Chapter Four

DESIGNING SOFTWARE SOULTIONS & PRODUCT THE PACKAGES

Users of Internet technology Use Web pages to interact with the content of the Internet, also using browsers that work as an interpreter of the high-level language into a language understood by the low level of the computer to view this content.

4.1. The Web Application:

We are developed an application that supports the use of a voice interface interacts with the visually impaired as follows: After choosing the type of disability opens the page devoted, visually impaired user interact with the site by listening to the audio button and then clicking icons or by visually impaired user voice commands, and diagram shows the process of disabled interaction with the Web site.

Figure 4-1 **UML use case diagram**

4.1.1. Web application For Blindness Users:

Blindness Users interact with the site by listening to the audio button and then clicking icons or by visually impaired user voice commands and figure shows the process of disabled interaction .with the Web site

Figure 4-1 Blindness Users Talks to website & Will interact

:Web application for low vision Users .4.1.2

Low vision Users interact with the website after resize web page and content Compatible with various degrees of vision level, figure shows the process of Low vision Users interaction with the .Web site

Figure 4-1 **Content Size Controller for low vision Users to Make best Resolution**

:Web application for Color Blindness Users .4.1.3

Color Blindness Users interact with the website after Change the background color with text color synchronous, that allow users to view all content to several of color blindness degrees ,figure shows the process of Color Blindness Users interaction with the .Web site

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Figure 4-1 **concurrent background, font Color Change for Color Blindness Users**

:The Web Browsers .4.1

We are developed an web browser depend on voice interface to interacts with the visually impaired as follows: After choosing the type of disability opens the page devoted, visually impaired user interact with the browser by listening to the audio button and then clicking icons or by visually impaired user voice commands, and diagram shows the process of disabled interaction with the Web browser.

Figure 4-1 **UML use case diagram**

:Browser using via speech of the disabled .1 .4

Visually impaired user operate browser via Speech using the operation below

4.1.1 Open Browser:

Disabilities web browser open when operating system start up on Computer.

4.1.1.2 Pre-Condition:

Disabled user he need to external software to open browser.

4.1.1.3 Post- Condition:

The Disabled users open the browser without using external software.

4.1.1.4 Event Flow:

- Start up the computer.

