destination Information

Task 2:     Select the name of the destination

Task 3:     View the description of the destination

**Goal 6: Signing as member**

    Task 1:   Select New User Registration

    Task 2:   Enter Details

    Task 3:   Confirm

### 4.4.1.2 The Established Functional Requirement

The Blue Air Travel website should consist of six main modules:

1. Booking a Flight Module– The website allows elderly to book a flight.

2. Booking a Hotel Module – The website allows elderly to book a hotel to stay.

3. Booking a Package Module – The website provides elderly packages to book.

4. Travel Tips Module– The website provides elderly with information's on travel preparations and tips.

5. Looking for Travel destination Information Module- The website provides elderly with information's on travel destinations.

6. Register as a member Module – The website allows elderly to register as a member of the Blue Air Travels.

### 4.4.2 Task Scenario

The evaluation is continued by carrying out task scenarios on the Air Asia Website (2006), through derived functional requirements from task analysis. This identifies the user interface requirement specifically related to the procedure of accomplishing the tasks. Figure 4.1 presents a task sheet with three task scenarios selected from section 4.4.1.1 and labelled as easy, moderate and difficult based on the number of steps to accomplish each task.

The task scenario is given to participants to follow through and answer them. The participants need to write down their findings on the task sheet given to them. While participants are carrying out the task scenarios they are encouraged to explain what they are doing while they are doing it (think aloud technique). They are told to explain what they expect from the activity and what they discover. The researcher observes and records every user interface problem they encounter and suggestion from the participants. The time taken to complete each task is also recorded.

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**Task Scenarios**
**Task One-Easy**
1. List ALL the destinations available from the Airasia website behind this paper.

**Task Two-Moderate**
2. Please book a flight booking for four people to Chiang Mai, please choose the cheapest fare possible. The date to be chosen is next year 20$^{th}$ January till 26$^{th}$ January. State the total price here RM_____.


**Task Three-Difficult**
3. Please book a package for a person to Bangkok. The date to book
is from 20$^{th}$ December till 25$^{th}$ December in the evening. Please book an average room in Hotel Woodlands Hotel and Resort, Pattaya. Please state the total amount here.
RM_____.

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Figure 4.1: Task Sheet


**4.4.2.1 Task Scenario Result**

The table 4.6 describes the observation carried out when the participants were conducting the task scenarios.

Table 4.6: Observation Result during Task Scenario

| Participant /Task | Mr. Foo | Mr. Chin | Mrs. Catherine |
|---|---|---|---|
| **Task 1** | -Executed easily<br>-1min 05 sec | - Executed easily<br>- 1 min 15 sec | - Complained about being to glaring for her. The red was too bright.<br>- Executed with no problems<br>-1 min 20 sec |
| **Task 2** | - Went through the whole page to get to the booking corner. Complained of too many things moving on the page.<br>- Was slow he was confused over the go holiday and flight.<br>- Had to explain the difference to him<br>- Complained the layout was so confusing<br>- Took a very long time to complete<br>- 9 min 47 sec | - Commented a lot while doing work but most of the time repeating what he said earlier. He commented the font size was too small.<br>- Was doing package booking without noticing that it was just flight booking.<br>- Eventually had to help him out.<br>- Later he could not find the word booked as he was searching for it quite some time. It was not booked it was "search" on this page.<br>- He was reading practically every line of rules and regulations.<br>- Also commented the layout to be too confusing.<br>-Took a very long time to complete<br>-15 min 55 sec | - Executed the task late as she was very distracted with promotion on the screen and got carried away for awhile. Then she took some time before she could find the column for booking but she commented that it is so isolated for anyone to notice.<br>- 10 min 20sec |
| **Task 3** | - Flight for package was available but no hotel. No warning on this as at the last | - Problems were on the word 'Go' this time<br>- This time he looked for the | - Looked very confused at first<br>- Clicked on the wrong |

68

| | | word "search" again this time inconsistency<br>- He had enough time looking for the hotel he was supposed to book.<br>-He managed to Book<br>-17 min 13 sec | link and had a tough time getting back to her original page.<br>- She got the task wrongly done as she only booked for two instead of one person. So she had to go back to the main page, which resulted on everything being erased. -<br>- She was irritated when she had to key in the second time but she was more careful this time. She complained on how user unfriendly the online booking was.<br>- 15 min 26 sec |
| | part he could make a package booking.<br>- He quit<br>- Task not completed | | |

## 4.4.2.2 User Interface Requirements from the Evaluation of Existing Website

Table 4.7 present user interface problems and its requirements derived from the

observation results.

