Webinar Series 40 UI Design

This article is companion for the Series 40 UI design webinars. It contains solutions and proposals for the webinar exercises and discusses open issues which could not be solved during the webinar Q/A session and covers both parts:

- part 1, 28.06.2012 and 04.07.2012, webinar recording, slide deck
- part 2, 10.07.2012 and 13.07.2012, webinar recording, slide deck

Next UX related webinar:

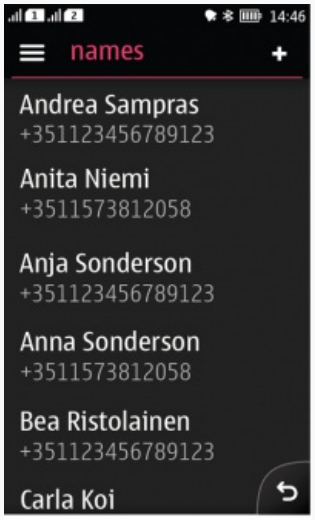
- Increase Your Nokia Store Success with User-centric Design of Series 40 Apps (About concept design and the benefits of a good UI.)
- 22.08.2012, 10:00 Helsinki time,
- 23.08.2012, 18:00 Helsinki time

Webinar Series 40 Full Touch UI Style Guide, part 1, 28.06.2012 and 04.07.2012

Problems

How would this screen look in Series 40 Full Touch?

Proposal:



The original layout in Touch & Type is a canvas because of 2 reasons:

- Lists do not allow different text formatting in one list item, e.g. title with black font and content with grey front is not possible; in addition a line break isn't possible neither
- Lists do not support the use of a Middle Soft Key (also there is no possibility to add an Action Button #1 to Full Touch lists)

The Touch & Type canvas can be transferred into a canvas again. The content layout stays unchanged and Back and Options are replaced automatically with icons. However, the primary function “Add” in the middle soft key (Touch and Type) is replaced with a new icon “plus” (Full Touch). In Full Touch there is more content “above the fold” than in Touch & Type.

Create a sign-in view

It should contain:

- Username
- Password
- Setting for auto-fill password
- Forgot password & help

(C) Copyright Nokia 2014. All rights reserved.

Proposal 1:

	The environment is a Form screen. Username and password are filled via TextField and the Setting for auto-fill is done via a pop-up choice group. This proposal places Help and Forgot password under the Options menu. The login is done via the checkmark in Action Button #1

Proposal 2

	The environment is again a Form screen with 2 TextFields and 1 pop-up choice group. In addition, there is a StringItem formatted as a Button and a StringItem formatted as a hyperlink. There is no action in Action Button #1.

Discussion

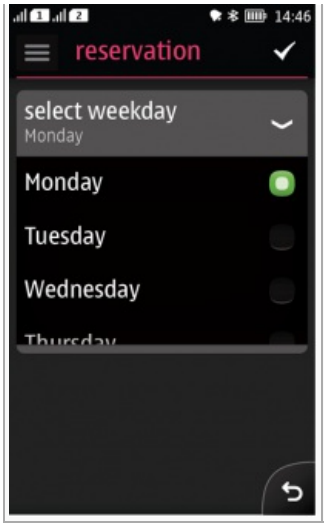
The second proposal has everything available in the view, but it is not likely that it will work flawlessly with Touch & Type devices. However, since the additional elements in the view (Login button and Help hyperlink) are more prominent, it is expected to reduce interaction bumpers if the design is optimized for Full Touch.

Which component would you use to pick one of the following?

- Monday
- Tuesday
- Wednesday
- Thursday
- Friday

Proposal

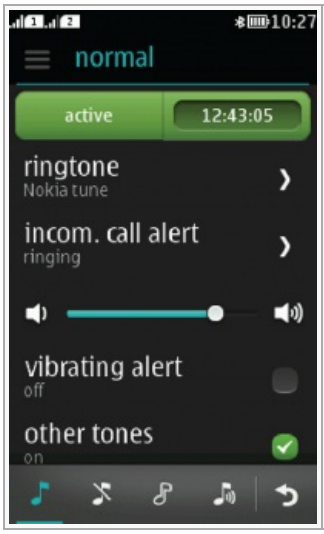
(C) Copyright Nokia 2014. All rights reserved.



The pop-up choice group in a Form screen offers single selection out of a list. Also the exclusive choice group would have been a good choice. It depends on the environment. Usually collapsing UI elements are preferred if there are many different settings slots in a single view, whereas static UI components are usually preferred in case only few settings slots are available.