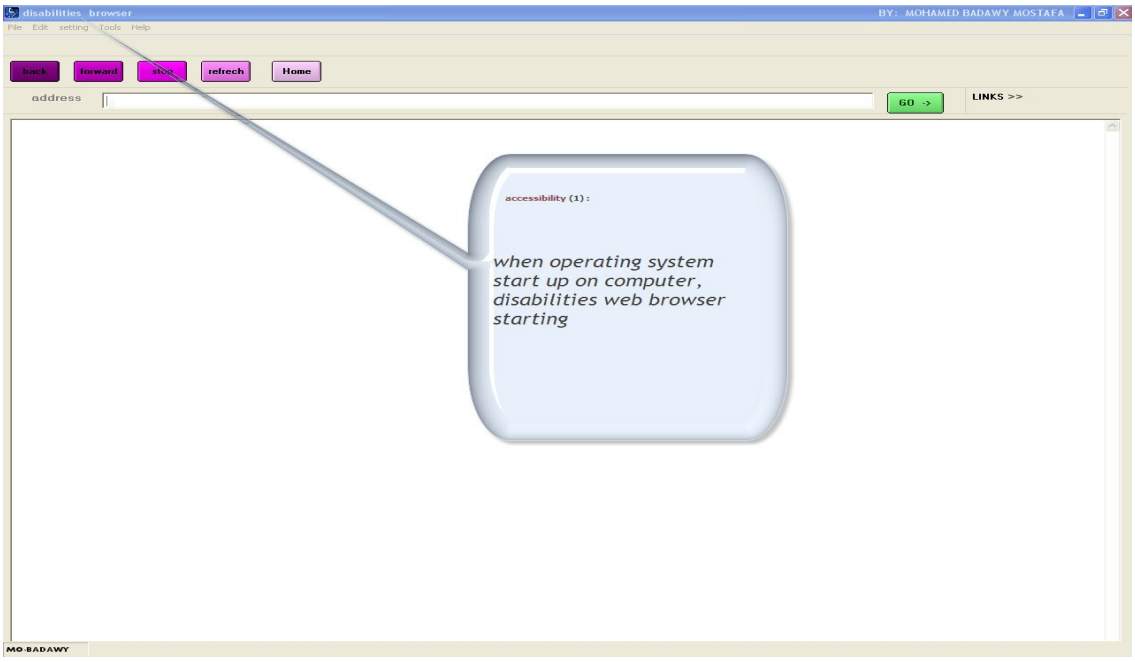

Figure 4.1 open Browser

:Open Home page .4.1.2

Disabled user can open the home page for browser When he
." Say: "HOME

:Pre- Condition .4.1.2.1

.Disabled user can't open Home page for browser

:Post- Condition .4.1.2.2

