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AP3 GRUPO PCA 7

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# 1 Introdução

Com a grande oferta de distrações focadas apenas no entretenimento, é importante criar meios de oferecer conteúdo com maiores valores pedagógicos visando capturar parte da atenção do público-alvo para a realização de atividades que possam somar ao seu processo de aprendizagem.

A ***solução*** que será desenvolvida em nosso Jogo será uma ferramenta voltada para o aprendizado de forma simples, objetiva e divertida.

Seu principal objetivo é, por intermédio do jogo da forca (For Cult), ensinar os conceitos de novas palavras que serão apresentadas, enriquecendo o vocabulário dos participantes, com um tema bastante atualizado.

# **2 – Código do jogo – ForCult2Pca.py**

#ruya kumru-holroyd

#pygame hangman

import pygame, sys, random

from time import sleep

from pygame.locals import \*

from timeit import default\_timer as timer

fps = 30

pygame.init()

width = 800

height = 600

black = (0,0,0)

white = (255,255,255)

lightred = (255, 165, 145)

darklightred = (255, 97, 81)

lightblue = (126,178,255)

darklightblue = (42, 129, 255)

lightgrey = (192, 192, 192)

textBoxSpace = 5

textBoxNumber = 0

def button(word,x,y,w,h,ic,ac,action=None):

    mouse = pygame.mouse.get\_pos()

    click = pygame.mouse.get\_pressed()

    if x+w > mouse[0] > x and y+h > mouse[1] > y:

        pygame.draw.rect(screen,ac,(x,y,w,h))

        if click[0] == 1 and action != None:

            action()

    else:

        pygame.draw.rect(screen,ic,(x,y,w,h))

    buttonText = pygame.font.Font("freesansbold.ttf",20)

    buttonTextSurf = buttonText.render(word, True, white)

    buttonTextRect = buttonTextSurf.get\_rect()

    buttonTextRect.center = ((x+(w/2)), (y+(h/2)))

    screen.blit(buttonTextSurf, buttonTextRect)

def endGame():

    global textBoxSpace, textBoxNumber, end, start

    end = timer()

    timeTaken = (end - start)

    textBoxSpace = 5

    textBoxNumber = 0

    message = "Tempo: " + str(round(timeTaken)) + "s"

    while True:

        for event in pygame.event.get():

            if event.type == pygame.QUIT:

                pygame.quit()

                sys.exit()

        button("Sim",(width/2)-50,420,100,50,darklightred,lightred,quitGame)

        button("Não",(width/2)-50,500,100,50,darklightred,lightred,hangman)

        largeText = pygame.font.SysFont("comicsansms",115)

        TextSurf = largeText.render("Fechar o jogo?",True,darklightred)

        TextRect = TextSurf.get\_rect()

        TextRect.center = (width / 2, height / 2)

        screen.blit(TextSurf, TextRect)

        textSurf = largeText.render(message,True,darklightred)

        textRect = textSurf.get\_rect()

        textRect.center = (width/2,200)

        screen.blit(textSurf, textRect)

        pygame.display.update()

        clock.tick(fps)

def quitGame():

    pygame.quit()

    sys.exit()

def unpause():

    global pause

    pause = False

def pause():

    largeText = pygame.font.SysFont("comicsansms",115)

    TextSurf = largeText.render("Paused",True,black)

    TextRect = TextSurf.get\_rect()

    TextRect.center = (width / 2, height / 2)

    screen.blit(TextSurf, TextRect)

    while pause:

        for event in pygame.event.get():

            if event.type == pygame.QUIT:

                pygame.quit()

                sys.exit()

        screen.fill(white)

        button("Continuar",150,450,100,50,darklightred,lightred,unpause)

        button("Fechar",550,450,100,50,darklightblue,lightblue,quitgame)

        pygame.display.update()

        clock.tick(fps)

def textObjects(text, font):

    textSurface = font.render(text, True, black)

    return textSurface, textSurface.get\_rect()

def main():

    global clock, screen, play

    play = True

    clock = pygame.time.Clock()

    screen = pygame.display.set\_mode((width, height))

    pygame.display.set\_caption("Jogo da forca")

    while True:

