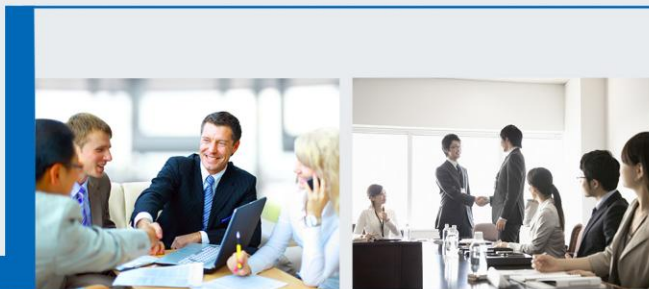




Htek IP Phones XML Browser Developer's Guide



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Instruction

About XML Browser, XML browser simply means that the SIP phones' LCD screen display can be managed by external applications. This Guide will show you how to use the XML Browser.

Note: Htek IP phones with the firmware version 1.0.3.70 or higher support XML browser applications.

Who should use this guide?

This guide is designed specifically to provide development engineers, system administrators, or network engineers with information for developing and deploying XML browser feature to Htek IP phones on the network. This guide is not intended for end users on how to use any specific XML applications.

What is XML?

XML stands for extensible Markup Language. It is a markup language much like HTML. HTML was designed to display data and to focus on how data looks. XML was designed to describe data and to focus on what data is.

The following are characteristics of XML:

- XML tags are not predefined. You must define your own tags
- XML uses an XML Schema is designed to be self-descriptive
- XML with an XML Schema is designed to be self-descriptive
- XML is a W3C Standard Recommendation

Sample of Basic XML document:

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<TextMenu
  defaultIndex="1"
  style="number"
  Beep="yes"
  wrapList="yes"
  Timeout="45"
  <Title wrap="yes">TextMenu</Title>
  <MenuItem>
    <Prompt>TextScreen</Prompt>
    <URI>http://192.168.0.73:8080/xb/TextScreen.xml</URI>
    <Dial></Dial>
    <Selection>0&menu_pos=1</Selection>
  </MenuItem>
</TextMenu>
```

Root element

Function

The XML Browser in the Htek IP phones allows users to create custom services which meet user functional requirements on the server. Users can customize practical applications, such as weather report, stock information and news service, etc.

Htek IP Phone supported objects are:

- TextMenu
- TextScreen
- Directory
- Status
- Execute
- FormattedTextScreen
- InputScreen
- ImageScreen
- Configuration
- ImageMenu

Some of these objects also support customizable softkeys that are declared as an independent object.

How does it work?

Htek has developed the XML browser capability on the phone using the HTTP transport protocol.

You can press the predefined key to trigger the phone initiated application of XML browser. After pressing the key, the IP phone issues an HTTP(s) GET command to the server, waits for the answer, decodes and displays the answer on the LCD screen.

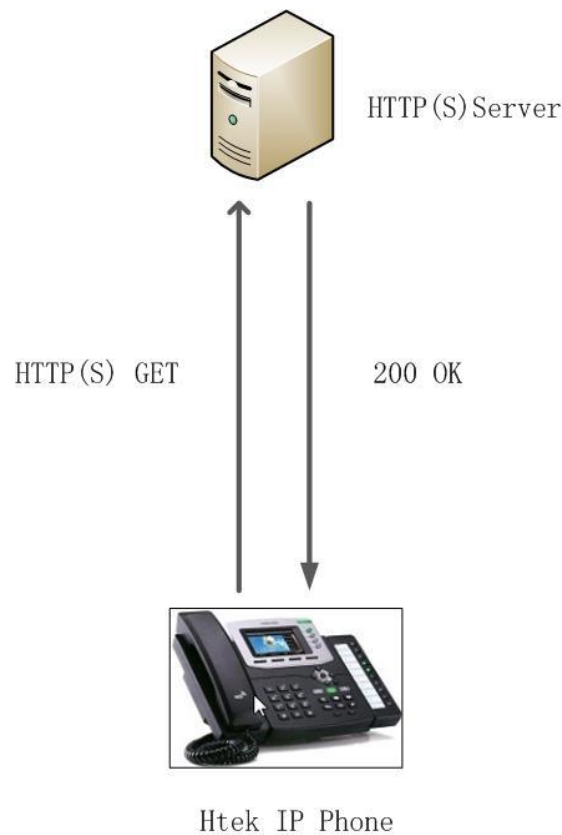


Figure1: Htek IP Phone as a client

Htek IP Phone XML objects

This chapter details all the XML objects supported by the Htek IP phones.

TextMenu object

TextMenu object allows users to display a list of menu items on IP phones.

TextMenu XML example:

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<TextMenu
  defaultIndex="1"
  style="number"
  Beep="yes"
  wrapList="yes"
  Timeout="45"
  <Title wrap="yes" >MenuTitle</Title>
  <MenuItem>
  <Prompt>First Menu item</Prompt>
  <URI> HTTP(s) URL </URI>
  <Dial>number</Dial>
  <Selection>selection</Selection>
  </MenuItem>
  <SoftKey index="1">
  <Label>Select</Label>
  <URI>SoftKey:Select</URI>
  </SoftKey>
  <SoftKey index="2">
  <Label>Custom</Label>
  <URI>HTTP(s) URL</URI>
  </SoftKey>
  <SoftKey index="4">
  <Label>Exit</Label>
  <URI>SoftKey:Exit</URI>
  </SoftKey>
</TextMenu>
```

The parameters of the TextMenu object are listed in the following table:

Parameter	Type	Value	Description
TextMenu	mandatory	none	The root element of the TextMenu
defaultIndex	optional	Integer	Position of the cursor to enter into the menu interface If not specified, the cursor is positioned on the first menu item. Default value is 1.
style	optional	"numbered" "none" "radio"	MenuType :numbered(default):Use digital to indicate the menu order before the menu. None :No sign before the menu. Radio :Use circle before the menu.
Beep	optional	"yes" "no"	Whether to play a tone when entering into the menu.