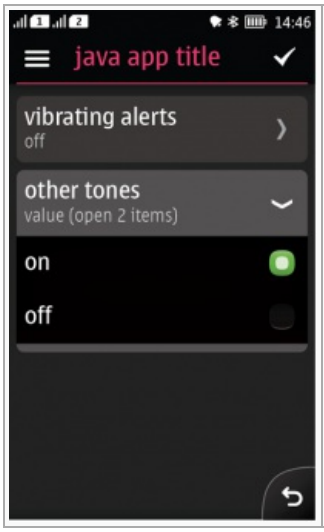
Please note, the LCDUI Tumbler (DateField) is not suitable for this task. It only can pick time and date, but no weekdays or any other values.

How would you replace a single choice item (aka switch)?



You may find the following layout from a native application. Unfortunately, the single choice item is not available in the LCDUI.

Proposal



The proposal is similar to the previous problem, except that the pop-up choice group contains only 2 items.

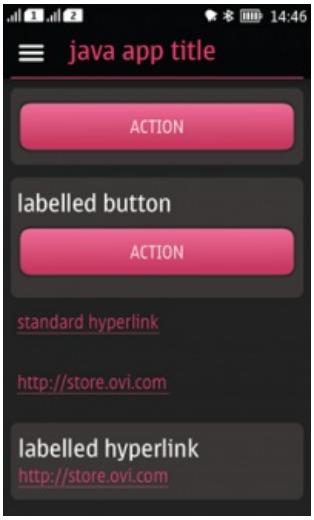
Another solution would be a multi selection choice group with only one item. Also an exclusive selection choice group with 2 items is possible to replace a switch. The choice depends in the end again from the environment:

- pop-up choice group; best if used in a busy layout
- multi selection choice group (1 item), if there is a clear on/off metaphor (e.g. radio on/off)
- exclusive choice group if indicating the correct state is crucial, and on/off is not necessarily the right metaphor (e.g. dim light on/off vs. dimmed light – full light)

Which views can have a button? Are there any limitations?

(C) Copyright Nokia 2014. All rights reserved.

Proposal



- Alerts can have 0 – 3 buttons. Position and layout are predefined.
- `StringItem` in a Form screen can be dressed as a button or as a labeled button. It is only possible to show one button per row.
- The `CustomItem` in Form screen can host a button or a button group.
- The full screen canvas can contain buttons. The 4th image shows custom surround-shaped push-buttons with icons and with additional text below the push button. If the button is based on icons it is many times beneficial to add text explaining the action being mapped to the button.
- A canvas with a custom toolbar, as shown in the 5th image. Do not place more than 5 items in a toolbar.

Open issues from Q/A

What happens with the keypad if BT keyboard is detected?

Regarding connecting a Bluetooth enabled device to a full touch series 40 and getting input from the BT device into a custom 3rd party Java application, the following rules apply:

1. Direct connection of a BT device to a Java application is only possible if the BT device supports the Bluetooth Profiles that are coming with the JSR-82 (the Bluetooth API):
   - SDAP - Service Discovery Application Profile
   - RFCOMM - Serial Cable Emulation Protocol
   - L2CAP - Logical Link Control and Adaptation Protocol
   - OBEX - Generic Object Exchange Profile (GOEP) profile on top of RFCOMM and TCP
2. The Virtual Keyboard API does not provide any editor functionality. It merely launches and controls the virtual keyboard provided by the platform on low level Canvas and GameCanvas Components and returns into the application the key that was pressed with the help of the keyPressed(int key) method. So theoretically, one can call remotely the keyPressed(int key) method directly with a value that matches the integer value of the key that is supposed to be pressed.

(C) Copyright Nokia 2014. All rights reserved.

Can text be formatted, e.g. rich text formatting?

Regarding `StringItem` one can change the font. Fonts have three attributes: Style (bold/italic), size (large or small) and face (monospace, proportional and system). One cannot change the color of a `StringItem`.

