**Code 2**

**Begin Experiment**

from psychopy import misc

myMouse=event.Mouse(win=win)

expInfo['expName']='visuospatialSTM'

customFilename='data' + os.path.sep + '%s\_%s\_%s\_custom' %(expInfo['participant'], expInfo['date'], expInfo['expName'])

fc=open(customFilename+'.csv','w')

fc.write('Participant,Date,Task,Span,Trial,CorrectAnswer,Response,spanCorr,proportionScore,itemsCorr\n')

**Begin routine**

myMouse.setVisible(1)

myMouse.clickReset()

clickSequence=[]

squares=[square\_1,square\_2,square\_3,square\_4,square\_5,square\_6,square\_7,square\_8,square\_9]

for square in range(0,9):

squares[square].setSize([7,7])

**Each frame**

[mouse1,mouse2,mouse3], [RT1, RT2, RT3] = myMouse.getPressed(getTime = True)

#myMouse.clickReset() #rest time to 0 so can get accurate RT for next click

#event.clearEvents(myMouse)

if (mouse1):

mouse\_x,mouse\_y=myMouse.getPos()

pix = misc.cm2pix(np.array([mouse\_x, mouse\_y]), win.monitor)

for square in range(0,9):

if squares[square].contains(pix):

squares[square].setSize([3,3])

if clickSequence==[]:

clickSequence.append(square+1)

if square+1<>clickSequence[-1]:

clickSequence.append(square+1)

print clickSequence

if len(clickSequence)==len(spatialCorrectAnswer):

continueRoutine=False

event.clearEvents()

**End routine**

myMouse.setVisible(0)

print clickSequence, spatialCorrectAnswer

#determine if all items recalled in correct order

if str(clickSequence)==str(spatialCorrectAnswer):

print 'match'

spanCorr=1

correctCount=correctCount+1

else:

spanCorr=0

print 'correctCount', correctCount

#determine if all items recalled, item doesn't matter

if list(set(clickSequence))==list(set(spatialCorrectAnswer)):

itemCorr=1

else:

itemCorr=0

#calculate proportion score

recallCount=0

for i in range(len(clickSequence)):

if clickSequence[i]==spatialCorrectAnswer[i]:

recallCount=recallCount+1

if recallCount>0:

proportionScore=recallCount/len(spatialCorrectAnswer)

else:

proportionScore=0

currentLoop.addData('spanCorr',spanCorr)

currentLoop.addData('clickSequence',clickSequence)

#if currentLoop=='trials\_2':

fc.write('%s,%s,%s,%i,%i,"%s","%s",%i,%.02f,%i\n' %(expInfo['participant'],expInfo['date'],expInfo['expName'],Span,trialCount,spatialCorrectAnswer,clickSequence,spanCorr,proportionScore,itemCorr))

Exit span task code

**Begin routine**

if trials\_2.thisTrialN in [2,5,8,11,14,17,20]:

if correctCount<2:

feedbackString='finished.jpg'

trials\_2.finished=True

else:

feedbackList = ['greatjob.jpg','welldone.jpg','fantastic.jpg']

feedbackNum = randint(3)

feedbackString = feedbackList[feedbackNum]

**Each frame**

if trials\_2.thisTrialN not in [2,5,8,11,14,17,20]:

continueRoutine=False

**End routine**

if trials\_2.thisTrialN in [2,5,8,11,14,17,20]:

if correctCount<2:

trials\_2.finished=True

fc.close()

else:

correctCount=0