			Default value is "Yes".
wrapList	optional	"yes" "no"	Whether to display the title specified by the Prompt parameter in multi-lines, when the content of the title is longer than one line. Select "yes" to display in multi-lines, and "no" for one line. Default value is "no".
Timeout	optional	"integer" Unit: sec	If the user has no operation at a fixed interval, the phone will automatically exit the menu interface. Default value is 45s.
Title	mandatory	string	The content of the menu item.
wrap	optional	"yes" "no"	Whether to display the title in multi-lines when the content of the title is longer than one line. Select "yes" to display in multi-lines, and "no" for one line. Default value is "no".
MenuItem	mandatory	none	The element of menu item.(Up to 30 instance, minimum is 1)
Prompt	mandatory	string	The label of menu item, its display is controlled by "wrapList".
URI	mandatory	URI	The operation of menu item.
Dial	optional	Phone number	The phone will dial out the number by an off-hook action with the cursor on this menu item.
Selection	optional	string	If the URI of softkey is the HTTP server address, it will send a request with the "selection=the parameter"
SoftKey	optional	XML object	Support "Exit", "Select", "Next", "Previous"

If there is no softkey defined in the TextMenu object, the default softkeys label show as the following table:

Softkey index	Label	URI
1	Select	SoftKey:Select
4	Exit	SoftKey:Exit

An example of the TextMenu object:

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<TextMenu
  defaultIndex="1"
  style="number"
  Beep="yes"
  wrapList="yes"
```

```
Timeout="45"
<Title wrap="yes" >TextMenu</Title>
<MenuItem>
<Prompt>TextScreen</Prompt>
<URI>http://192.168.0.73:8080/xb/TextScreen.xml</URI>
<Dial></Dial>
<Selection>0&menu_pos=1</Selection>
</MenuItem>

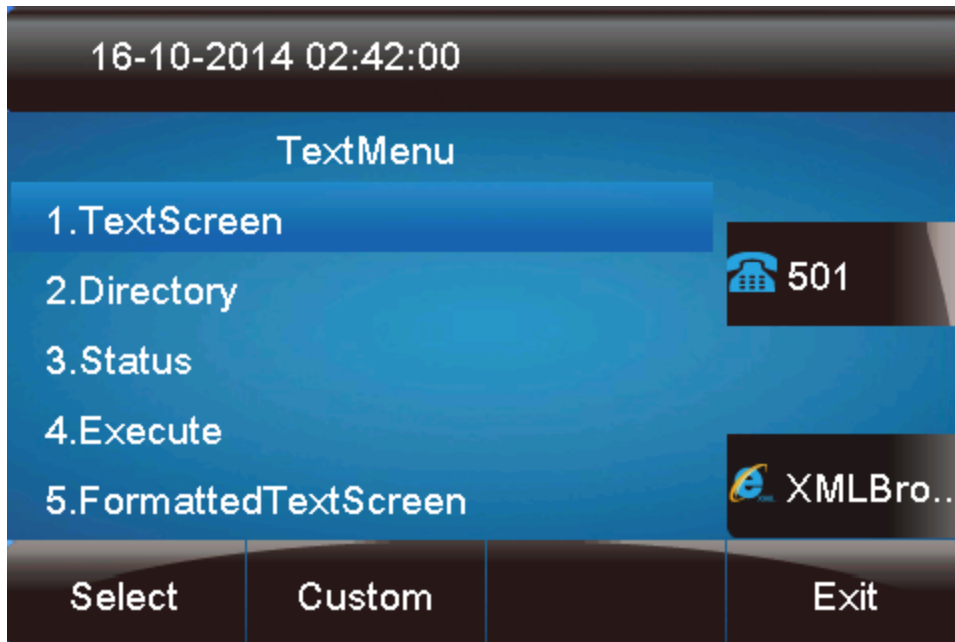
<MenuItem>
<Prompt>Directory</Prompt>
<URI>http://192.168.0.73:8080/xb/Directory.xml</URI>
<Dial>101</Dial>
<Selection></Selection>
</MenuItem>
...
<MenuItem>
<Prompt>Configuration</Prompt>
<URI>http://192.168.0.73:8080/xb/Configuration.xml</URI>
<Dial>107</Dial>
<Selection></Selection>
</MenuItem>

<SoftKey index="1">
<Label>Select</Label>
<URI>SoftKey:Select</URI>
</SoftKey>

<SoftKey index="2">
<Label>Custom</Label>
<URI>http://192.168.0.73:8080/xb/TextScreen.xml</URI>
</SoftKey>

<SoftKey index="4">
<Label>Exit</Label>
<URI>SoftKey:Exit</URI>
</SoftKey>
</TextMenu>
```

The screenshot of the UC860 phone user interface for reference is shown as below:



TextScreen Object

The TextScreen object allows users to display some texts on the IP phones.

XML description of the TextScreen object:

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<TextScreen Timeout="15">
<Title>Title name</Title>
<Text>Text contents
</Text>
</TextScreen>
```

The parameters of the TextScreen object are listed in the following table:

Parameter	Type	Value	Description
Timeout	optional	"integer" Unit: second	If there is no operation at a fixed interval on the phone, the phone will automatically exit the TextScreen interface. If it is set to 0, the phone will not exit the TextScreen interface until pressing the "Exit" soft key. Default value is 15.
Title	mandatory	string	The title of the screen text.
Text	mandatory	string	The content of the screen text.