.Disabled User Open Home page for browser via his voice

:Event Flow .4.1.2.3

.Saying: home -

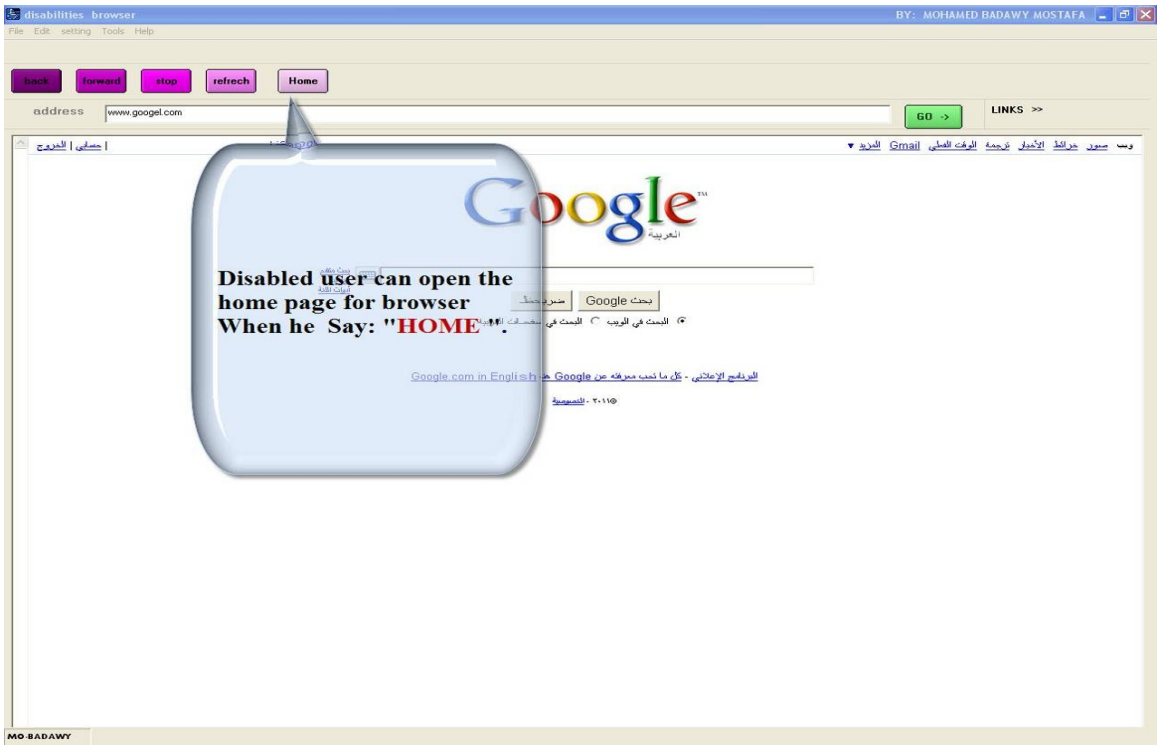

Figure 4.2 open Home page

:Go to website address .4.1.3

When web browser open, disabled user is listening to web .browser it speak & say web addresses menu

