Persuasive Technologies: 02—Introduction to Kivy

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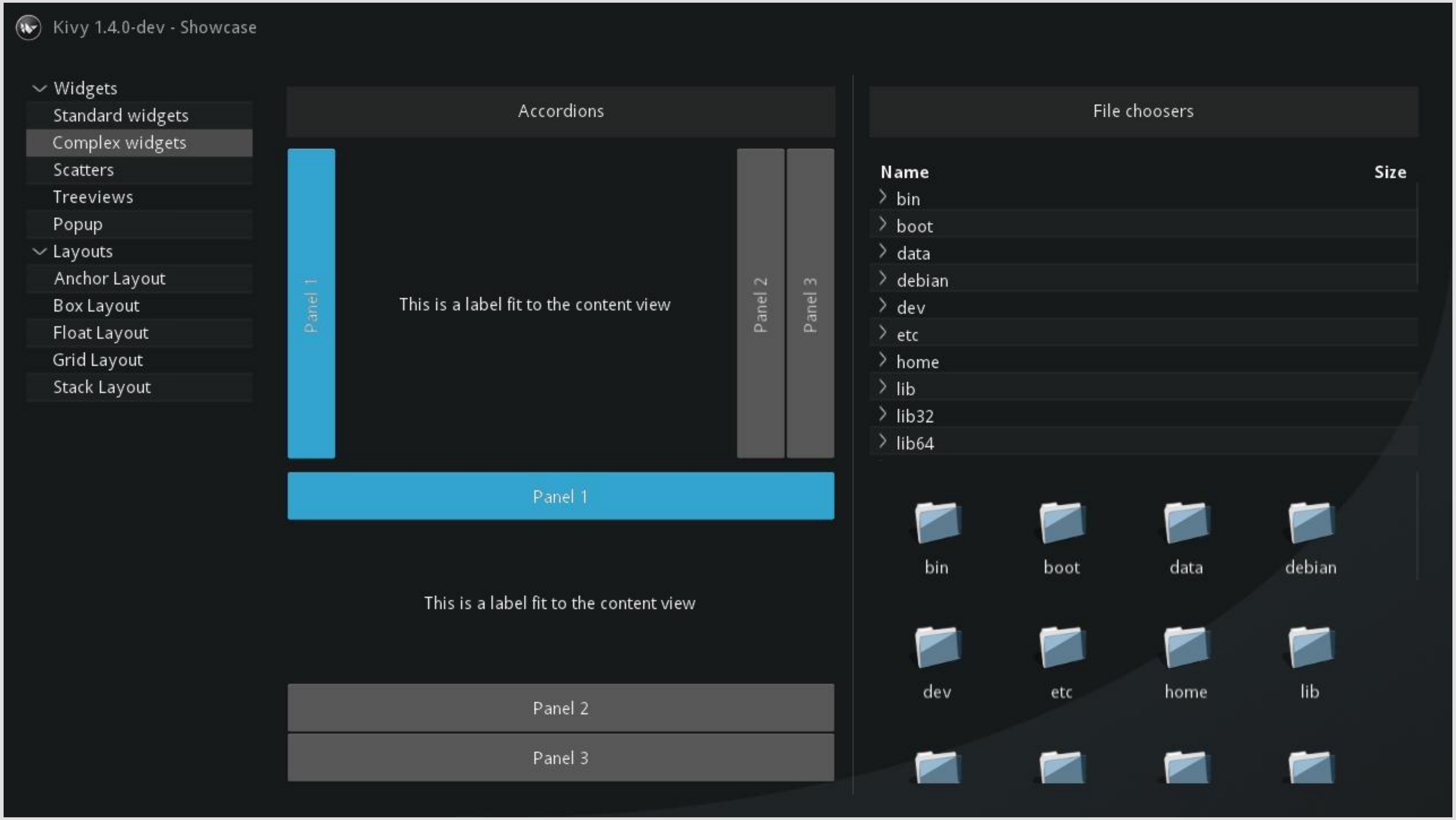
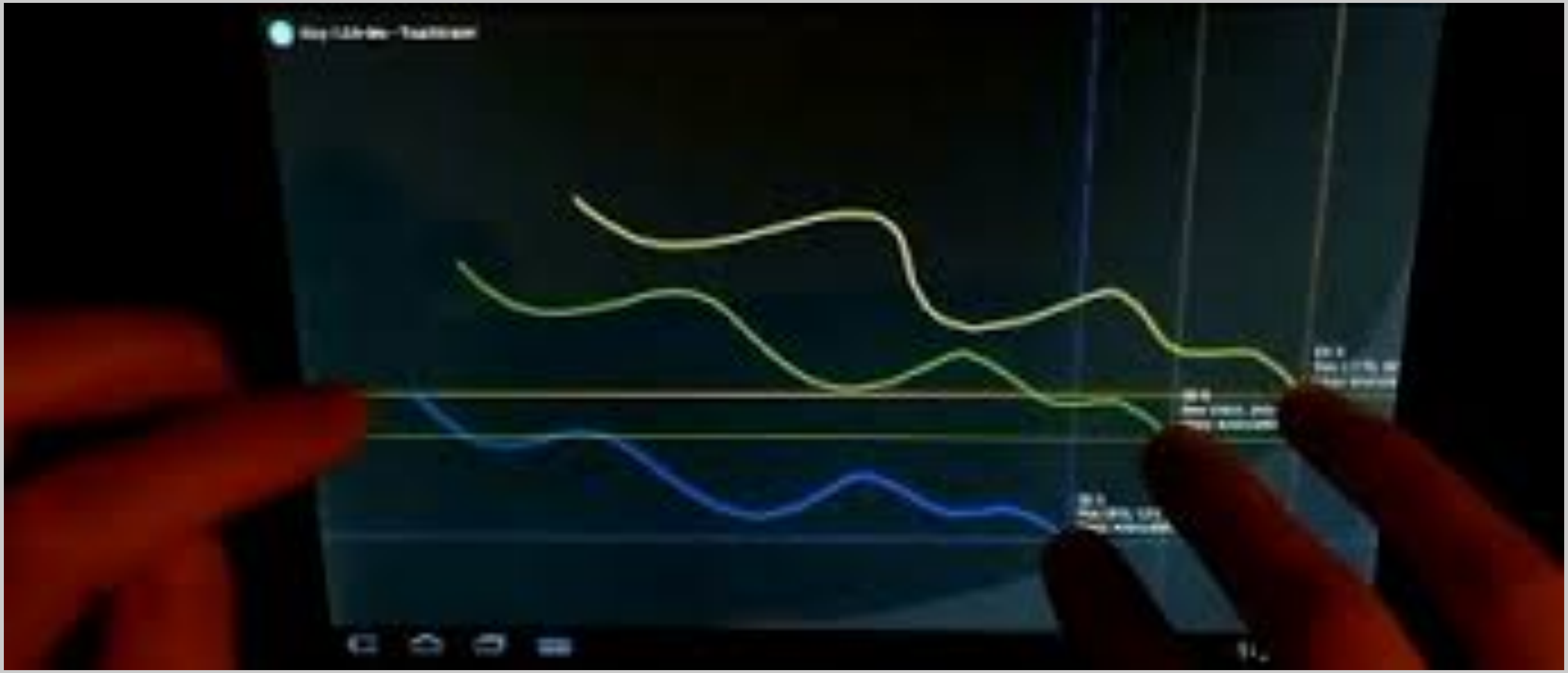
Why kivy?