			(Text length must be within 2000B)
--	--	--	------------------------------------

If there is no softkey defined in the TextMenu object, the default softkeys label show as the following table:

Softkey index	Label	URI
1	Exit	SoftKey: Exit

An example of the TextMenu object:

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<TextScreen Timeout="15">
<Title>1 ESPN and Associated Press Sports Headlines</Title>
<Text>Stewart sits race after hitting, killing racer (ESPN)
Broncos LB Trevathan (knee) out 6-8 weeks (Jeff Legwold)
Ballmer can run Clippers; NBA sues Sterling ( )
Sources: LeBron back to Miami for Christmas (Marc Stein)
Failed test, ban humble Dallas' Scandrick (Tim MacMahon)
Manning 'not a fan' as Broncos fight at camp (Jeff Legwold)
Pettine: Hoyer 'absolutely not' expendable (Pat McManamon)
Ex-Ohio St. QB Pryor 'wrong' for infractions (Terry Blount)
</Text>
</TextScreen>
```

The screenshot of the UC860 phone user interface for reference is shown as below.



Directory Object

The Directory object allows users to browse an online directory in real time. The Directory object is just like a remote phonebook. It displays an automatically numbered list of

contacts. After selecting a contact with the cursor, the contact can be dialed directly by pressing the “Dial” softkey.

XML description of the Directory object:

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<Directory
  defaultIndex="1"
  Beep="yes"
  Timeout="50"
  <Title wrap="yes">Menu Title</Title>
  <MenuItem>
    <Prompt>Contact name</Prompt>
    <URL>number</URL>
  </MenuItem>
</Directory>
```

The parameters of the Directory object are listed in the following table:

Parameter	Type	Value	Description
Directory	mandatory	none	The root element of the Directory
defaultIndex	optional	Integer	Position of the cursor to enter into the menu interface If not specified, the cursor is positioned on the first menu item. Default value is 1.
Beep	optional	“yes” “no”	Whether to play a tone when entering into the menu. Default value is “Yes”.
Timeout	optional	“integer” Unit: sec	If the user has no operation at a fixed interval, the phone will automatically exit the menu interface. Default value is 50s.
Title	mandatory	string	The content of the menu item.
wrap	optional	“yes” “no”	Whether to display the title in multi-lines when the content of the title is longer than one line. Select “yes” to display in multi-lines, and “no” for one line. Default value is “Yes”.
MenuItem	mandatory	none	The element of menu item.(Up to 30 instance, minimum is 1)
Prompt	mandatory	string	The label of menu item, its

			display is controlled by "wrap List".
URI	mandatory	URI	The operation of menu item.

If there is no softkey defined in the Directory object, the LCD screen displays the following default softkeys:

Softkey index	Label	URI
1	Exit	SoftKey: Exit
2	Previous	The URI specified by "Previous" of the Directory Object, "SoftKey: Previous"
3	Next	The URI specified by "Next" of the Directory Object, "SoftKey: Next"
4	Dial	SoftKey: Dial

An example of the Directory object:

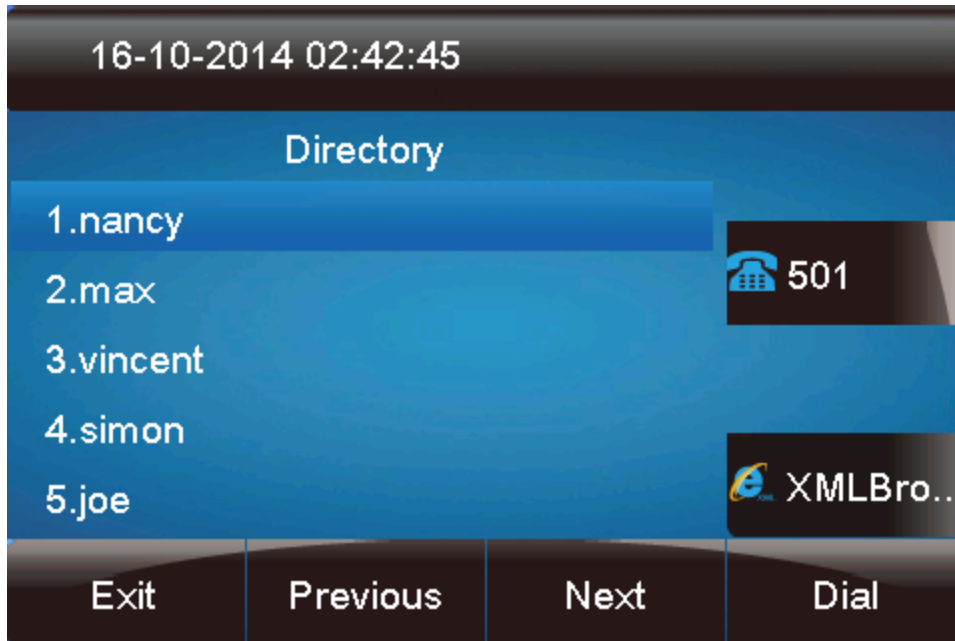
```
<?xml version="1.0" encoding="ISO-8859-1"?>
<Directory
  defaultIndex="1"
  Beep="yes"
  Timeout="50"
  <Title wrap="yes">Directory</Title>
  <Menuitem>
    <Prompt>nancy</Prompt>
    <URI>100</URI>
  </Menuitem>
  <Menuitem>
    <Prompt>max</Prompt>
    <URI>101</URI>
  </Menuitem>
  <Menuitem>
    <Prompt>vincent</Prompt>
    <URI>102</URI>
  </Menuitem>
  <Menuitem>
    <Prompt>simon</Prompt>
    <URI>103</URI>
  </Menuitem>
  <Menuitem>
    <Prompt>joe</Prompt>
    <URI> 105</URI>
  </Menuitem>
  <Menuitem>
    <Prompt>monica</Prompt>
    <URI>106</URI>
```

```

</MenuItem>
<MenuItem>
  <Prompt>nico</Prompt>
  <URI>107</URI>
</MenuItem>
</Directory>

```

The screenshot of the UC860 phone user interface for reference is shown as below:



Status Object

The Status object allows users to display a status message on a single designated line on the phone's idle screen when XML information is pushed from the servers. The Status object reminds users of received messages, missed calls, news, notify, etc.

