

# Actividad 04 - UI: User Interface

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**Seminario de Algoritmia**

## Lineamientos de evaluación

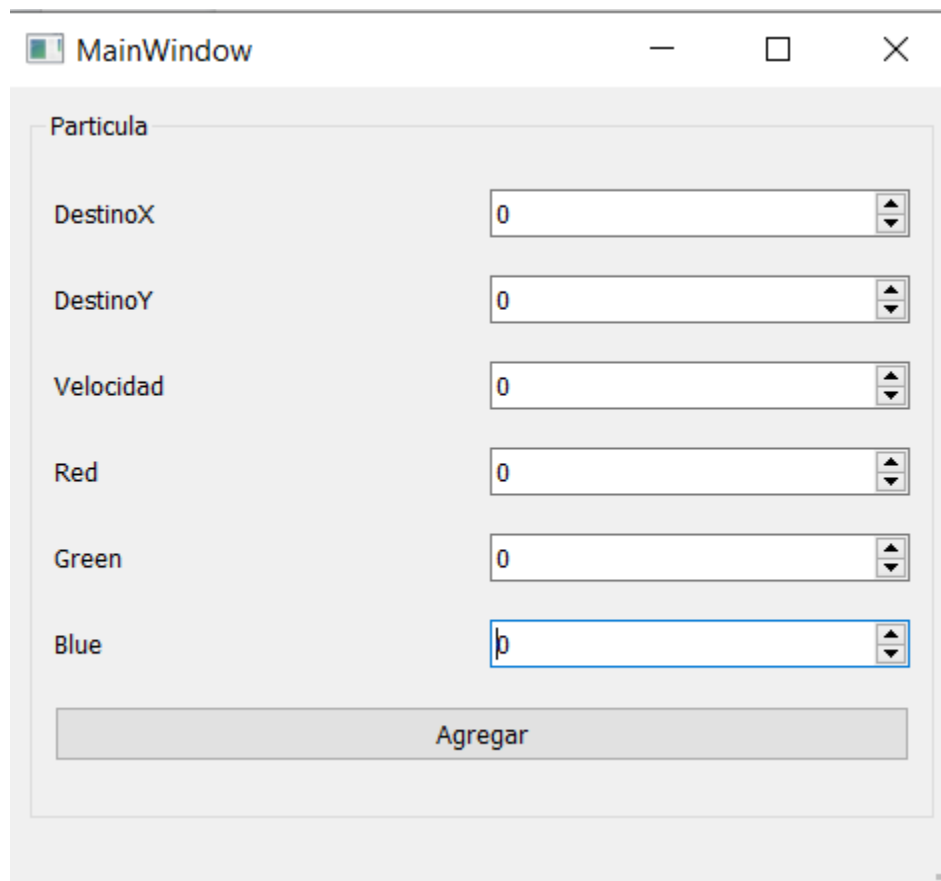
- El reporte está en formato Google Docs o PDF.
- El reporte sigue las pautas del [Formato de Actividades](#) .
- El reporte tiene desarrollada todas las pautas del [Formato de Actividades](#).
- Se muestra la captura de pantalla de la interfaz de usuario corriendo desde Python con los *widgets* para representar la información de una partícula (como se definió en el punto 1 de las instrucciones).

# Desarrollo

Ejecución del archivo main

```
finn1@LAPTOP-4TPTI52A MINGW64 ~/OneDrive/Escritorio/sem-algo/prueba
$ python main.py
█
```

Interfaz gráfica generada



The screenshot shows a Windows-style application window titled "MainWindow". Inside the window, there is a section labeled "Particula" containing six input fields with spinners on the right side. The fields are labeled "DestinoX", "DestinoY", "Velocidad", "Red", "Green", and "Blue". The values in the fields are 0, 0, 0, 0, 0, and 0 respectively. Below these fields is a button labeled "Agregar".

## Conclusiones

Una actividad muy interactiva, usando frameworks muy robustos que nos dan la posibilidad de crear nuevas cosas, y ampliando nuestros conocimientos y la cantidad

de cosas que podemos crear, me gustaría que a posterior podamos adentrarnos en este framework aprender más de este y explorar lo que somos capaces de de crear teniendo esas herramientas.