:Pre- Condition .4.1.3.1

Disabled user he need to external software for going to websites .addresses

:Post-browser Condition .4.1.3.2

Disabled user open website after listen to browser via his voice

:Event Flow .4.1.3.3

- .Listen to browser

.Saying: his website -

Figure 4.3 Go to website address

:Refresh website page .4.1.4

To Refresh & reload the current resource disabled user .Say: "refresh" for this event

:Pre- Condition 4.1.3.1

.Disabled user can't refresh website page

:Post- Condition 4.1.3.2

Disabled user refresh website page via his voice

:Event Flow 4.1.3.3

-Saying "Refresh."

Figure

4.4 Refresh website page

:Open browser links .4.1.5

Disabled user can open the links for browser to be easy go to
.”web address when Disabled user saying "link

:Pre- Condition .1 .4.1.5

.Disabled user can't open favorite hyperlink

:Post- Condition .2 .4.1.5

. Disabled user open favorite hyperlink & interact

:Event Flow .3 .4.1.5

."Say:"link-

Figure 4. **Open browse link**

5

Browser language Change (speech/ interface) to .4.1.6 :Arabic

Disabled Can Change Web browser language (speech/ interface) .to Arabic

:Pre- Condition .1 .4.1.6

Disabled user can't interact with browser via Arabic language

:Post- Condition .2 .4.1.6

Disabled user can interact with browser via Arabic language

:Event Flow .3 .4.1.6

."Saying: "change -

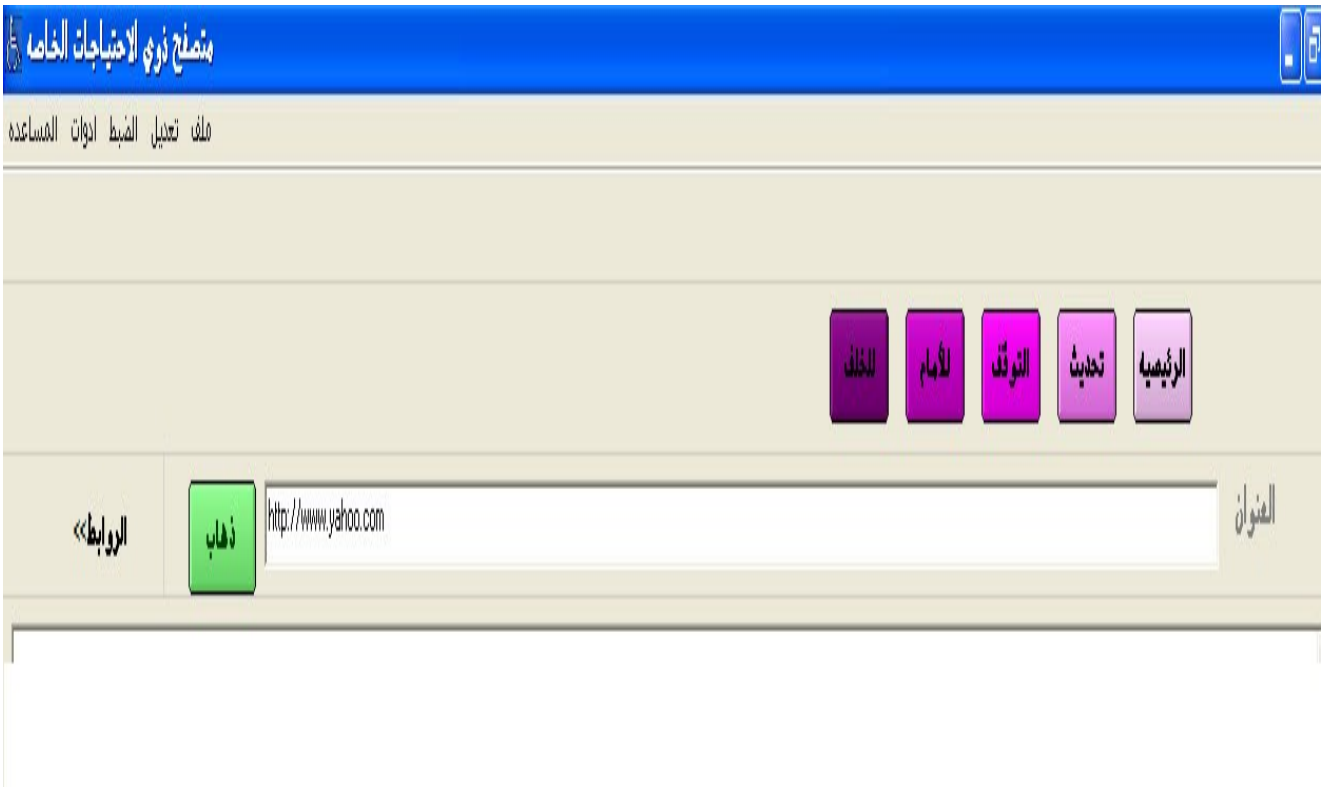

Figure 4.6 **language Change (speech/ interface) to Arabic**

4.1.7. Open browser help:

Browser help is a audio file include help document & FAQ to how use Browser, open at saying: "help" for open web browser help & say questions.

4.1.7.1 Pre- Condition:

Disabled user can't open web browser help.