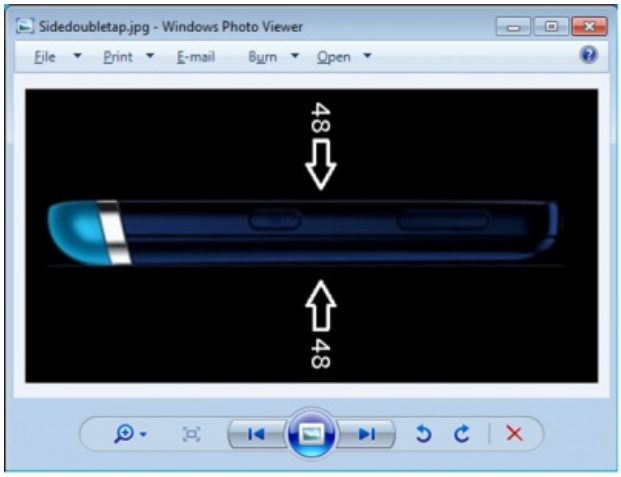
It is not possible to format the text in `TextBox` screen.

`Canvas` allows free formatting.

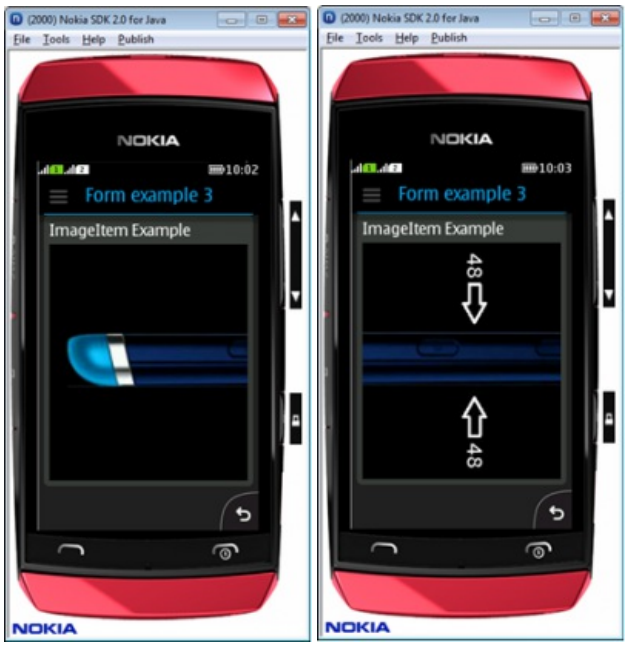
If formatting is needed for certain components, please have look into LWUIT if this is suitable for you.

How is the image in an ImageItem being cropped in landscape orientation?

Here is the example image:



When the Layout is set to `LAYOUT_LEFT` or `LAYOUT_CENTER`, this is the result in portrait mode:



When the Layout is set to `LAYOUT_LEFT` or `LAYOUT_CENTER`, this is the result in landscape mode:

The cropping matches the requested layout.

(C) Copyright Nokia 2014. All rights reserved.

How can you do custom gestures yourself?

1. It is possible to use the existing gestures and build your custom gesture on top of it; here 2 examples:

- if you want to make your application to sense a figure of "8" on your screen, use a "drag" gesture and use the x/y values for your pattern recognition
- if you want to use triple touch, e.g. to mark the entire text, use 3 single taps for your gesture recognition
- More information on how to use Gestures.

Tap drag and release can also be implemented outside the Gesture API, with the standard LCDUI low level Canvas components.

- More information on Touch UI on Series 40.

2. It is possible to use the sensor API to e.g. get direct x/y/z information of the phone. this way, you can e.g. sense the position changes of the phone to detect if the user is writing a figure of "8" into the air (with the phone in her hand). The phone can detect accelerations between -2g and +2g. Sensor API link will be added.

- More information.
- Example 1
- Example 2

Is it possible to store a small amount of data?

Yes it is. The persistent storage is done via RMS (Record Management System):

- More information.
- Example.

Is there a support to use the text editor API with full key event handling?

Please check in the JDL:

- TextEditor information.
- Example.

Is it possible to create a choice group (ChoiceGroup) without a title and how would it look like?

Yes it is possible. All you need is to give an empty title (i.e. “”) in the constructor as follows:

```
mainForm = new Form("Simple ChoiceGroup");
cg = new ChoiceGroup("", ChoiceGroup.EXCLUSIVE);
cg.append("option 1", null);
cg.append("option 2", null);
cg.append("option 3", null);
mainForm.append(cg);
Display.getDisplay(this).setCurrent(mainForm);
```

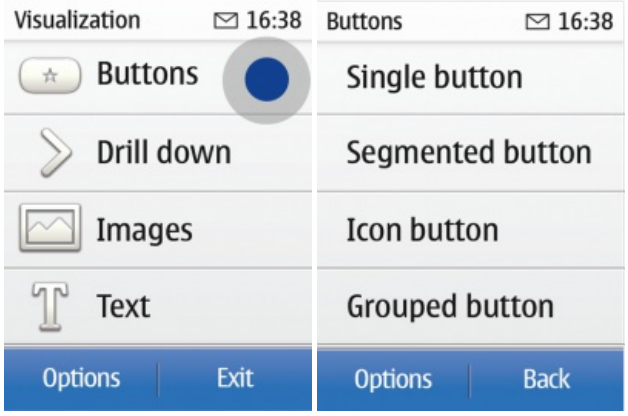
You will get the following result:

(C) Copyright Nokia 2014. All rights reserved.

