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1  import Tkinter
2  import ttk
3  import subprocess
4
5
6  window = Tkinter.Tk()
7  window.title("DroneKit Launcher")
8  try:
9      window.iconbitmap('C:\\Users\\Usuario\\Documents\\GitHub\\quadcopters-tfg-lvaro\\Dronekit\\favicon.ico')
10 except:
11     pass
12 window.resizable(0,0)
13
14 mainFrame=Tkinter.LabelFrame(window,relief=Tkinter.RIDGE)
15 mainFrame.grid(sticky=Tkinter.NS)
16
17 ##### PLATFORM #####
18
19
20 platform=Tkinter.LabelFrame(mainFrame,text="Platform")
21 platform.grid(row=0,rowspan=2,column=0,padx=5,pady=5,ipadx=5,ipady=5,sticky=Tkinter.NS)
22
23
24 def changeSelection(*args):
25     if str(platformValue.get())=="SITL":
26         platformSITLlaunch.configure(state=Tkinter.NORMAL)
27         mvpPortText.configure(text="Port")
28         mvpAddress.set("tcp:127.0.0.1")
29         mvpPort.set("5760")
30     elif str(platformValue.get())=="UAV":
31         platformSITLlaunch.configure(state=Tkinter.DISABLED)
32         mvpPortText.configure(text="Baud rate")
33         if str(platformUAVselect.get())=="USB":
34             mvpAddress.set("com6")
35             mvpPort.set("115200")
36         elif str(platformUAVselect.get())=="Telemetry":
37             mvpAddress.set("com4")
38             mvpPort.set("57600")
39         else:
40             mvpAddress.set("")
41             mvpPort.set("")
42
43 def launchSitl():
44     openCMD='START CMD /K '
45     sitlRoute='C:\\Users\\Usuario\\Google Drive\\TFG Alvaro Melgosa Pascual\\WinPython-64bit-2.7.10.3\\python-2.7.10.amd64\\Scripts\\dronekit-sitl.exe'
46     sitlArgs='copter-v3.2.1 --model x --home=40.333266, -3.765728,620,0'
47     subprocess.call(openCMD + sitlRoute + sitlArgs, shell=True)
48
49
50 platformValue=Tkinter.StringVar()
51
52 platformSITL=Tkinter.Radiobutton(platform,text="SITL",variable=platformValue,value="SITL",command=changeSelection)
53 platformSITL.grid(row=0,column=0,padx=5,pady=5)
54
55 platformSITLlaunch=Tkinter.Button(platform,text="Launch",command=launchSitl,width=8)
56 platformSITLlaunch.grid(row=0,column=1,padx=5,pady=5)
57
58 platformUAV=Tkinter.Radiobutton(platform,text="UAV",variable=platformValue,value="U

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AV",command=changeSelection)
59 platformUAV.grid(row=1,column=0,padx=5,pady=5)
60
61 platformUAVconnect=Tkinter.StringVar()
62 platformUAVselect=ttk.Combobox(platform,width=7,textvariable=platformUAVconnect)
63 platformUAVselect['values']=("USB","Telemetry")
64 platformUAVselect.bind("<<ComboboxSelected>>",changeSelection)
65 platformUAVselect.grid(row=1,column=1,padx=5,pady=5)
66
67
68 ##### MAVPROXY #####
69
70 mvpvpy=Tkinter.LabelFrame(mainFrame,text="MAVProxy",relief=Tkinter.GROOVE)
71 mvpvpy.grid(row=0,rowspan=2,column=1,padx=5,pady=5,ipadx=5,ipady=5,sticky=Tkinter.NS)
72
73
74 def launchMavproxy(address,port):
75     openCMD='START CMD /K '
76     mavproxyRoute='"C:\\Users\\Usuario\\Google Drive\\TFG Alvaro Melgosa Pascual\\M
AVProxy\\mavproxy.exe" '
77     if address[0:3]=="com":
78         mavproxyArgs=' --master=' + address + ' --baud=' + port + ' --out=127.0.0.1
:14550 --out=127.0.0.1:14551'
79     else:
80         mavproxyArgs=' --master=' + address + ':' + port + ' --out=127.0.0.1:14550
--out=127.0.0.1:14551'
81     subprocess.call(openCMD + mavproxyRoute + mavproxyArgs, shell=True)
82
83 mvpvpyAddressText=Tkinter.Label(mvpvpy,text="Address")
84 mvpvpyAddressText.grid(row=0,column=0,padx=5,pady=5,sticky=Tkinter.E)
85
86 mvpvpyAddress=Tkinter.StringVar()
87 mvpvpyAddressValue=Tkinter.Entry(mvpvpy,textvariable=mvpvpyAddress,width=12)
88 mvpvpyAddressValue.grid(row=0,column=1,padx=5,pady=5)
89
90 mvpvpyPortText=Tkinter.Label(mvpvpy,text="Baud rate")
91 mvpvpyPortText.grid(row=1,column=0,padx=5,pady=5,sticky=Tkinter.E)
92
93 mvpvpyPort=Tkinter.StringVar()
94 mvpvpyPortValue=Tkinter.Entry(mvpvpy,textvariable=mvpvpyPort,width=12)
95 mvpvpyPortValue.grid(row=1,column=1,padx=5,pady=5)
96
97 mvpvpyConnect=Tkinter.Button(mvpvpy,text="Connect",command=lambda:launchMavproxy(str(mv
pyAddress.get()),str(mvpvpyPort.get()))))
98 mvpvpyConnect.grid(row=2,column=1,padx=5,pady=5,sticky=Tkinter.E)
99
100
101 ##### SCRIPT #####
102
103 script=Tkinter.LabelFrame(mainFrame,text="Script",relief=Tkinter.GROOVE)
104 script.grid(row=0,column=2,padx=5,pady=5,ipadx=5,ipady=5)
105
106 def runScript(route):
107     openCMD='START CMD /K '
108     scriptRoute='"C:\\Users\\Usuario\\Documents\\GitHub\\quadcopters-tfg-lvaro\\Dro
nekit\\' + route + '\\main.py"'
109     subprocess.call(openCMD + scriptRoute, shell=True)
110
111 scriptLabel=Tkinter.Label(script,text="File location")
112 scriptLabel.grid(row=0,column=0,padx=5,pady=5)
113
114 scriptFileLocation=Tkinter.StringVar()
115 scriptFile=Tkinter.Entry(script,textvariable=scriptFileLocation,width=15)

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116 scriptFile.grid(row=1,column=0,padx=5)
117
118 scriptRun=Tkinter.Button(script,text="Run script",command=lambda:runScript(str(scri
ptFileLocation.get())))
119 scriptRun.grid(row=1,column=1,padx=5,pady=5)
120
121
122 ##### MISSION PLANNER #####
123
124 def launchPlanner():
125     openCMD='START CMD /K '
126     plannerRoute='"C:\\Program Files (x86)\\Mission Planner\\MissionPlanner.exe"'
127     subprocess.call(openCMD + plannerRoute, shell=True)
128
129 planner=Tkinter.Button(mainFrame,text="Launch Mission Planner",command=launchPlanne
r)
130 planner.grid(column=2,row=1,padx=5,pady=5)
131
132
133
134
135 window.mainloop()
136
137
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