4.1.7.2 Post- Condition:

.The Disabled users listen to browser help & say questions

:Event Flow .3 .4.1.7

.Saying: help -

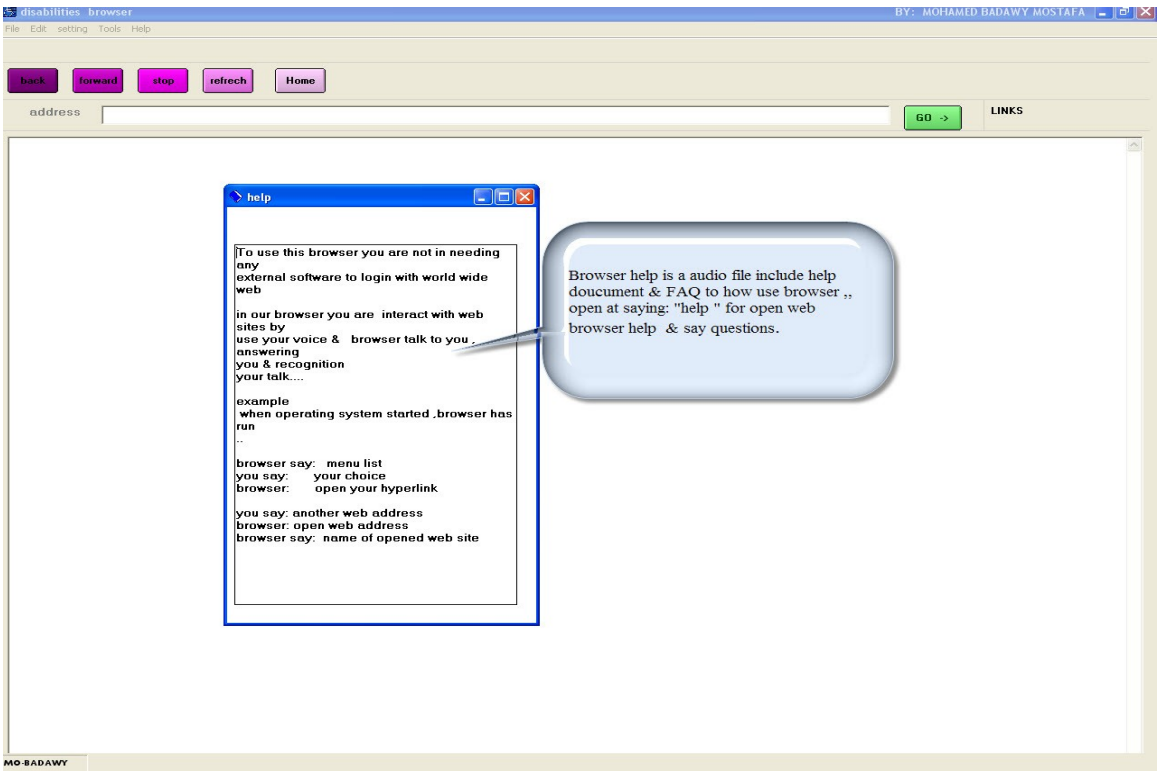

Figure 4.7 **open browser help& FAQ**

:Close Browser .4.1.8

When Disabled user finishes his work online he can close ."Disabilities web browser when he say: "close

:Pre- Condition .1 .4.1.8

.Disabled user can't close web browser after finish

:Post- Condition .2 .4.1.8

.The Disabled users close the browser after finish

:Event Flow .3 .4.1.8

.Saying: close -

:Browser using via hearing to audio buttons .4.2

Visually impaired user operate browser via hearing to audio buttons using the operation below

:Writing websites in address bar .4.2.1

Disabled user can write after mouse Move at address bar abscissa ”on screen then listen for: "enter your address here

:Pre- Condition .4.2.1

Disabled user he need to external software for write to websites .addresses

:Post- Condition. 4.2.2

Disabled User write website address in address bar

:Event Flow 4.2.3

Move mouse at address bar abscissa on screen-

- Listen to “enter your address here “from audio address bar

click on address bar-

.writing websites in adders bar-

Figure 4.8 **writing websites in address bar**

:Go to website address .4.2.2

After Disabled user write web site address on address bar he can going to this address when mouse Move at abscissa button "Go" " on screen to listen for : "Go

:n $Pre-Conditio$ **.4.2.2**

Disabled user he need to external software for going to websites .addresses

:Post- Condition .4.2.3

.Disabled user can go to website address

:Event Flow .4.2.4

Move mouse at "GO" button abscissa on screen-

- Listen to " GO" from audio "GO" button

click on "GO" button-

Figure 4-9 **Go to website address**

:Open Back page .3 .4

Disabled user can open the back page for browser When he Move mouse at "back" button after that listen for : "back " To click on button

