Faculty of Computers, Informatics and Microelectronics

Technical University of Moldova

WINDOWS PROGRAMMING (ANDROID)

Laboratory work #2

Advanced Form Elements. Child Windowses. Basics of Working With Keyboard.

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1 Purpose of the laboratory

Gain knowledge about Advanced Form Elements, Child Windowses and Working With Keyboard.

2 Laboratory Work Requirements

– **Basic Level (grade 5 - 6) you should be able to:**

a) Create a Windows application what will dispaly a dialog box on some event (ex. on clicking some button)

b) Add a system menu to your application with at least 3 items (add actions to that items)

c) On windows resize, text should reflow and be in window's middle (vertically and horizontally)

d) Hook keyboard input. Add 2 custom events for 2 different keyboard combinations (ex. change window background on ctrl+space)

– **Normal Level (grade 7 - 8) you should be able to:**

a) Realize the tasks from *Basic Level*.

b) Add a scroll bar that will change any visible parameter of any other element (color of a text) OR other 2 scroll bars that will manage main window size or position

– **Advanced Level (grade 9 - 10) you should be able to:**

a) Realize the tasks from *Normal Level*.

b) Customize your application by adding an icon and using different cursor in application

c) Add a listbox and attach some events when any element is accessed (clicked)

– **for Bonus Point Tasks :**

a) Use a scroll bar to scroll through application working space. Scroll should appear only when necessary (eg. when window width is smaller than 300px)

3 Laboratory work implementation

3.1 Tasks and Points

a) Create a Windows application what will display a dialog box on some event (ex. on clicking some button)

b) Add a system menu to your application with at least 3 items (add actions to that items)

c) Hook keyboard input. Add 2 custom events for 2 different keyboard combinations (ex. change window background on ctrl+space)

d) Add a scroll bar that will change any visible parameter of any other element (color of a text) OR other 2 scroll bars that will manage main window size or position

e) Customize your application by adding an icon and using different cursor in application

f) Add a listbox and attach some events when any element is accessed (clicked)