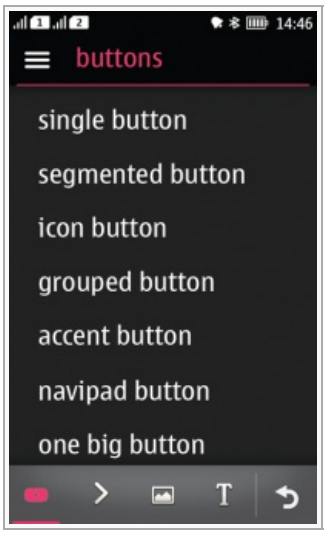
Webinar Series 40 Full Touch UI Style Guide, part 2, 10.07.2012 and 13.07.2012

Problems

How could these screens look in full touch?



Proposal



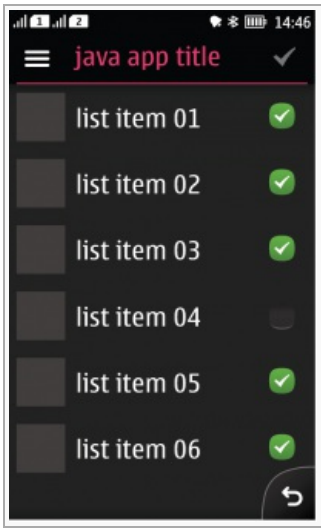
The drill down structure as found in Series 40 Touch and Type phones can be converted in a tab bar structure in Series 40 full touch phone. This will reduce one view. (Please note that this reasoning is just valid for 4 or less categories.)

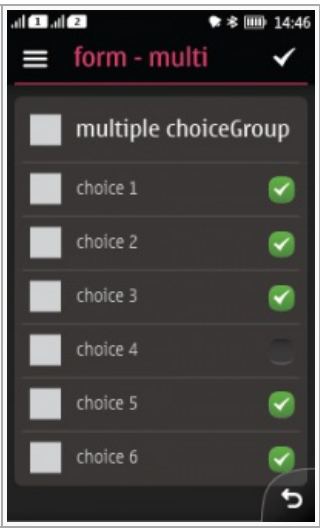
The list items of the firs view are now tab bar items. This way they are immediately available and highlight certain features of the application.

(C) Copyright Nokia 2014. All rights reserved.

If Action Button 1 should be used for confirmation, how would you build a multi selction view?

Proposal





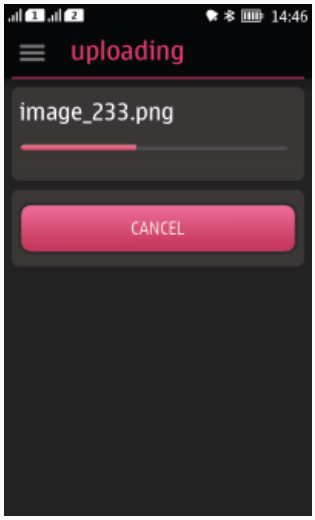
The left image shows a list which still renders the dimmed check mark in action button #1. Currently it is not possible to hide the dimmed checkmark. From interaction design point of view, the dimmed check mark is something what could become a show stopper in your application.

To avoid this, you may want to use a Form with a multiple ChoiceGroup instead. A Form allows you place a check mark in action button #1.

Please note: It is possible to remove the choicegroup header. More information found from the Q/A section.

Sketch an upload dialog which shows the remaining amount of data.

Proposal



The image shows a Form with a Gauge, which is displaying a determinate progress indicator. Below is a StringItem formatted as a button. The Cancel button is preferred over the "Back" icon-button, since Back will not move the upload to the background, but rather cancel it. The user might not be aware of this and wonder if the upload went ok or not.

It is not possible to do this with an Alert, since the Alert cannot listen to any events from the application, but just to button-press of the Alert UI or timeout after a pre-set time. So the alert cannot detect of a process was finished or if an upload was successful.