:Pre- Condition 4.3.1

.Disabled user can't open back page for browser

:Post- Condition .4.3.2

.Disabled user open back page for browser

:Event Flow .4.3.3

Move mouse at "back" button abscissa on screen-

-Listen to "back" audio button

click on "back" button-

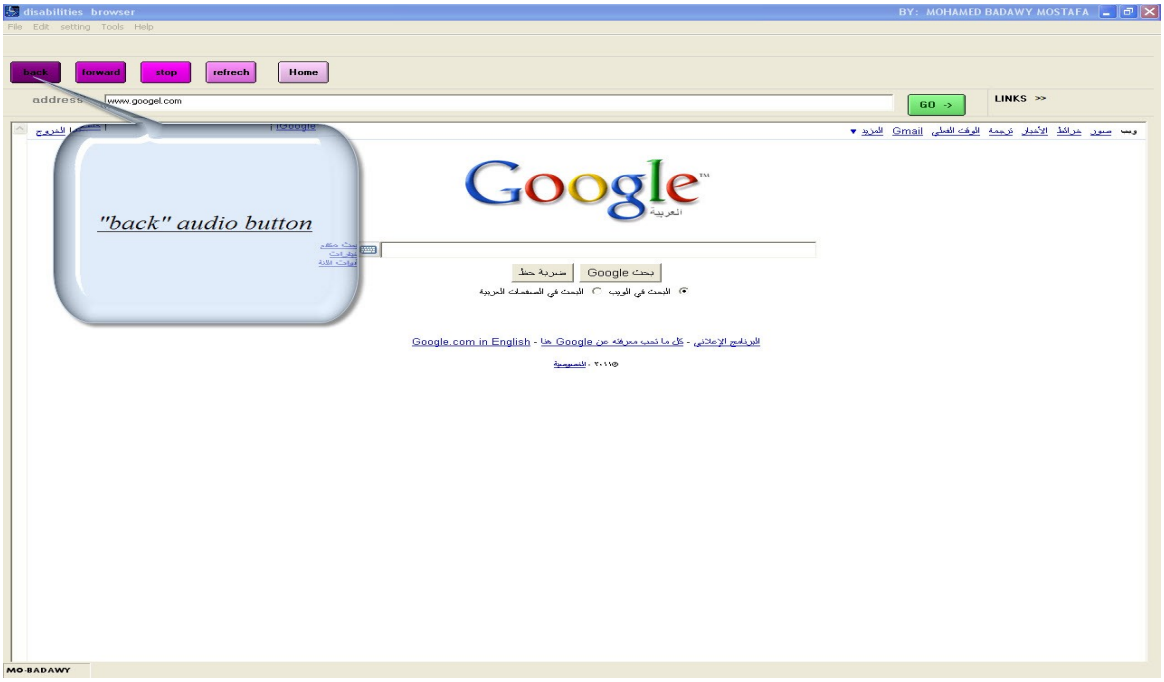

Figure 4-10 **open Back pages**

:Open browser link 4.4

Disabled user can open the links for browser When he Move mouse at "link" button after that listen for : "link " , browser .appear list of link then chose link after hearing it

:Pre- Condition 4.4.1

.Disabled user can't open favorite hyperlink

:Post- Condition 4.4.2

.Disabled user open favorite hyperlink & interact

:Event Flow 4.4.3

Move mouse at "link" button abscissa on screen-

- Listen to " link" from audio "link" button

listen to favorite hyperlink list after appear from browser-

.Click on website link -

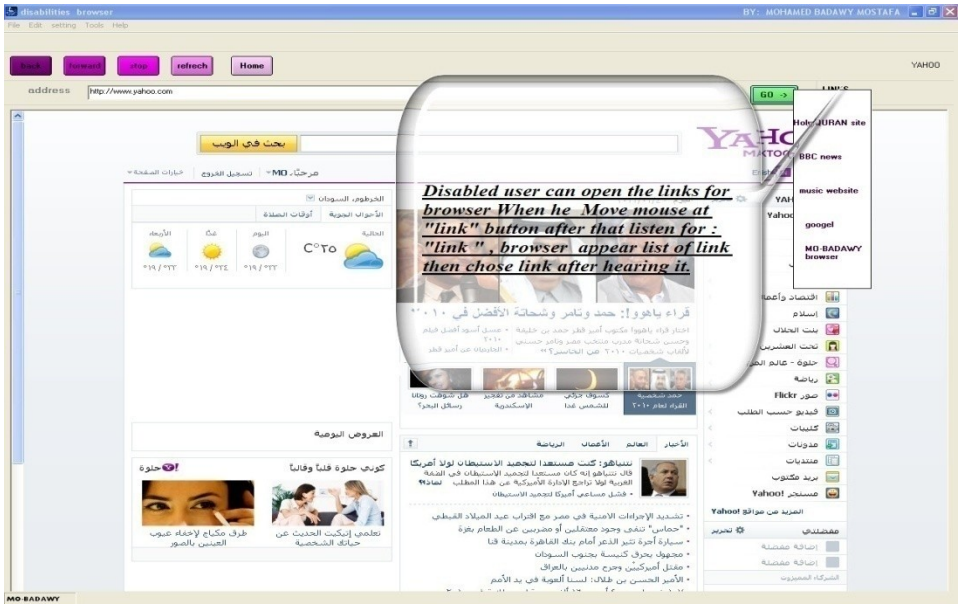

Figure 4.11 **Open browser links**