XML description of the Status object:

```

<?xml version="1.0" encoding="ISO-8859-1"?>
<PhoneStatus
  Beep="yes"
  SessionID="12"
  Timeout="30"
  <Message
    Size="normal/small/double/large"
    Align="center/left/right"
    Color="red"
    Account=""
    Icon="">Message</Message>
</PhoneStatus>

```

The parameters of the Status object are listed in the following table:

Parameter	Type	Value	Description
PhoneStatus	mandatory	none	The root element of the Status
Beep	optional	“yes” “no”	Whether to play a tone when entering into the menu. Default value is “Yes”.
SessionID	optional	string	Session ID is used to mark different Status Objects.
Timeout	optional	“integer” Unit: sec	If the user has no operation at a fixed interval, the phone will automatically exit the menu interface. Default value is 30s.
Message	optional	string	Message to be displayed or empty to reset the message. (Up to 10 instances.)
Size	optional	“normal” “small” “double” “large”	Font size of the text. “small”: 12 pt “normal”: 18 pt “double”: 24 pt “large”: 28 pt Default value is “large”.
Align	optional	“center” “left” “right”	Alignment of the message display. Default value is “left”.
Color	optional	“white” “black” “red” “green” “brown” “blue” “magenta” “cyan” “lightgray” “darkgray” “lightred” “lightgreen” “yellow” “lightblue” “lightmagenta” “lightcyan”	Color of the line.
Account	optional	string	Specify the registered account

			for the status.
Icon	optional	Forward DND Message	Icon used to index status message

An example of the Directory object:

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<PhoneStatus
  Beep="yes"
  SessionID="12"
  Timeout="30"
  wrapList="no">
  <Message Size="large" Align="left" Color="red" Account="" Icon="">Foward to
101</Message>
  <Message Size="large" Align="left" Color="white" Icon="Forward" >Foward to
102</Message>
  <Message Align="right" Color="blue" Icon="Forward" Account="">
DND</Message>
  <Message Align="left" Color="red" Icon="Forward" Account="">
Foward to 103</Message>
</PhoneStatus>
```

The screenshot of the UC860 phone user interface for reference is shown as below:



Execute Object

The Execute object allows an external application to ask the phone to execute a sequence of local commands using URIs. The phone will execute each specified command in order.

XML description of the Execute object:

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<PhoneExecute Beep="yes">
<ExecuteItem URI="URI"/>
</PhoneExecute>
```

The parameters of the Status object are listed in the following table:

Parameter	Type	Value	Description
PhoneExecute	mandatory	none	The root element of the Execute
Beep	optional	"yes" "no"	Whether to play a tone when entering into the menu. Default value is "Yes".
ExecuteItem URI	mandatory	URI	The operation of command item, such as call user, data download from server according to the URL, etc. Valid values are listed in the following tables.

Commonly used commands:

Name	URI Value	Function
Supported URI	http(s)://myserver.com/ TextMenu.xml	Execute "TextMenu.xml" from the root directory on the server "myserver.com".
	Dial:XXXXX	Dial out the number
	Led:XXXX=on/off/slowflash/fastflash	Control the LEDs according to the commands
Phone Reset	Command: Reset	Reset to the factory
Phone Reboot	Command: Reboot	Phone Reboot
Clear	Command: ClearCallersList	Clear local call record list
	Command: ClearDirectory	Clear contact list
	Command: ClearRedialList	Clear placed calls list

An example of the Execute object:

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<PhoneExecute Beep="yes">
<ExecuteItem URI="Led:MEMO5_GREEN=fastflash"/>
<ExecuteItem URI="Led:LINE3=on"/>
<ExecuteItem URI="Dial:101"/>
</PhoneExecute>
```

The IP phone enters into the phone status interface.

FormattedTextScreen Object

The FormattedTextScreen object allows IP phones to display formatted (alignment, size, color and scrolling) texts on the LCD screen.

XML description of the FormattedTextScreen object:

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<FormattedTextScreen
  Beep="yes"
  Timeout="60"
  <Line Color="green">Header line1</Line>
  <Line Color="red" Align="right" Size="large">Header line2</Line>
  <Scroll>
    <Line Size="large" Align="center">Scroll line1</Line>
  </Scroll>
  <Line Size="large" Align="center" Color="white">Footer line1</Line>
</FormattedTextScreen>
```

The parameters of the FormattedTextScreen object are listed in the following table:

Parameter	Type	Value	Description
FormattedTextScreen	mandatory	none	The root element of the FormattedTextScreen
Beep	optional	"yes" "no"	Whether to play a tone when entering into the menu. Default value is "Yes".
Timeout	optional	"integer" Unit: sec	If the user has no operation at a fixed interval, the phone will automatically exit the menu interface. Default value is 60s.
Line	mandatory	string	Text to be displayed on the line. If the length of the text is too long to be displayed on the LCD screen, the line will be cropped to the last word. The Header block can display two lines at most, and the Footer block can display only one line.
Size	optional	"normal" "small" "double" "large"	Font size of the text. "small": 12 pt "normal": 18 pt "double": 24 pt

			"large": 28 pt Default value is "large".
Align	optional	"center" "left" "right"	Alignment of the message display. Default value is "left".
Color	optional	"white" "black" "red" "green" "brown" "blue" "magenta" "cyan" "lightgray" "darkgray" "lightred" "lightgreen" "yellow" "lightblue" "lightmagenta" "lightcyan"	Color of the line.
Scroll	optional	none	Define the scrolling content for display. The Line above the Scroll is as Header, under the Scroll is as Footer.