Sketch a view

- 2 categories
- 3 primary actions related to the view, not a single item out of the view (sorted by priority)
  - call
  - add
  - edit
- 3 secondary actions related to the view, not a single item out of the view (sorted by priority)
  - Share FB
  - Share TW
  - Share Reddit
- Options menu
- Use chrome
- maximize the content area

Proposal

(C) Copyright Nokia 2014. All rights reserved.

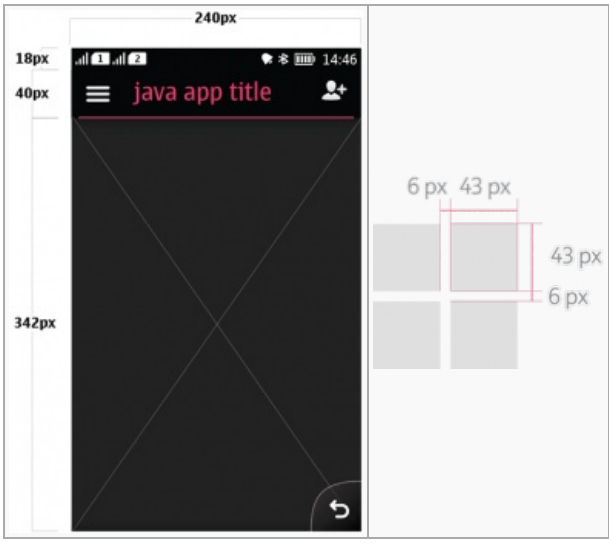
This is only one out of many possible designs. The design rationales for this view are as follows:

- Place the most important action to Action button 1.
- Place the other two primary actions as icons in the screen. In this solution the visibility of the primary actions is rated more important than having the entire screen available for the content.
- the secondary functions are placed under the options menu.

Depending on the actual use case, it might also be okay to place the "add" and "edit" as commands in the Options menu in addition to Share FB, Share TW, Share Reddit.

How many touch elements fit the content area?

Proposal



- Screen is 240 px x 400 px, 3,0 inch
- Content area 240 px x 342 px
- 4 elements in a row, no truncation possible, no horizontal scrolling
- 7 elements in a column, truncation possible, vertical scrolling is foreseen
- - 1 element which is partially hidden by the Back button
- 28 - 1 items

How many touch elements fit the entire canvas?

Proposal

With values taken from the previous problem:

- 4 elements in a row, no truncation possible, no horizontal scrolling
- 8 elements in a column, truncation possible, vertical scrolling is foreseen
- 32 items

Open issues from Q/A

Does Series 40 phone book import contact photos from social media on internet automatically? Providing auto update, etc.

No, native Series 40 Phonebook in full touch as such can only use images from gallery. these are without any dynamic update. If your application wants to use e.g. FB, it requires login. At least to our experience the token you receive from FB for permanent login times out after a certain time so people have to log in again (even it says permanent). However, if you create your own service, it is possible to do dynamic image update by yourself.

Is it possible to run data saving in the background; in device or with a server connection?

As long as your application is in foreground you can run a thread to e.g. download a file in the background. This data can go into

(C) Copyright Nokia 2014. All rights reserved.

buffer and saved from there. Examples are found from here:

- Threading example 1
- Threading example 2
- Creating threads in Java ME

Please check also the Q/A about storing a small amount of data more upwards. Use the RMS (Record Management System).

Is Flowella continued?

This is not decided yet. Currently there hasn't been any service for Flowella, so it is outdated for the current devices.

Update, 17.07.2012: It's not being actively updated and there are no current plans for update.

Where do I find Carbide to create Series 40 themes?

- Wiki article

Is it possible to have more than 1 ticker?

No, not with the standard LCDUI components. You can have only one ticker per displayable (Form, Canvas or List).