Table 4.7: User Interface Problems and Requirements from the Evaluation of Existing

Website

| User Interface Problems | Requirements |
|---|---|
| Complained red colour too glaring | To avoid too much use of bright colours |
| Font size was difficult to read | Font size to be size 12 and 14 and also |
| Inconsistent verb and noun | To use consistent verb and noun |

| | command buttons on all pages. |
|---|---|
| Confused over phrase 'Go holiday' and 'flight '. Redundant links with different names. | Replace with 'Book Now' |
| Pages are not direct to the point | The pages must be clear and direct to the point. |
| Main functions to be obvious to elderly eyes | Flight booking, hotel booking to be very obvious on all the pages. |
| Layout was confusing because of too much information on one page. | Layout to be simple and clear. |
| Dissatisfaction on the word "search" on this page. | Web page to change to 'next'. |
| The word 'Go' was confusing | Web page to change it to 'Next'. |
| Task which are too lengthy makes eyes watery | Make steps of task as easy and simple as possible. |
| Tough time getting back to original page. | All pages must be linked to the main page. |
| Promotions pop out menus are distracting on the first page | Promotions as a single link |
| Package Booking too difficult | Package booking to be simpler |
| Animation and moving objects on the first page were too distracting | To avoid any animation and moving object especially on the first page. |

## 4.5 Summary of the User Interface (UI) Requirement from Contextual Inquiry and Evaluation of the Existing Website

This section compiles the UI requirement for Blue Air Travel Website based on the results in table 4.5 and 4.7 from the elderly. The UI requirements are combined and mapped

according to the four categories of the guidelines derived earlier in chapter 2. Table 4.8 presents the compiled list of UI requirement. Part of the UI requirement only can be shown in the low-fidelity (paper prototype) because it needs the GUI support. This list is fully incorporated into hi-fidelity prototype (software version) because it supports the GUI screen design. The table 4.8 also indicates the features of the UI requirement that is applied in the low-fidelity prototype.

Table 4.8: User Interface Requirements

| Guideline Category | User Interface Requirements | Application |
|---|---|---|
| **Content** | To avoid too much use of bright colours. | High-fi |
| | Colour which are glaring and bright to be avoided. | High-fi |
| | Font size to be size 12 and 14 and also. Fonts to be big and to provide buttons to increase font size. | High-fi |
| | To provide easy to read instructions with each step of task. In order to easily carry out the tasks. | Low-Fi / High-fi |
| | To provide information on rest and relaxation. | Low-Fi / High-fi |
| | To make sure the last update date is included. | Low-Fi / High-fi |
| | There should be debit facility. | Low-Fi / High-fi |
| | Website can be in English with easy English Verb and Nouns for wider range of elderly. | Low-Fi / High-fi |
| | To use consistent verb and noun command buttons on all pages. | Low-Fi / High-fi |
| **Layout and Style** | Replace Flight booking on front page with 'Book Now' | Low-Fi / High-fi |

| | To design a very simple interface with fewer things on the front to avoid appearing too complicated. | Low-Fi / High-fi |
|---|---|---|
| | To have lesser irrelevant information on the screen. The pages must be clear and direct to the point. | Low-Fi / High-fi |
| | To have consistency in design. | Low-Fi / High-fi |
| | There should be instructions on how to perform the tasks through help. | Low-Fi / High-fi |
| | Flight booking, hotel booking to be very obvious on all the pages. | Low-Fi / High-fi |
| | Layout to be simple and clear. | Low-Fi / High-fi |
| | Web page to indicate if there is special discount for elderly to attract them | Low-Fi / High-fi |
| | Accurate information to be emphasized. | Low-Fi / High-fi |
| | The website should include a print function on the itinerary display page but as well to provide link to send itinerary to email address. | Low-Fi / High-fi |
| **Navigation and Mechanism** | Web page to use 'Next' on button's linking to next page. | Low-Fi / High-fi |
| | To provide fewer steps to achieve the goals. | Low-Fi / High-fi |
| | Package Booking to have easier steps to achieve the tasks | Low-Fi / High-fi |
| | To provide breadcrumbs on the design of pages. | Low-Fi / High-fi |
| | To have consistency in links to other pages. | Low-Fi / High-fi |
| | Every link should be in single click of mouse. | Low-Fi / High-fi |
| | Promotions as a link | Low-Fi / High-fi |

| | All pages must be linked to the main page. | Low-Fi / High-fi |
|---|---|---|
| **Multimedia and Animation** | The web pages must have fewer pixels for quick downloads. Should consider fewer images too. | High-Fi |
| | To avoid any animation and moving objects especially on the first page. | High-Fi |

## 4.6 Summary

This chapter explains the contextual inquiry and evaluation of an existing website to establish the user interface requirements and functional requirements. The gathered user interface requirements and the functional requirements contribute to the design of the Blue Air Travel Website.