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*SnakePyth*

**ELEVATOR PITCH**

**+**

**STORYBOARD**





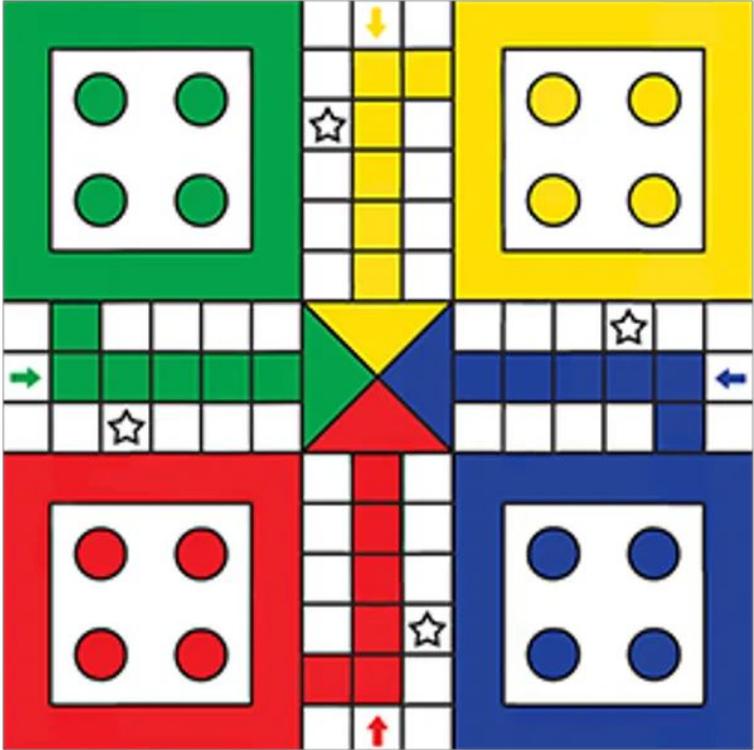
2/5

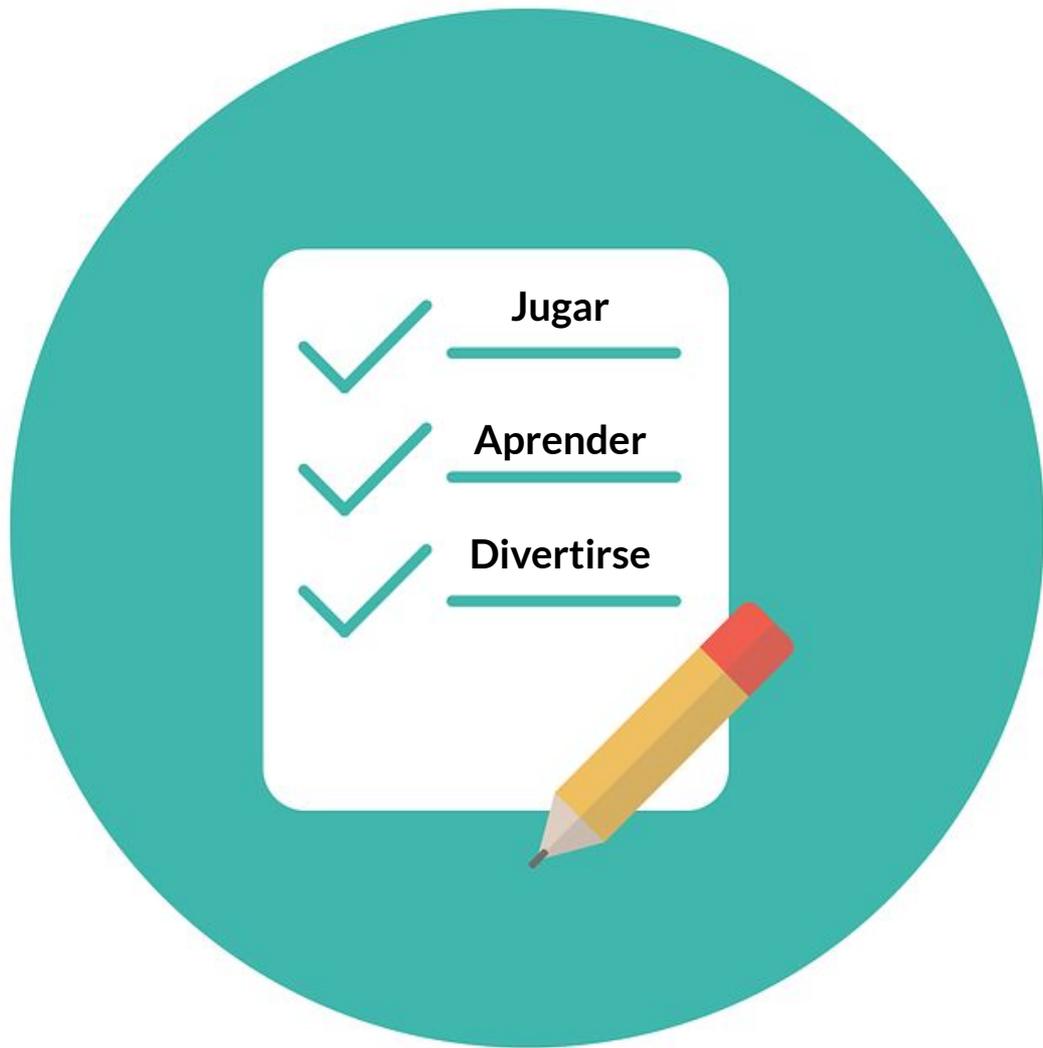
Alumnos de la UTEC presentan dificultades en aprender el curso de programación en Python