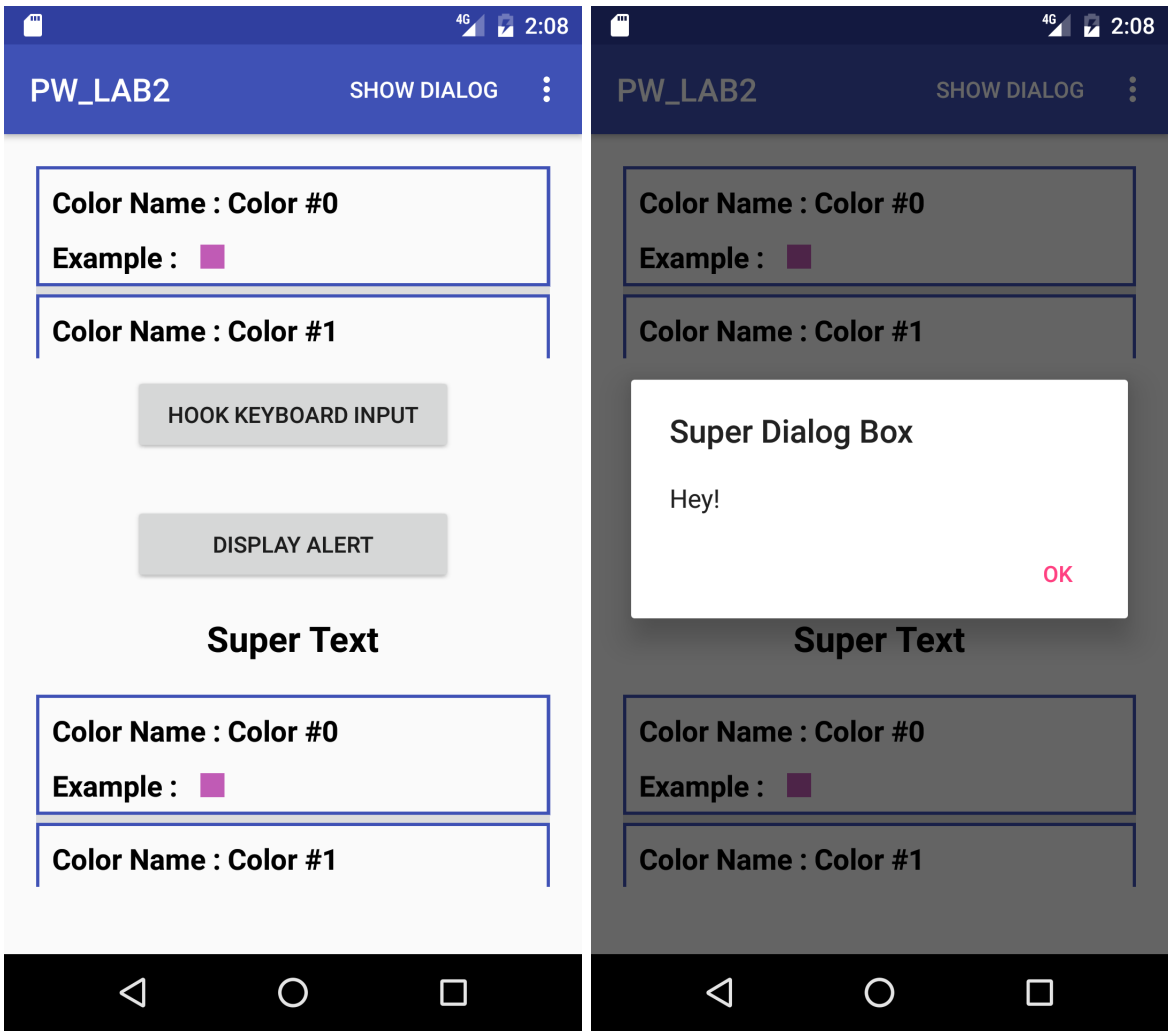
3.2 Laboratory work analysis

Link to my GitHub repository :
`https://github.com/Tolea86/WP_ANDROID/tree/master/LAB_2/PW_LAB2`