        hangman()

def placeLetter(letter):

    global pick, pickSplit

    space = 10

    wordSpace = 0

    while wordSpace < len(pick):

        text = pygame.font.Font('freesansbold.ttf',40)

        if letter in pickSplit[wordSpace]:

            textSurf = text.render(letter,True,black)

            textRect = textSurf.get\_rect()

            textRect.center = (((150)+space),(200))

            screen.blit(textSurf, textRect)

        wordSpace += 1

        space += 60

    pygame.display.update()

    clock.tick(fps)

def textBoxLetter(letter):

    global textBoxSpace, textBoxNumber

    if textBoxNumber <= 5:

        text = pygame.font.Font("freesansbold.ttf",40)

        textSurf = text.render(letter,True,black)

        textRect = textSurf.get\_rect()

        textRect.center = (((105)+textBoxSpace),(350))

        screen.blit(textSurf, textRect)

    elif textBoxNumber <= 10:

        text = pygame.font.Font("freesansbold.ttf",40)

        textSurf = text.render(letter,True,black)

        textRect = textSurf.get\_rect()

        textRect.center = (((105)+textBoxSpace),(400))

        screen.blit(textSurf, textRect)

    elif textBoxNumber <= 15:

        text = pygame.font.Font("freesansbold.ttf",40)

        textSurf = text.render(letter,True,black)

        textRect = textSurf.get\_rect()

        textRect.center = (((105)+textBoxSpace),(450))

        screen.blit(textSurf, textRect)

    elif textBoxNumber <= 20:

        text = pygame.font.Font("freesansbold.ttf",40)

        textSurf = text.render(letter,True,black)

        textRect = textSurf.get\_rect()

        textRect.center = (((105)+textBoxSpace),(500))

        screen.blit(textSurf, textRect)

    pygame.display.update()

    clock.tick(fps)

def hangman():

    global textBoxSpace, textBoxNumber

    textBoxSpace = 5

    textBoxNumber = 0

    while play == True:

        for event in pygame.event.get():

            if event.type == pygame.QUIT:

                pygame.quit()

                sys.exit()

        screen.fill(white)

        space = 10

        textBoxSpace = 5

        text = pygame.font.Font("freesansbold.ttf",20)

        textSurf = text.render("Escolha uma categoria",True,black)

        textRect = textSurf.get\_rect()

        textRect.center = ((width/2),(height/2))

        screen.blit(textSurf, textRect)

        button("Educação",300,400,150,100,black,lightgrey,Educacao)

        pygame.display.update()

        clock.tick(fps)

def hangmanGame(catagory,title):

    global pause, pick, pickSplit, textBoxSpace, textBoxNumber, start

    start = timer()

    chances = 20

    pick = random.choice(catagory)

    pickSplit = [pick[i:i+1] for i in range(0, len(pick), 1)]

    screen.fill(white)

    wordSpace = 0

    space = 10

    while wordSpace < len(pick):

        text = pygame.font.Font("freesansbold.ttf",40)

        textSurf1 = text.render("\_",True,black)

        textRect1 = textSurf1.get\_rect()

        textRect1.center = (((150)+space),(200))

        screen.blit(textSurf1, textRect1)

        space = space + 60

        wordSpace += 1

    guesses = ''

    gamePlay = True

    while gamePlay == True:

        guessLett = ''

        if textBoxNumber == 5:

            textBoxSpace = 5

        if textBoxNumber == 10:

            textBoxSpace = 5

        if textBoxNumber == 15:

            textBoxSpace = 5

        pygame.draw.rect(screen, white, [550,20,200,20])

        text = pygame.font.Font("freesansbold.ttf",20)

        textSurf = text.render(("Chances: %s" % chances),False,black)

        textRect = textSurf.get\_rect()

        textRect.topright = (700,20)

        screen.blit(textSurf, textRect)

        textTitle = pygame.font.Font("freesansbold.ttf",40)

        textTitleSurf = textTitle.render(title,True,black)

        textTitleRect = textTitleSurf.get\_rect()

        textTitleRect.center = ((width/2),50)

        screen.blit(textTitleSurf, textTitleRect)