UI Widgets


Kivy 1.4.0-dev - Showcase
Widgets
Standard widgets
Complex widgets
Scatters
Treeviews
Popup
Layouts
Anchor Layout
Box Layout
Float Layout
Grid Layout
Stack Layout
Accordions
Panel 1
This is a label fit to the content view
Panel 2
Panel 3
Panel 1
This is a label fit to the content view
Panel 2
Panel 3
File choosers
Name
Size
bin
boot
data
debian
dev
etc
home
lib
lib32
lib64
bin
boot
data
debian
dev
etc
home
lib

Multitouch interface



https://vimeo.com/22725621

What is Kivy

- Open source Python library for rapid development of applications that make use of innovative user interfaces, such as multi-touch apps.
- Not only for destkop also for mobile
- You need kivy interpreter for Android Kivy Launcher
- Can bulid stand allone apps (e.g. apk):
  - python-for-android project
  - Buildozer tool

Create an application

1. sub-classing the App class
2. implementing its build() method so it returns a Widget instance (the root of your widget tree)
3. instantiating this class, and calling its run() method.

Basic app: primer1/main.py

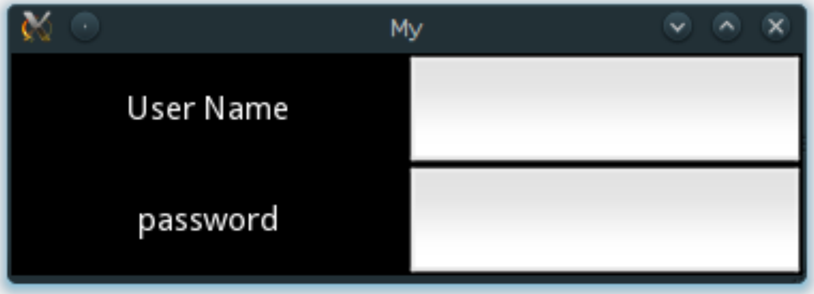
```
from kivy.app import App
from kivy.uix.button import Button #Button widget

def callback(instance): #Callback for button click
   print ’Hello Kivy'

class TestApp(App): #Sub-classing App

    def build(self):
        button = Button(text='Hello world',
font_size=14)
        button.bind(on_press=callback)
        return button #Button is root widget
TestApp().run()
```

Constrictor & Layout
13_primer_2/main.py




```
from kivy.app import App
from kivy.uix.gridlayout import GridLayout
from kivy.uix.label import Label
from kivy.uix.textinput import TextInput

class LoginScreen(GridLayout):

    def __init__(self, *kwargs*):
        super(LoginScreen, self).__init__(**kwargs)
        self.cols = 2
        self.add_widget(Label(text='User Name'))
        self.username = TextInput(multiline=False)
        self.add_widget(self.username)
        self.add_widget(Label(text='password'))
        self.password = TextInput(password=True, multiline=False)
        self.add_widget(self.password)

class MyApp(App):

    def build(self):
        return LoginScreen()


MyApp().run()
```

Naloge I

Naloga 1: Posodobi skripto iz prejsnje naloge tako, da ji dodas gumb login in username zamenjas z email naslovom.

Naloga 2: Posodobi skript tako da ob kliku na gumb login prilazes vsebino obeh polj v popup sporocilu. Pop up sporocilo naj ima tudi gumb close popup.

Naloga 3: Preveri ali sta geslo in password pravlina. Pravlinost ugotavljas preko HTTP GET zahtevka. O uspesnosti porocaj uporabniku preko popup sporocila:

http://www.studenti.famnit.upr.si/~famnit.student/naloge_teden_6/06_naloga_1/login_python.php?email=example@famnit.upr.si&passwd=pwd

Veljavni logine najdes na:
http://www.studenti.famnit.upr.si/~famnit.student/naloge_teden_6/06_naloga_1/

Za klic na streznik uporabis:

```
import urllib2
urllib2.urlopen("http://example.com/foo/bar").read()
```

Touch: 13_primer_3/main.py

```
from kivy.app import App
from kivy.uix.widget import Widget

class MyPaintWidget(Widget):
    def on_touch_down(self, touch):
        print touch

class MyPaintApp(App):
    def build(self):
        return MyPaintWidget()


MyPaintApp().run()
```

Drawing: 13_primer_4/main.py

```
...import...

points=[];
class MyPaintWidget(Widget):

    def on_touch_down(self, touch):
        with self.canvas:
            Color(1, 1, 0)
            d = 30.
            Ellipse(pos=(touch.x - d / 2, touch.y - d / 2), size=(d, d))
            global points
            points.append(touch.x);
            points.append(touch.y);
            Line(points=points);

class MyPaintApp(App):

    def build(self):
        return MyPaintWidget()

MyPaintApp().run()
```

Naloge II

Naloga 1: Dodaj gumb za brisanje zaslovna.

Namig:

```
painter = MyPaintWidget()
painter.canvas.clear()
```

Naloga 2: Risi crto tudi on “mouse move action”.

Namig:

```
def on_touch_move(self, touch):
    ??
```

Naloga 3: Ob vsakem kliku generiraj risis z drugo barvo. Barvo generiraj s pomocjo random funkcije.

Namig:

```
from random import random
rand_num = random()
```