If there is no softkey defined in the FormattedTextScreen object, the LCD screen displays the following default softkey:

Softkey index	Label	URI
1	Exit	SoftKey: Exit

An example of the FormattedTextScreen object:

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<FormattedTextScreen
  Beep="yes"
  Timeout="60"
  <Line Color="green">Header line1</Line>
  <Line Color="red" Align="right" Size="large">Header line2</Line>
  <Scroll>
    <Line Size="large" Align="center">Scroll line1</Line>
    <Line Align="right" Color="red">Scroll line2</Line>
    <Line Align="right" Color="green">Scroll line3</Line>
```

```

<Line Size="large" Align="center">Scroll line4</Line>
<Line Align="right" Color="red">Scroll line5</Line>
<Line Align="right" Color="green">Scroll line6</Line>
<Line Align="left" Color="blue">Scroll line7</Line>
<Line Align="center" Color="blue">Scroll line8</Line>
<Line Align="left" Color="yellow">Scroll line9</Line>
<Line Align="center" Color="black">Scroll line10</Line>

</Scroll>

<Line Size="large" Align="center" Color="white">Footer line1</Line>
</FormattedTextScreen>

```

The screenshot of the UC860 phone user interface for reference is shown as below:



Note: The UC802/UC803/UC804/UC806 don't support the Status Object.

InputScreen Object

The InputScreen object allows users to create a screen capable of gathering user input. It constructs and displays an input form, which prompts the users to input content, then sends the input content to the target URL. You can use Input Screen object for user login or saving some information to server. You can define the content and format of the input content.

XML description of the InputScreen object:

```

<?xml version="1.0" encoding="ISO-8859-1"?>
<InputScreen
  type="string"
  Beep="yes"
  Password="no"

```

```

Timeout="0"
inputLanguage="English"
displayMode = "normal"
defaultIndex="2" >
<Title wrap="yes">Menu Title</Title>
<URL>Target receiving the input</URL>
<InputField type="string" password="no" editable="yes">
  <Prompt>Name</Prompt>
  <Parameter>parameter name add to URL</Parameter>
  <Selection>Selection</Selection>
  <Default>Default Value</Default>
</InputField>
</InputScreen>

```

The parameters of the InputScreen object are listed in the following table:

Parameter	Type	Value	Description
InputScreen	mandatory	none	The root element of the InputScreen
Type	mandatory	"IP" "string" "number"	Data input options: 1.IP 2.string(default) 3.number
Beep	optional	"yes" "no"	Whether to play a tone when entering into the menu. Default value is "Yes".
Password	optional	"yes" "no"	Whether to mask the input by "*" characters. Default value is "no".
Timeout	optional	"integer" Unit: sec	If the user has no operation at a fixed interval, the phone will automatically exit the menu interface. Default value is 0s.
inputLanguage	optional	"English"	The language of user input. Default value is English.
displayMode	optional	"normal" "condensed"	normal (default): Display the prompt and input box in two lines. condensed: Display the prompt and input box in one line.
defaultIndex	optional	integer	Position of the cursor. If the value is not specified or exceeds the number of input

			boxes, the cursor is positioned on the first input box. Default value is 2
Title	mandatory	string	The content of the menu item.
wrap	optional	“yes” “no”	Whether to display the title in multi-lines when the content of the title is longer than one line. Select “yes” to display in multi-lines, and “no” for one line. Default value is “Yes”.
URI	mandatory	URI	The operation of menu item.
InputField	optional	none	Set several input boxes. (Value ranges from 1 to 6.)
editable	optional	“yes” “no”	Whether to allow users to input something. Default value is “yes”. Users can not input anything if it is set to “no”. Applicable scenario: only allow some users to login.
Prompt	mandatory	string	The label of menu item, its display is controlled by “wrap List”.
Parameter	mandatory	string	Name of parameter to be added after the URL.
Selection	optional	string	If “URI” is set to an HTTP URL, the phone will send a request with "selection= xxx" when the user presses the “Select” soft key.
Default	optional	string	Default value to be displayed in input field.

Note: The InputField parameter in the XML file is optional. You can use this parameter to customize more input fields on the IP phone.

If there is no softkey defined in the InputScreen object, the LCD screen displays the following default softkey:

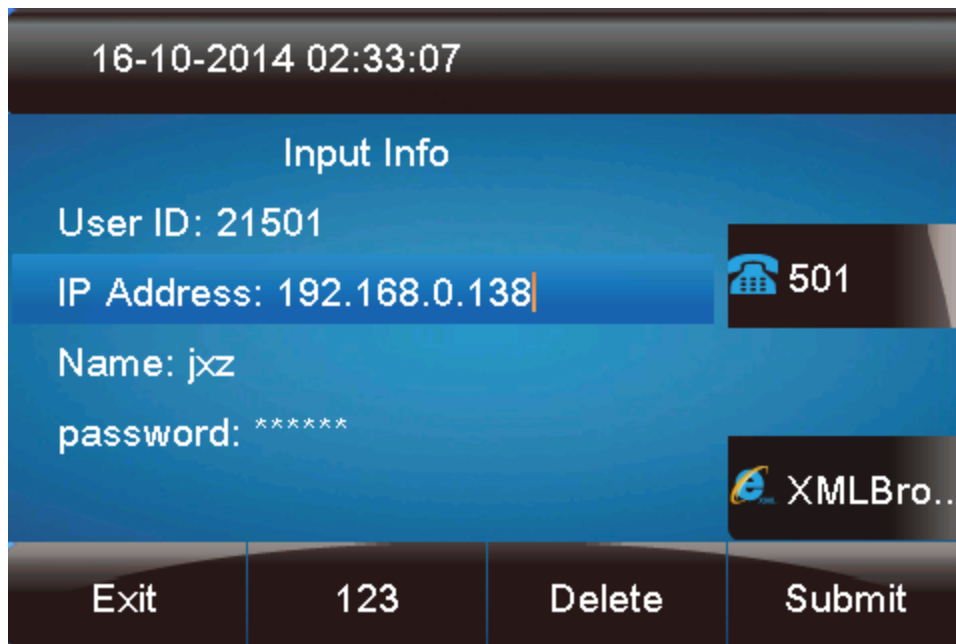
Softkey index	Label	URI
1	Exit	SoftKey: Exit

2	123	SoftKey: ChangeMode
3	Delete	SoftKey: Delete
4	Submit	SoftKey: Submit

An example of the InputScreen object:

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<InputScreen
  type="string"
  Beep="yes"
  Password="no"
  Timeout="0"
  inputLanguage="English"
  displayMode = "normal"
  defaultIndex="2" >
  <Title wrap="yes">Input Info</Title>
  <URL>http://192.168.0.73:8080/xb/Directory.xml</URL>
  <InputField type="number" password="no" editable="no">
    <Prompt>User ID:</Prompt>
    <Parameter>userid</Parameter>
    <Selection>1QQQQ</Selection>
    <Default>21501</Default>
  </InputField>
  <InputField type="IP" password="no" editable="yes">
    <Prompt>IP Address:</Prompt>
    <Parameter>IP</Parameter>
    <Selection>2</Selection>
    <Default>192.168.0.138</Default>
  </InputField>
  <InputField type="string" password="no" editable="yes">
    <Prompt>Name:</Prompt>
    <Parameter>user</Parameter>
    <Selection>5QQQQ</Selection>
    <Default>jxz</Default>
  </InputField>
  <InputField type="string" password="yes" editable="no">
    <Prompt>password:</Prompt>
    <Parameter>passwd</Parameter>
    <Selection>4</Selection>
    <Default>123456</Default>
  </InputField>
</InputScreen>
```