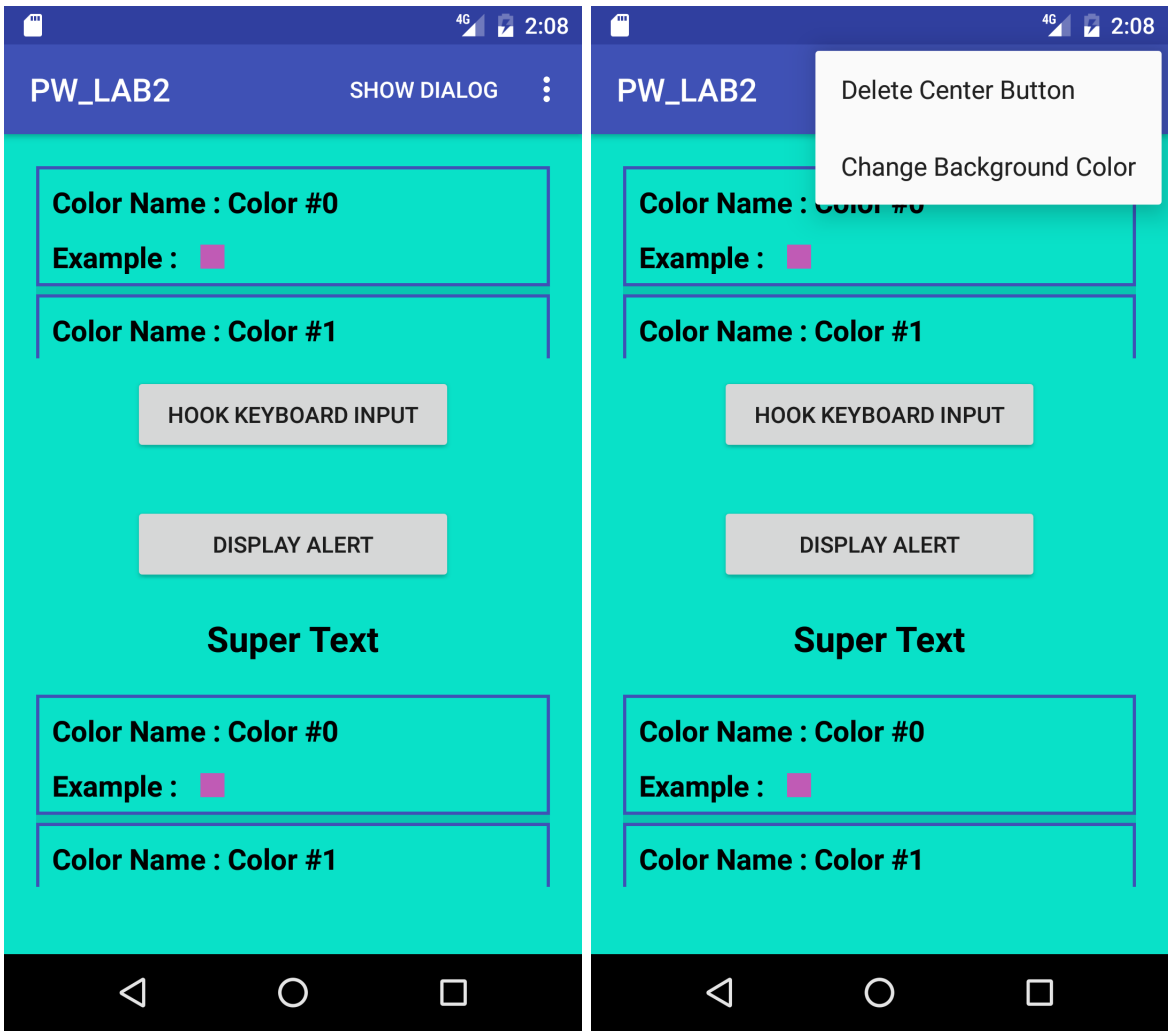
My application has following features : it has two buttons centered in the middle of the application, on clicking one of these buttons open a dialog another one hooks keyboard input, pressing key "S" will show a loading dialog for one second, pressing key "R" will show a dialog, it also has a custom menu with 3 buttons, one is always visible and clicking on it will display a message into a dialog, other 2 are hidden and one of them click will destroy the center button which opens a dialog, but another one will change the color of the background into one random color. It also has two lists on top and bottom of the view with randomly generated colors, clicking on a element from the top will change the color of the text centered in the view, clicking on an element from the bottom will change the background color of one randomly chosen button from the center.

3.3 Prove your work with screens

a)

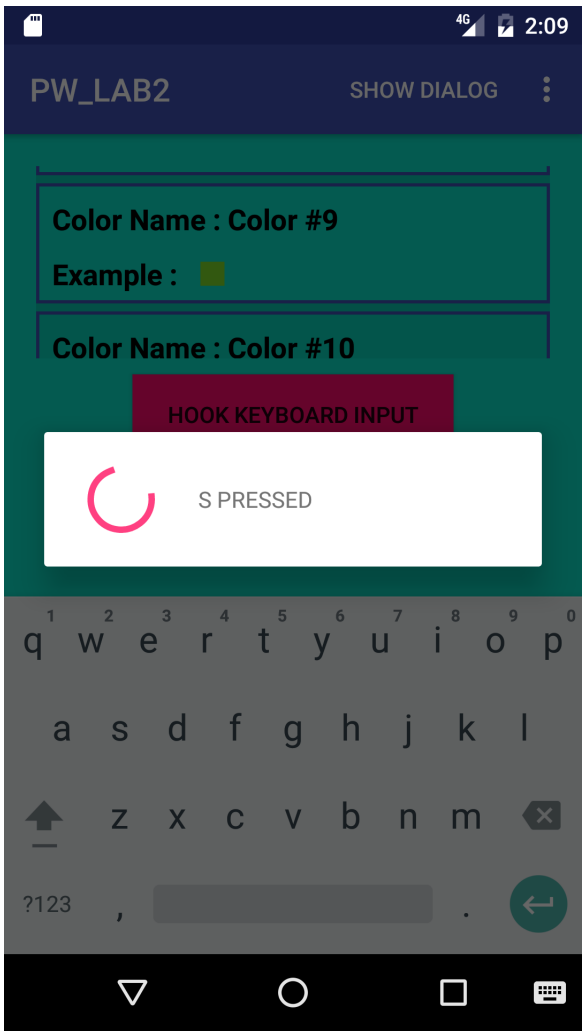

2:08
PW_LAB2
SHOW DIALOG
Color Name : Color #0
Example :
Color Name : Color #1
HOOK KEYBOARD INPUT
DISPLAY ALERT
Super Text
Color Name : Color #0
Example :
Color Name : Color #1
2:08
PW_LAB2
SHOW DIALOG
Color Name : Color #0
Example :
Color Name : Color #1
Super Dialog Box
Hey!
OK
Super Text
Color Name : Color #0
Example :
Color Name : Color #1

b)