        pygame.draw.rect(screen, black, [100,300,250,250],2)

        if chances == 19:

            pygame.draw.rect(screen,black,[450,550,100,10])

        elif chances == 18:

            pygame.draw.rect(screen,black,[550,550,100,10])

        elif chances == 17:

            pygame.draw.rect(screen,black,[650,550,100,10])

        elif chances == 16:

            pygame.draw.rect(screen,black,[500,450,10,100])

        elif chances == 15:

            pygame.draw.rect(screen,black,[500,350,10,100])

        elif chances == 14:

            pygame.draw.rect(screen,black,[500,250,10,100])

        elif chances == 13:

            pygame.draw.rect(screen,black,[500,250,150,10])

        elif chances == 12:

            pygame.draw.rect(screen,black,[600,250,100,10])

        elif chances == 11:

            pygame.draw.rect(screen,black,[600,250,10,50])

        elif chances == 10:

            pygame.draw.line(screen,black,[505,505],[550,550],10)

        elif chances == 9:

            pygame.draw.line(screen,black,[550,250],[505,295],10)

        elif chances == 8:

            pygame.draw.line(screen,black,[505,505],[460,550],10)

        elif chances == 7:

            pygame.draw.circle(screen,black,[605,325],30)

        elif chances == 6:

            pygame.draw.rect(screen,black,[600,350,10,60])

        elif chances == 5:

            pygame.draw.rect(screen,black,[600,410,10,60])

        elif chances == 4:

            pygame.draw.line(screen,black,[605,375],[550,395],10)

        elif chances == 3:

            pygame.draw.line(screen,black,[605,375],[650,395],10)

        elif chances == 2:

            pygame.draw.line(screen,black,[605,465],[550,485],10)

        elif chances == 1:

            pygame.draw.line(screen,black,[605,465],[650,485],10)

        button("Voltar",50,50,100,50,black,lightgrey,hangman)

        for event in pygame.event.get():

            if event.type == pygame.QUIT:

                pygame.quit()

                sys.exit()

            if event.type == pygame.KEYDOWN:

                failed = 0

                if event.key == pygame.K\_SPACE:

                    pause()

                if event.key == pygame.K\_ESCAPE:

                    gamePlay = False

                if event.key == pygame.K\_a:

                    guessLett = guessLett + 'a'

                    guesses += guessLett

                    for char in pick:

                        if char in guesses:

                            print(char)

                        else:

                            print("\_")

                            failed += 1

                    if guessLett in pick:

                        placeLetter('a')

                    if failed == 0:

                        endGame()

                    if guessLett not in pick:

                        textBoxSpace += 40

                        textBoxNumber += 1

                        chances = chances - 1

                        print(textBoxNumber)

                        textBoxLetter('a')

                    if chances == 0:

                        endGame()

                if event.key == pygame.K\_b:

                    guessLett = guessLett + 'b'

                    guesses += guessLett

                    for char in pick:

                        if char in guesses:

                            print(char)

                        else:

                            print("\_")

                            failed += 1

                    if guessLett in pick:

                        placeLetter('b')

                    if failed == 0:

                        endGame()

                    if guessLett not in pick:

                        textBoxSpace += 40

                        textBoxNumber += 1

                        chances = chances - 1

                        textBoxLetter('b')

                    if chances == 0:

                        endGame()

                if event.key == pygame.K\_c:

                    guessLett = guessLett + 'c'

                    guesses += guessLett

                    for char in pick:

                        if char in guesses:

                            print(char)

                        else:

                            failed += 1

                    if guessLett in pick:

                        placeLetter('c')

                    if failed == 0:

                        endGame()

                    if guessLett not in pick:

                        textBoxSpace += 40

                        textBoxNumber += 1

                        chances = chances - 1

                        textBoxLetter('c')

                    if chances == 0:

                        endGame()

                if event.key == pygame.K\_d:

                    guessLett = guessLett + 'd'

                    guesses += guessLett

                    for char in pick:

                        if char in guesses:

                            print(char)

                        else:

                            failed += 1

                    if guessLett in pick:

                        placeLetter('d')

                    if failed == 0:

                        endGame()

                    if guessLett not in pick:

                        textBoxSpace += 40

                        textBoxNumber += 1

                        chances = chances - 1

                        textBoxLetter('d')

                    if chances == 0:

                        endGame()

                if event.key == pygame.K\_e:

                    guessLett = guessLett + 'e'

                    guesses += guessLett

                    for char in pick:

                        if char in guesses:

                            print(char)

                        else:

                            print("\_")

                            failed += 1

                    if guessLett in pick:

                        placeLetter('e')

                    if failed == 0:

                        endGame()

                    if guessLett not in pick:

                        textBoxSpace += 40

                        textBoxNumber += 1

                        chances = chances - 1

                        textBoxLetter('e')

                    if chances == 0:

                        endGame()

                if event.key == pygame.K\_f:

                    guessLett = guessLett + 'f'

                    guesses += guessLett

                    for char in pick:

                        if char in guesses:

                            print(char)

                        else:

                            print("\_")

                            failed += 1

                    if guessLett in pick:

                        placeLetter('f')

                    if failed == 0:

                        endGame()

                    if guessLett not in pick:

                        textBoxSpace += 40

                        textBoxNumber += 1

                        chances = chances - 1

                        textBoxLetter('f')

                    if chances == 0:

                        endGame()

                if event.key == pygame.K\_g:

                    guessLett = guessLett + 'g'

                    guesses += guessLett

                    for char in pick:

                        if char in guesses:

                            print(char)

                        else:

                            print("\_")

                            failed += 1

                    if guessLett in pick:

                        placeLetter('g')

                    if failed == 0:

                        endGame()

                    if guessLett not in pick:

                        textBoxSpace += 40

                        textBoxNumber += 1

                        chances = chances - 1

                        textBoxLetter('g')

                    if chances == 0:

                        endGame()

                if event.key == pygame.K\_h:

                    guessLett = guessLett + 'h'

                    guesses += guessLett

                    for char in pick:

                        if char in guesses:

                            print(char)

                        else:

                            print("\_")

                            failed += 1

                    if guessLett in pick:

                        placeLetter('h')

                    if failed == 0:

                        endGame()

                    if guessLett not in pick:

                        textBoxSpace += 40

                        textBoxNumber += 1

                        chances = chances - 1

                        textBoxLetter('h')

                    if chances == 0:

                        endGame()

                if event.key == pygame.K\_i:

                    guessLett = guessLett + 'i'

                    guesses += guessLett

                    for char in pick:

                        if char in guesses:

                            print(char)

                        else:

                            print("\_")

                            failed += 1

                    if guessLett in pick:

                        placeLetter('i')

                    if failed == 0:

                        endGame()

                    if guessLett not in pick:

                        textBoxSpace += 40

                        textBoxNumber += 1

                        chances = chances - 1

                        textBoxLetter('i')

                    if chances == 0:

                        endGame()

                if event.key == pygame.K\_j:

                    guessLett = guessLett + 'j'

                    guesses += guessLett

                    for char in pick:

                        if char in guesses:

                            print(char)

                        else:

                            print("\_")

                            failed += 1

                    if guessLett in pick:

                        placeLetter('j')

                    if failed == 0:

                        endGame()

                    if guessLett not in pick:

                        textBoxSpace += 40

                        textBoxNumber += 1

                        chances = chances - 1

                        textBoxLetter('j')

                    if chances == 0:

                        endGame()

                if event.key == pygame.K\_k:

                    guessLett = guessLett + 'k'

                    guesses += guessLett

                    for char in pick:

                        if char in guesses:

                            print(char)

                        else:

                            failed += 1

                    if guessLett in pick:

                        placeLetter('k')

                    if failed == 0:

                        endGame()

                    if guessLett not in pick:

                        textBoxSpace += 40

                        textBoxNumber += 1

                        chances = chances - 1

                        textBoxLetter('k')

                    if chances == 0:

                        endGame()

                if event.key == pygame.K\_l:

                    guessLett = guessLett + 'l'

                    guesses += guessLett

                    for char in pick:

                        if char in guesses:

                            print(char)

                        else:

                            print("\_")

                            failed += 1

                    if guessLett in pick:

                        placeLetter('l')

                    if failed == 0:

                        endGame()

                    if guessLett not in pick:

                        textBoxSpace += 40

                        textBoxNumber += 1

                        chances = chances - 1

                        textBoxLetter('l')

                    if chances == 0:

                        endGame()

                if event.key == pygame.K\_m:

                    guessLett = guessLett + 'm'

                    guesses += guessLett

                    for char in pick:

                        if char in guesses:

                            print(char)

                        else:

                            print("\_")

                            failed += 1

                    if guessLett in pick:

                        placeLetter('m')

                    if failed == 0:

                        endGame()

                    if guessLett not in pick:

                        textBoxSpace += 40

                        textBoxNumber += 1

                        chances = chances - 1

                        textBoxLetter('m')

                    if chances == 0:

                        endGame()

                if event.key == pygame.K\_n:

                    guessLett = guessLett + 'n'

                    guesses += guessLett

                    for char in pick:

                        if char in guesses:

                            print(char)

                        else:

                            print("\_")

                            failed += 1

                    if guessLett in pick:

                        placeLetter('n')

                    if failed == 0:

                        endGame()

                    if guessLett not in pick:

                        textBoxSpace += 40

                        textBoxNumber += 1

                        chances = chances - 1

                        textBoxLetter('n')

                    if chances == 0:

                        endGame()

                if event.key == pygame.K\_o:

                    guessLett = guessLett + 'o'

                    guesses += guessLett

                    for char in pick:

                        if char in guesses:

                            print(char)

                        else:

                            print("\_")

                            failed += 1

                    if guessLett in pick:

                        placeLetter('o')

                    if failed == 0:

                        endGame()

                    if guessLett not in pick:

                        textBoxSpace += 40

                        textBoxNumber += 1

                        chances = chances - 1

                        textBoxLetter('o')

                    if chances == 0:

                        endGame()

                if event.key == pygame.K\_p:

                    guessLett = guessLett + 'p'

                    guesses += guessLett

                    for char in pick:

                        if char in guesses:

                            print(char)

                        else:

                            print("\_")

                            failed += 1

                    if guessLett in pick:

                        placeLetter('p')

                    if failed == 0:

                        endGame()

                    if guessLett not in pick:

                        textBoxSpace += 40

                        textBoxNumber += 1

                        chances = chances - 1

                        textBoxLetter('p')

                    if chances == 0:

                        endGame()

                if event.key == pygame.K\_q:

                    guessLett = guessLett + 'q'

                    guesses += guessLett

                    for char in pick:

                        if char in guesses:

                            print(char)

                        else:

                            print("\_")

                            failed += 1

                    if guessLett in pick:

                        placeLetter('a')

                    if failed == 0:

                        endGame()

                    if guessLett not in pick:

                        textBoxSpace += 40

                        textBoxNumber += 1

                        chances = chances - 1

                        textBoxLetter('q')

                    if chances == 0:

                        endGame()

                if event.key == pygame.K\_r:

                    guessLett = guessLett + 'r'

                    guesses += guessLett

                    for char in pick:

                        if char in guesses:

                            print(char)

                        else:

                            print("\_")

                            failed += 1

                    if guessLett in pick:

                        placeLetter('r')

                    if failed == 0:

                        endGame()

                    if guessLett not in pick:

                        textBoxSpace += 40

                        textBoxNumber += 1

                        chances = chances - 1

                        textBoxLetter('r')

                    if chances == 0:

                        endGame()

                if event.key == pygame.K\_s:

                    guessLett = guessLett + 's'

                    guesses += guessLett

                    for char in pick:

                        if char in guesses:

                            print(char)

                        else:

                            failed += 1

                    if guessLett in pick:

                        placeLetter('s')

                    if failed == 0:

                        endGame()

                    if guessLett not in pick:

                        textBoxSpace += 40

                        textBoxNumber += 1

                        chances = chances - 1

                        textBoxLetter('s')

                    if chances == 0:

                        endGame()

                if event.key == pygame.K\_t:

                    guessLett = guessLett + 't'

                    guesses += guessLett

                    for char in pick:

                        if char in guesses:

                            print(char)

                        else:

                            print("\_")