The screenshot of the UC860 phone user interface for reference is shown as below.



ImageScreen Object

The ImageScreen object allows users to display simple image on the IP phones. The user can specify where the image should be placed by setting horizontal and vertical alignment of the upper left hand corner, along with the height and width of the image. But this Object is only applies to color IP Phone.

XML description of the ImageScreen object

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<ImageScreen
  Beep="yes"
  Timeout="45"
  mode="regular">
<Image
horizontalAlign="middle"
verticalAlign="bottom" >Image as hexadecimal characters or URL</Image>
</ImageScreen>
```

The parameters of the ImageScreen object are listed in the following table:

Parameter	Type	Value	Description
ImageScreen	mandatory	none	The root element of the ImageScreen
Beep	optional	"yes" "no"	Whether to play a tone when entering into the menu. Default value is "Yes".
Timeout	optional	"integer" Unit: sec	If the user has no operation at a fixed interval, the phone will

			automatically exit the menu interface. Default value is 45s.
mode	optional	“regular” “full screen”	The display mode of the image. If not specified, the default value is “regular”.
horizontalAlign	optional	“left” “middle” “right”	Vertical position of the image. Default value is “middle”.
verticalAlign	optional	“top” “middle” “bottom”	Horizontal position of the image. Default value is “middle”.
height	mandatory	integer	Height in pixels. Must match the image height.
width	mandatory	integer	Width in pixels. Must match the image width.

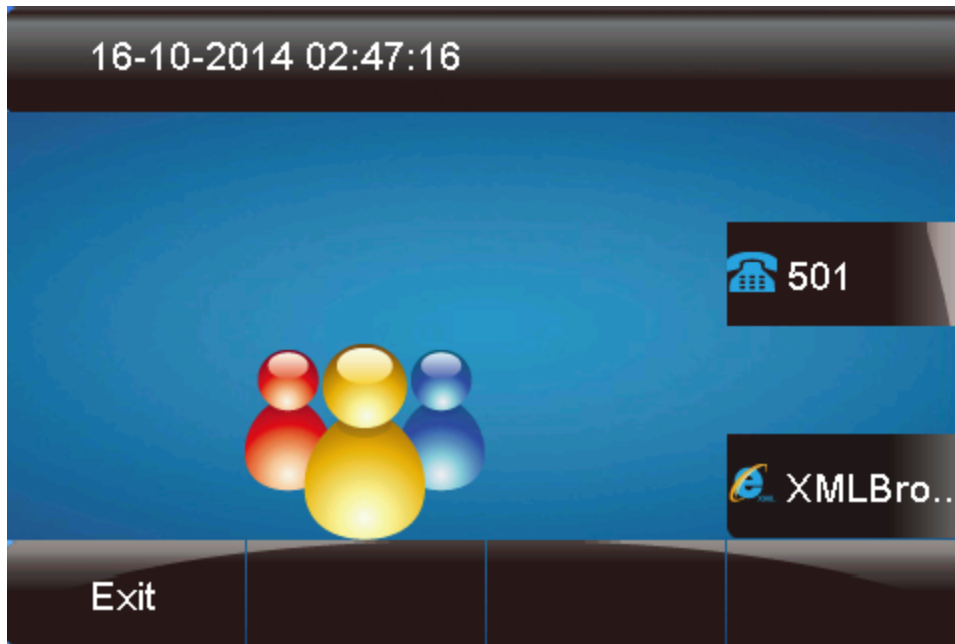
If there is no softkey defined in the ImageScreen object, the LCD screen displays the following default softkey:

Softkey index	Label	URI
1	Exit	SoftKey: Exit

An example of the ImageScreen object:

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<ImageScreen
  Beep="yes"
  Timeout="45"
  mode="regular">
<Image
horizontalAlign="middle"
verticalAlign="bottom" >http://192.168.0.73:8080/xb/conference.png</Image>
</ImageScreen>
```

The screenshot of the UC860 phone user interface for reference is shown as below:



Note: The UC802/UC803/UC804/UC806 also support ImageScreen Object, but the image's depth must be 1bit.