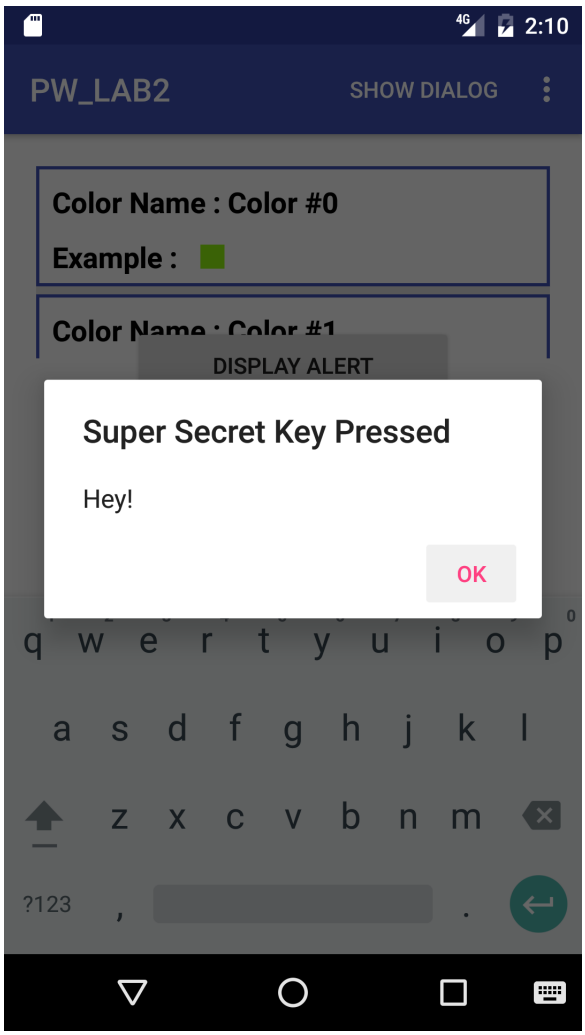

2:08
PW_LAB2
SHOW DIALOG
Color Name : Color #0
Example :
Color Name : Color #1
HOOK KEYBOARD INPUT
DISPLAY ALERT
Super Text
Color Name : Color #0
Example :
Color Name : Color #1
2:08
PW_LAB2
Delete Center Button
Change Background Color
Color Name : Color #0
Example :
Color Name : Color #1
HOOK KEYBOARD INPUT
DISPLAY ALERT
Super Text
Color Name : Color #0
Example :
Color Name : Color #1

c)

”S” clicked


2:09
PW_LAB2
SHOW DIALOG
Color Name : Color #9
Example :
Color Name : Color #10
HOOK KEYBOARD INPUT
S PRESSED