## Referencias

undefined [MICHEL DAVALOS BOITES]. (2020, October 7). PySide2 - Introducción (Qt for Python)(I) [Video]. YouTube. Retrieved September 29, 2022, from <https://www.youtube.com/watch?v=T0qJdF1fMqo&t=424s>

# Código

main.py

```
from PySide2.QtWidgets import QApplication
from mainwindow import MainWindow
import sys

# Aplicación de Qt
app = QApplication()

# Se crea un botón con la palabra Hola
button = MainWindow()

# Se hace visible el botón
button.show()

# Qt loop
sys.exit(app.exec_())
```

mainwindow.py

```
from PySide2.QtWidgets import QMainWindow
from PySide2.QtCore import Slot
from ui_mainwindow import Ui_MainWindow

class MainWindow(QMainWindow):

    def __init__(self):
        super(MainWindow, self).__init__()

        ui = Ui_MainWindow()
        ui.setupUi(self)

        ui.pushButton.clicked.connect(self.click_agregar)
```

```
@Slot()

def click_agregar(self):

    print('click')
```

ui\_mainwindow.py (interfaz grafica .ui convertida a .py)

```
# -*- coding: utf-8 -*-

#####

####

## Form generated from reading UI file 'mainwindow.ui'

##

## Created by: Qt User Interface Compiler version 5.15.2

##

## WARNING! All changes made in this file will be lost when recompiling UI
file!

#####

####

from PySide2.QtCore import *
from PySide2.QtGui import *
from PySide2.QtWidgets import *

class Ui_MainWindow(object):

    def setupUi(self, MainWindow):

        if not MainWindow.setObjectName():

            MainWindow.setObjectName(u"MainWindow")

            MainWindow.resize(474, 402)
```

```
self.centralwidget = QWidget(MainWindow)

self.centralwidget.setObjectName(u"centralwidget")

self.gridLayout_2 = QGridLayout(self.centralwidget)

self.gridLayout_2.setObjectName(u"gridLayout_2")

self.groupBox = QGroupBox(self.centralwidget)

self.groupBox.setObjectName(u"groupBox")

self.gridLayout = QGridLayout(self.groupBox)

self.gridLayout.setObjectName(u"gridLayout")

self.label_4 = QLabel(self.groupBox)

self.label_4.setObjectName(u"label_4")

self.gridLayout.addWidget(self.label_4, 3, 0, 1, 1)

self.label = QLabel(self.groupBox)

self.label.setObjectName(u"label")

self.gridLayout.addWidget(self.label, 0, 0, 1, 1)

self.spinBox_7 = QSpinBox(self.groupBox)

self.spinBox_7.setObjectName(u"spinBox_7")

self.spinBox_7.setMaximum(255)

self.gridLayout.addWidget(self.spinBox_7, 5, 1, 1, 1)

self.label_2 = QLabel(self.groupBox)

self.label_2.setObjectName(u"label_2")

self.gridLayout.addWidget(self.label_2, 1, 0, 1, 1)
```

```
self.label_3 = QLabel(self.groupBox)
self.label_3.setObjectName(u"label_3")

self.gridLayout.addWidget(self.label_3, 2, 0, 1, 1)

self.label_5 = QLabel(self.groupBox)
self.label_5.setObjectName(u"label_5")

self.gridLayout.addWidget(self.label_5, 4, 0, 1, 1)

self.spinBox_5 = QSpinBox(self.groupBox)
self.spinBox_5.setObjectName(u"spinBox_5")
self.spinBox_5.setMaximum(255)

self.gridLayout.addWidget(self.spinBox_5, 4, 1, 1, 1)

self.spinBox_4 = QSpinBox(self.groupBox)
self.spinBox_4.setObjectName(u"spinBox_4")
self.spinBox_4.setMaximum(255)

self.gridLayout.addWidget(self.spinBox_4, 3, 1, 1, 1)

self.label_6 = QLabel(self.groupBox)
self.label_6.setObjectName(u"label_6")

self.gridLayout.addWidget(self.label_6, 5, 0, 1, 1)
```

```
self.spinBox = QSpinBox(self.groupBox)
self.spinBox.setObjectName(u"spinBox")
self.spinBox.setMaximum(500)

self.gridLayout.addWidget(self.spinBox, 0, 1, 1, 1)

self.spinBox_2 = QSpinBox(self.groupBox)
self.spinBox_2.setObjectName(u"spinBox_2")
self.spinBox_2.setMaximum(500)

self.gridLayout.addWidget(self.spinBox_2, 1, 1, 1, 1)

self.spinBox_3 = QSpinBox(self.groupBox)
self.spinBox_3.setObjectName(u"spinBox_3")
self.spinBox_3.setMaximum(300)

self.gridLayout.addWidget(self.spinBox_3, 2, 1, 1, 1)

self.pushButton = QPushButton(self.groupBox)
self.pushButton.setObjectName(u"pushButton")

self.gridLayout.addWidget(self.pushButton, 6, 0, 1, 2)

self.gridLayout_2.addWidget(self.groupBox, 0, 0, 1, 1)

MainWindow.setCentralWidget(self.centralwidget)

self.menubar = QMenuBar(MainWindow)
```



```
self.menubar.setObjectName(u"menubar")
self.menubar.setGeometry(QRect(0, 0, 474, 26))