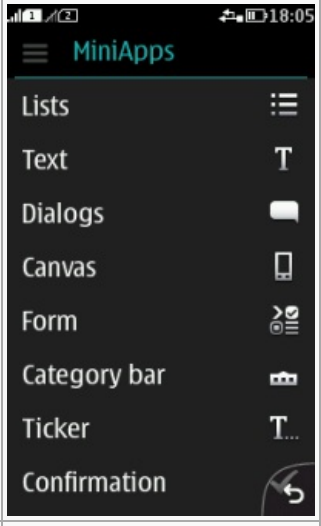
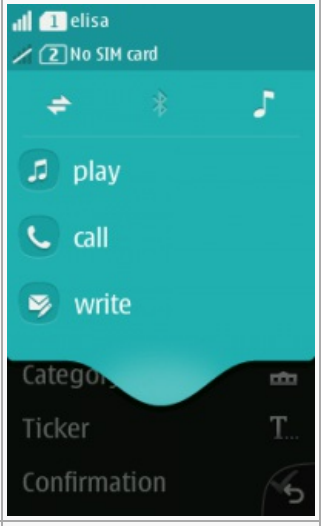
If you attempt to setTicker more than once on a displayable, you replace the old ticker with the new, but you don't add tickers. You cannot modify the ticker's position, this is determined by the implementation. On full touch devices, I can see that the ticker is placed under the header. On full screen mode Canvas, the ticker is not displayed (i.e. ticker is only displayable in normal mode for Canvas instances).

Where do I find porting information Android --> Series 40

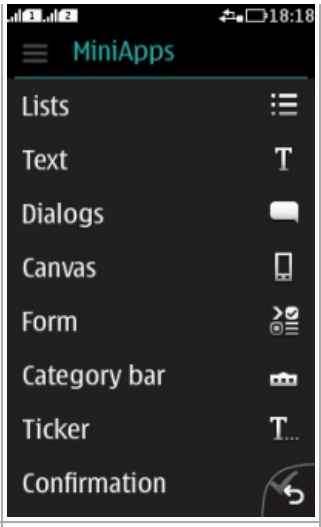
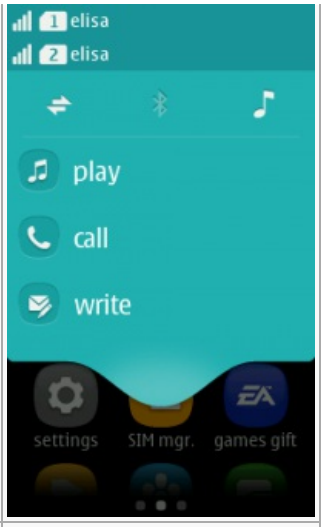
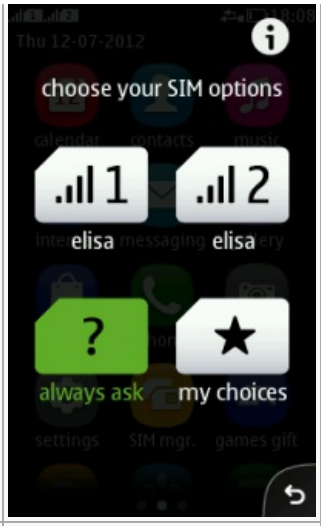
There are several projects available. Please check from here:

- Porting main page
- Library about porting from Android to Series 40
- Porting cases

How does it look like if I have 2 SIM cards inserted

App view	Notification bar	SIM card select	Alert	
SIM 1				-

(C) Copyright Nokia 2014. All rights reserved.

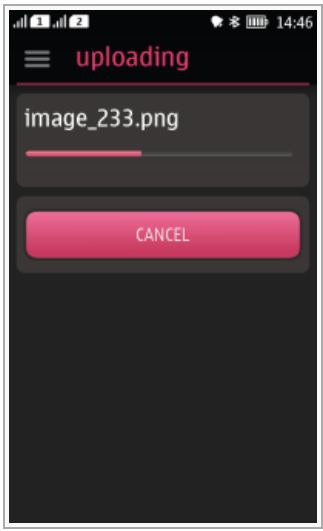
SIM 1, SIM 2				
-	-	-	-	Alert after selecting "my choices" but without any SIM choices being made.

Add on

Due to current changes, the second session of the 2nd part of the webinar contained additional material:

Note about the use of DatePicker UI component (tumbler in Series 40 full touch UI)

Please note that the current tumbler implementation (13.07.2012) is with out any kinetic scrolling and therefore remains a with a usability problem which also might affect your application. As a workaround you might want to try a TextField with a certain format. Make sure you indicate the desired format to people using your application.

		The TextField indicate in the header the expected format. In most cases users obey this format as long as they are aware of it and in case they get an error message explaining what went wrong what to take of. Make sure the Keypad offers the separation character without changing the keypad, i.e. even a simple space might work well, as long as it speeds up the input procedure.

Try your new knowledge and check the Asha Touch Competition 2012Q3

The competition page is here: Asha Touch Competition 2012Q3.

(C) Copyright Nokia 2014. All rights reserved.

(C) Copyright Nokia 2014. All rights reserved.