Configuration Object

The Configuration object allows an external application to modify configuration of the IP phones dynamically. The configuration parameters are ones that are used in configuration files

XML description of the ImageScreen object

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<Configuration
  Beep="yes" >
  <Item> parameter= value</Item>
</Configuration>
```

The parameters of the ImageScreen object are listed in the following table:

Parameter	Type	Value	Description
Configuration	mandatory	none	The root element of the Configuration object.
Beep	optional	"yes" "no"	Whether to play a tone when entering into the menu. Default value is "Yes".
Item	mandatory	none	The item consists of a Capital letter P and 2 to 5 digit numeric numbers. i.e., P2 is associated with "Admin Password" in the Advanced

			Page.
--	--	--	-------

An example of the ImageScreen object:

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<Configuration
  Beep="yes" >
  <P271 para="Account1.Active">1</P271>
  <P47 para="Account1.Sipserver">192.168.0.251</P47>
  <P20000 para="Account1.Lable">329</P20000>
  <P35 para="Account1.SipUserId">329</P35>
  <P36 para="Account1.AuthenticateID">329</P36>
  <P34 para="Account1.AuthenticatePassword">test29</P34>
  <P3 para="Account1.DispalyName">329</P3>
</Configuration>
```

The IP phone registers account 329 on line 1

ImageMenu:

The ImageMenu object allows users to create an image list of menu items on the IP phones. The user can specify the image menu items to link HTTP requests

XML description of the ImageMenu object:

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<ImageMenu
  Beep="yes"
  Timeout="120"
  mode="regular">
<Image
verticalAlign="top"
horizontalAlign="left"> HTTP(s) URL </Image>
<URIList base="URL ">
<URI key="0-9" or "#"> URL </URI>
</URIList>
</ImageMenu>
```

The parameters of the ImageScreen object are listed in the following table:

Parameter	Type	Value	Description
ImageMenu	mandatory	none	The root element of the ImageMenu Object.
Beep	optional	“yes” “no”	Whether to play a tone when entering into the menu. Default value is “Yes”.
Timeout	optional	“integer” Unit: sec	If the user has no operation at a fixed interval, the phone will

			automatically exit the menu interface. Default value is 45s.
mode	optional	“regular” “fullscreen”	The display mode of the image. If not specified, the default value is “regular”.
Image	mandatory	string	image as hexadecimal characters or URL.
horizontalAlign	optional	“left” “middle” “right”	Vertical position of the image. Default value is “middle”.
verticalAlign	optional	“top” “middle” “bottom”	Horizontal position of the image. Default value is “middle”.
height	mandatory	integer	Height in pixels. Must match the image height.
width	mandatory	integer	Width in pixels. Must match the image width.
URIList	mandatory	none	Master tag of the URI list linked to a keypad key (0-9, * and #).
Base	optional	string	The Base value is the parent directory of the URI value.
URI	mandatory	string	URI to be used if the user presses the value of “Key”.
Key	mandatory	“0-9,*” and “#”	Define the key to trigger the URI.

If there is no softkey defined in the ImageMenu object, the LCD screen displays the following default softkey:

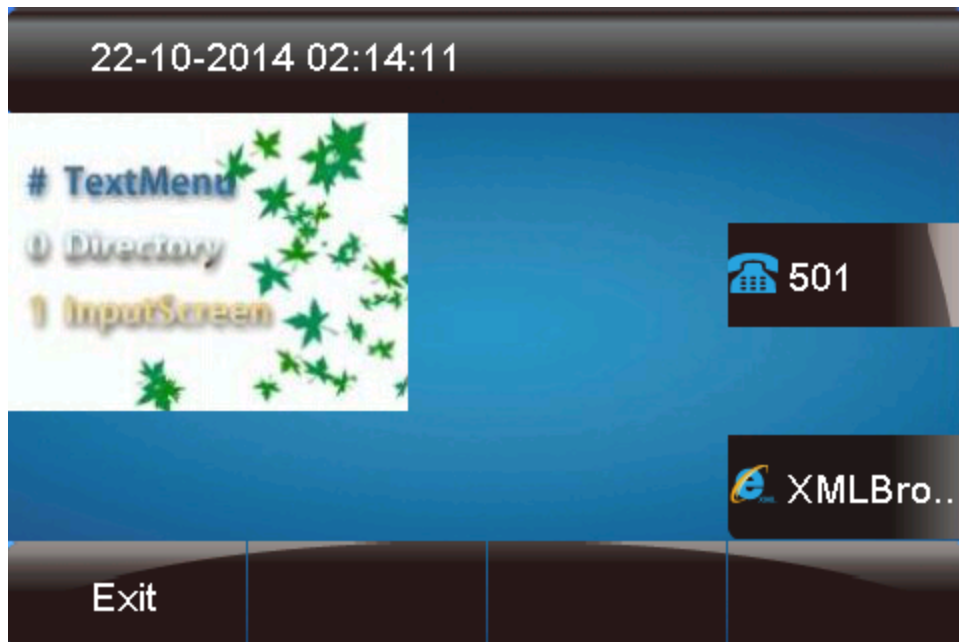
Softkey index	Label	URI
1	Exit	SoftKey: Exit

An example of the ImageScreen object:

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<ImageMenu Beep="yes" Timeout="120" mode="regular">
<Image
verticalAlign="top"
horizontalAlign="left">http://192.168.0.73:8080/xb/ImageMenu.jpg</Image>
<URIList base="http://192.168.0.73:8080/xb/">
<URI key="#">http://192.168.0.73:8080/xb/TextMenu.xml</URI>
<URI key="0">Directory.xml</URI>
<URI key="1">http://192.168.0.73:8080/xb/InputScreen.xml</URI>
</URIList>
```

</ImageMenu>

The screenshot of the UC860 phone user interface for reference is shown as below:



How to customize the softkey?