                            failed += 1

                    if guessLett in pick:

                        placeLetter('t')

                    if failed == 0:

                        endGame()

                    if guessLett not in pick:

                        textBoxSpace += 40

                        textBoxNumber += 1

                        chances = chances - 1

                        textBoxLetter('t')

                    if chances == 0:

                        endGame()

                if event.key == pygame.K\_u:

                    guessLett = guessLett + 'u'

                    guesses += guessLett

                    for char in pick:

                        if char in guesses:

                            print(char)

                        else:

                            print("\_")

                            failed += 1

                    if guessLett in pick:

                        placeLetter('u')

                    if failed == 0:

                        endGame()

                    if guessLett not in pick:

                        textBoxSpace += 40

                        textBoxNumber += 1

                        chances = chances - 1

                        textBoxLetter('u')

                    if chances == 0:

                        endGame()

                if event.key == pygame.K\_v:

                    guessLett = guessLett + 'v'

                    guesses += guessLett

                    for char in pick:

                        if char in guesses:

                            print(char)

                        else:

                            print("\_")

                            failed += 1

                    if guessLett in pick:

                        placeLetter('v')

                    if failed == 0:

                        endGame()

                    if guessLett not in pick:

                        textBoxSpace += 40

                        textBoxNumber += 1

                        chances = chances - 1

                        textBoxLetter('v')

                    if chances == 0:

                        endGame()

                if event.key == pygame.K\_w:

                    guessLett = guessLett + 'w'

                    guesses += guessLett

                    for char in pick:

                        if char in guesses:

                            print(char)

                        else:

                            print("\_")

                            failed += 1

                    if guessLett in pick:

                        placeLetter('w')

                    if failed == 0:

                        endGame()

                    if guessLett not in pick:

                        textBoxSpace += 40

                        textBoxNumber += 1

                        chances = chances - 1

                        textBoxLetter('w')

                    if chances == 0:

                        endGame()

                if event.key == pygame.K\_x:

                    guessLett = guessLett + 'x'

                    guesses += guessLett

                    for char in pick:

                        if char in guesses:

                            print(char)

                        else:

                            print("\_")

                            failed += 1

                    if guessLett in pick:

                        placeLetter('x')

                    if failed == 0:

                        endGame()

                    if guessLett not in pick:

                        textBoxSpace += 40

                        textBoxNumber += 1

                        chances = chances - 1

                        textBoxLetter('x')

                    if chances == 0:

                        endGame()

                if event.key == pygame.K\_y:

                    guessLett = guessLett + 'y'

                    guesses += guessLett

                    for char in pick:

                        if char in guesses:

                            print(char)

                        else:

                            print("\_")

                            failed += 1

                    if guessLett in pick:

                        placeLetter('y')

                    if failed == 0:

                        endGame()

                    if guessLett not in pick:

                        textBoxSpace += 40

                        textBoxNumber += 1

                        chances = chances - 1

                        textBoxLetter('y')

                    if chances == 0:

                        endGame()

                if event.key == pygame.K\_z:

                    guessLett = guessLett + 'z'

                    guesses += guessLett

                    for char in pick:

                        if char in guesses:

                            print(char)

                        else:

                            print("\_")

                            failed += 1

                    if guessLett in pick:

                        placeLetter('z')

                    if failed == 0:

                        endGame()

                    if guessLett not in pick:

                        textBoxSpace += 40

                        textBoxNumber += 1

                        chances = chances - 1

                        textBoxLetter('z')

                    if chances == 0:

                        endGame()

        pygame.display.update()

        clock.tick(fps)

    pygame.display.update()

    clock.tick(fps)

def Educacao():

    lista\_palavras = []

    with open("palavras.txt") as f:

        lista\_palavras = f.readlines()

        lista\_palavras = [x.strip() for x in lista\_palavras]

    title = "Educação"

    hangmanGame(lista\_palavras,title)

if \_\_name\_\_ == '\_\_main\_\_':

    main()

# **3 - Gravação da apresentação e github**

Link youtube: https://youtu.be/u8B92b-2TEs

Link github: https://github.com/GleiciRJ/UNIG\_PCA\_IDS