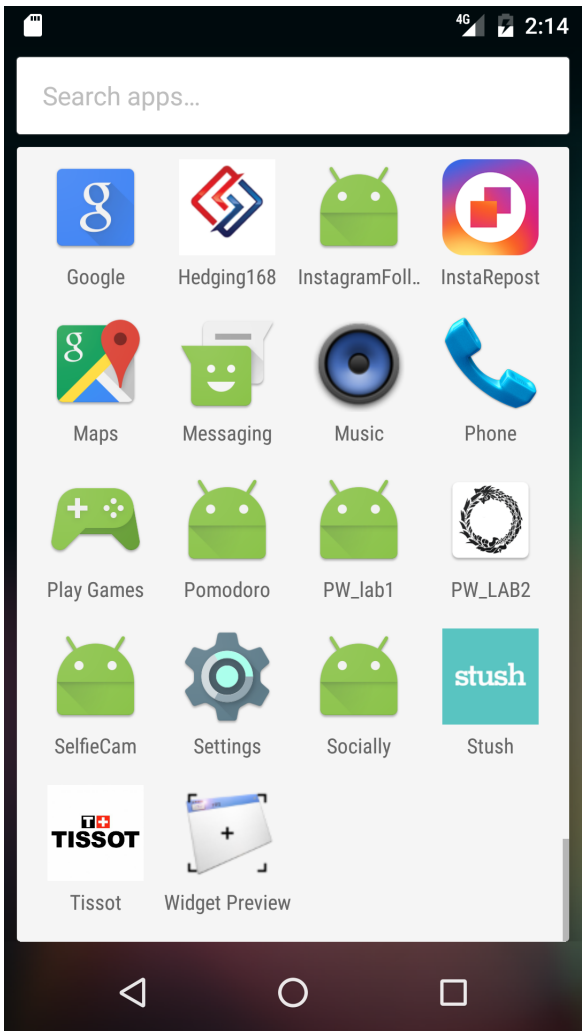
”R” clicked



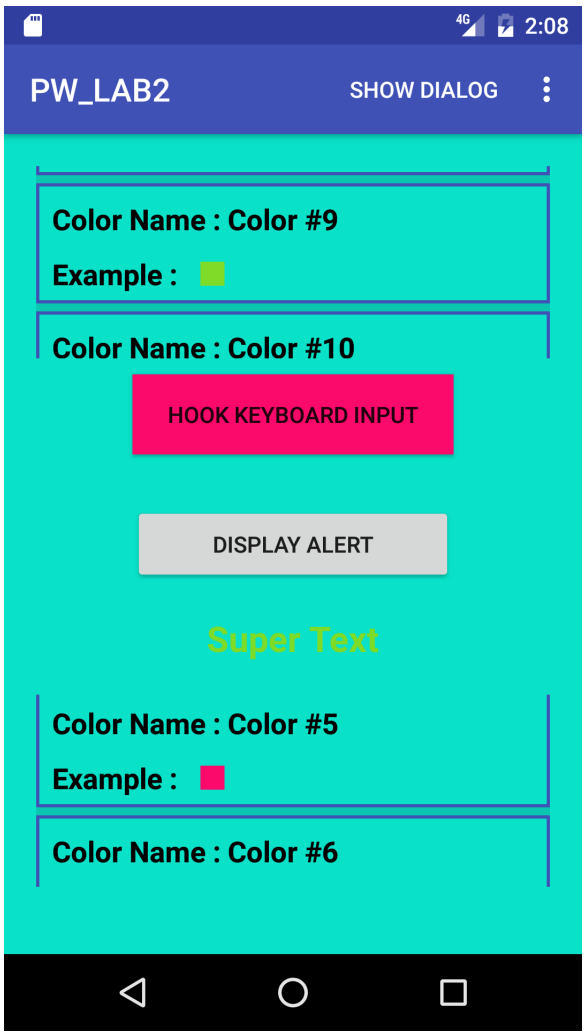
d) Top list with scroll bar

2:08
PW_LAB2
SHOW DIALOG
Color Name : Color #9
Example :
Color Name : Color #10
HOOK KEYBOARD INPUT
DISPLAY ALERT
Super Text
Color Name : Color #0
Example :
Color Name : Color #1

e)



f) Bottom list with random action


2:08
PW_LAB2
SHOW DIALOG
Color Name : Color #9
Example :
Color Name : Color #10
HOOK KEYBOARD INPUT
DISPLAY ALERT
Super Text
Color Name : Color #5
Example :
Color Name : Color #6

Conclusions

In this laboratory work we've studied the advanced form elements, child windowses. We have worked with keyboard. We have developed an app with 2 buttons in the center, with a custom system menu with 3 buttons with different actions, have made 2 lists with scroll which are randomly generated and at final stage we have customized our app by changing the icon of the app.

References

1 Android Developers Guide, *official page*, https://developer.android.com/guide/index.html

2 StackOverflow, *official page* , http://stackoverflow.com/

3 LaTeX Tutorial, *youtube page*, https://www.youtube.com/watch?v=SoDv0qhyysQ