Htek IP phones allow users to create softkeys with customizable labels, positions and actions to be taken when the softkey is pressed. The customizable softkeys can override the default softkeys in each XML object.

XML descriptions of customizable softkeys :

```
<SoftKey index="2">
<Label>Custom</Label>
<URI>URL</URI>
</SoftKey>
```

The parameters of the softkey are listed in the following table:

Parameter	Type	Value	Description
softkey	mandatory	none	The softkey
index	mandatory	Integer	Indicate the softkey number. (Value ranges from 1~4.)
Label	mandatory	string	The label of the softkey.
URI	mandatory	string	The action of the softkey.

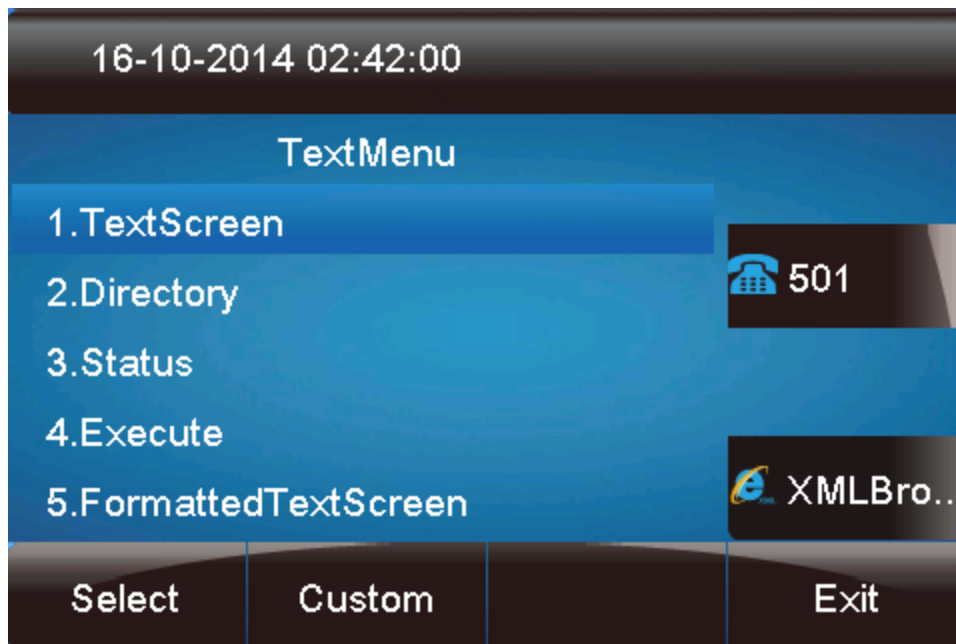
An example of the customizable softkeys used with the TextMenu object:

```
<?xml version="1.0" encoding="ISO-8859-1"?>
```

```
<TextMenu
  defaultIndex="1 "
  style="number"
  Beep="yes"
  wrapList="yes"
  Timeout="45"
  LockIn="no">

<Title wrap="yes" >TextMenu</Title>
<MenuItem>
<Prompt>Text Screen</Prompt>
<URI>http://192.168.0.73:8080/xb/TextScreen.xml</URI>
<Dial></Dial>
<Selection>0&menu_pos=1</Selection>
</MenuItem>
...
<MenuItem>
<Prompt>ImageMenu</Prompt>
<URI>http://192.168.0.73:8080/xb/ImageMenu.xml</URI>
<Dial>107</Dial>
<Selection></Selection>
</MenuItem>
<SoftKey index="1">
<Label>Select</Label>
<URI>SoftKey:Select</URI>
</SoftKey>
<SoftKey index="2">
<Label>Custom</Label>
<URI>http://192.168.0.73:8080/xb/TextScreen.xml</URI>
</SoftKey>
<SoftKey index="4">
<Label>Exit</Label>
<URI>SoftKey:Exit</URI>
</SoftKey>
</TextMenu>
```

The screenshot of the IP phone user interface for reference is shown as below:



Configuration a HTTP server

Htek IP Phone support downloading by HTTP(s) protocol . You can setup a HTTP(s) server and place the XML files on the server for downloading.

We recommend using the HFS application.

Step 1: Double click the HFS.exe.

Step 2: Click Menu in the main page and select the IP address of the PC from IP address. Default port is 8080.

Step 3: Click the Menu->Add folder from disk, select the XML files 's root directory.

How to configuration the XML Browser via webpage?

Step 1: Login in the IP Phone's webpage

Step 2: Functions key->Line key (Memory key), select the XML Browser in type field and input the XML Browser's URL in the value field.

The screenshot shows the Htek web interface with the 'Function Keys' menu item highlighted in the top navigation bar. On the left sidebar, the 'Line Key' menu item is also highlighted. The main content area displays a table with the following data:

Line Key	Type	Value	Label	Account	Pickup Code
Key1	Line			Auto	
Key2	Line			Auto	
Key3	Line			Auto	
Key4	XML Browser	http://192.168...		Auto	

Below the table, there are two buttons: 'SaveSet' and 'Restart'. A 'NOTE' section is visible on the right side of the interface.

Step 3: Click the “SaveSet” button to accept the change.

Step 4: Press the Line key 4, you can browse the XML content.