MainWindow.setMenuBar(self.menubar)
self.statusbar = QStatusBar(MainWindow)
self.statusbar.setObjectName(u"statusbar")
MainWindow.setStatusBar(self.statusbar)

self.retranslateUi(MainWindow)

QMetaObject.connectSlotsByName(MainWindow)
# setupUi

def retranslateUi(self, MainWindow):
    MainWindow.setWindowTitle(QCoreApplication.translate("MainWindow",
u"MainWindow", None))
    self.groupBox.setTitle(QCoreApplication.translate("MainWindow",
u"Particula", None))
    self.label_4.setText(QCoreApplication.translate("MainWindow",
u"Red", None))
    self.label.setText(QCoreApplication.translate("MainWindow",
u"DestinoX", None))
    self.label_2.setText(QCoreApplication.translate("MainWindow",
u"DestinoY", None))
    self.label_3.setText(QCoreApplication.translate("MainWindow",
u"Velocidad", None))
    self.label_5.setText(QCoreApplication.translate("MainWindow",
u"Green", None))
    self.label_6.setText(QCoreApplication.translate("MainWindow",
u"Blue", None))
    self.pushButton.setText(QCoreApplication.translate("MainWindow",
```

```

u"Agregar", None))

    # retranslateUi

# -*- coding: utf-8 -*-

#####
####

## Form generated from reading UI file 'mainwindow.ui'
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##

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#####
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from PySide2.QtWidgets import *

class Ui_MainWindow(object):

    def setupUi(self, MainWindow):

        if not MainWindow.setObjectName():

            MainWindow.setObjectName(u"MainWindow")

        MainWindow.resize(474, 402)

        self.centralwidget = QWidget(MainWindow)

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self.gridLayout_2 = QGridLayout(self.centralwidget)
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self.label_5 = QLabel(self.groupBox)
self.label_5.setObjectName(u"label_5")

self.gridLayout.addWidget(self.label_5, 4, 0, 1, 1)

self.spinBox_5 = QSpinBox(self.groupBox)
self.spinBox_5.setObjectName(u"spinBox_5")
self.spinBox_5.setMaximum(255)

self.gridLayout.addWidget(self.spinBox_5, 4, 1, 1, 1)

self.spinBox_4 = QSpinBox(self.groupBox)
self.spinBox_4.setObjectName(u"spinBox_4")
self.spinBox_4.setMaximum(255)

self.gridLayout.addWidget(self.spinBox_4, 3, 1, 1, 1)

self.label_6 = QLabel(self.groupBox)
self.label_6.setObjectName(u"label_6")

self.gridLayout.addWidget(self.label_6, 5, 0, 1, 1)

self.spinBox = QSpinBox(self.groupBox)
self.spinBox.setObjectName(u"spinBox")
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self.spinBox.setMaximum(500)

self.gridLayout.addWidget(self.spinBox, 0, 1, 1, 1)

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self.spinBox_2.setObjectName(u"spinBox_2")
self.spinBox_2.setMaximum(500)

self.gridLayout.addWidget(self.spinBox_2, 1, 1, 1, 1)

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self.spinBox_3.setMaximum(300)

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MainWindow.setCentralWidget(self.centralwidget)
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MainWindow.setMenuBar(self.menubar)

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MainWindow.setStatusBar(self.statusbar)


self.retranslateUi(MainWindow)


QMetaObject.connectSlotsByName(MainWindow)

# setupUi


def retranslateUi(self, MainWindow):

    MainWindow.setWindowTitle(QCoreApplication.translate("MainWindow",
u"MainWindow", None))

    self.groupBox.setTitle(QCoreApplication.translate("MainWindow",
u"Particula", None))

    self.label_4.setText(QCoreApplication.translate("MainWindow",
u"Red", None))

    self.label.setText(QCoreApplication.translate("MainWindow",
u"DestinoX", None))

    self.label_2.setText(QCoreApplication.translate("MainWindow",
u"DestinoY", None))

    self.label_3.setText(QCoreApplication.translate("MainWindow",
u"Velocidad", None))

    self.label_5.setText(QCoreApplication.translate("MainWindow",
u"Green", None))

    self.label_6.setText(QCoreApplication.translate("MainWindow",
u"Blue", None))

    self.pushButton.setText(QCoreApplication.translate("MainWindow",
u"Agregar", None))

# retranslateUi
```

