UNIVERSIDADE UNIGRANRIO

DIEGO SCHMIDT

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AP3 GRUPO PCA 7

DUQUE DE CAXIAS, 2021

SUMÁRIO

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