SnakePyth







✓ Jugar

✓ Aprender

✓ Divertirse







# ELEVATOR PITCH

¿Sabía que 2 de cada 5 alumnos de primer ciclo de la universidad UTEC que llevan el curso Introducción a la Ciencia de la Computación tienen dificultades para aprender a programar en lenguaje python? (Diapositiva #3)

Buenos días, somos estudiantes de UTEC y debido a esta problemática hemos diseñado el proyecto "SnakePyth". (Diapositiva #4)

Este proyecto consiste en un método innovador de estudio a través de un juego de mesa. (Diapositiva #5)

Se basa en el conocido juego de Ludo de hasta 4 personas y tiene como objetivo aprender los conceptos necesarios que abarcan en el curso, jugando y aprendiendo. (Diapositiva #6 y Diapositiva #7)

Con SnakePyth el objetivo es que los alumnos grupalmente aprendan los conceptos básicos de programación en python. (Diapositiva #8 y Diapositiva #9)

Envíanos su número de contacto, y le remitiremos toda la información. ¡Súmate a nuestro proyecto! (Diapositiva #10)

**INSIGHT**





Una gran cantidad de alumnos de ICC quisieran aprobar la parte teórica **PERO** se confían porque piensan que es curso que se aprueba sin repasar.

**HOW MIGHT WE?**





HOW MIGHT WE?

¿**Cómo podríamos nosotros** hacer que una gran cantidad de cachimbos de UTEC aprueben y a la vez logren repasar el curso ICC fuera de horas de clases vía un juego de mesa?

# USER PERSONA





## USER PERSONA

*Cachimbo Universitario*

- Tiene buenas expectativas y está muy emocionado con la vida universitaria.
- Buen alumno pero se le complica la metodología de la universidad.

### Like

- Pasar tiempo con sus amigos.
- Trabajar en equipo y conocer gente.
- Estudiar con música que le relaje.

### Don't Like

- Estudiar cursos que no le agradan.
- Que le vaya mal en los exámenes y estresarse.
- No tener herramientas de estudio.

# Aldo Joaquín Castro



**JOURNEY MAP**

**+**

**TOUCH POINT**



# Antes

# Durante

# Después

Imprimir  
Juego de  
Mesa

Armar Juego  
de Mesa

Leer  
Instrucciones

Definir  
Cantidad de  
Jugadores

Colocar  
Tablero

Colocar  
Fichas

Colocar  
Cartas

Juego de  
Prueba

JUGAR

Lanzar Dado

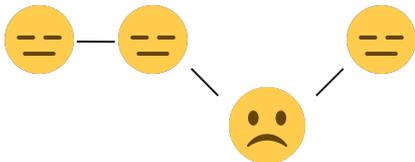
Responder  
Preguntas

Comer Fichas  
Rivales

Ganador

Conversación

Comentarios



# Antes

# Durante

# Después

Imprimir  
Juego de  
Mesa

Armar Juego  
de Mesa

Leer  
Instrucciones

Definir  
Cantidad de  
Jugadores

Plantilla del  
Juego

Video de  
Instrucciones

Colocar  
Tablero

Colocar  
Fichas

Colocar  
Cartas

Juego de  
Prueba

JUGAR

Lanzar Dado

Responder  
Preguntas

Comer Fichas  
Rivales

Ganador

Conversación

Comentarios

Tablero

Fichas

Cartas

Jugadores

Usuarios

Dado

Jugadores

Usuarios

# EXPERIMENTAL BOARD



Start here. Brainstorm with stickies, pull it over to the right to start your experiment.		Experiments	1	2	3	4	5
Who is your customer? Be as specific as possible. <small>Time Limit: 5 Min</small>		Customer	Alumnos de ICC				
What is the problem? Phrase it from your customer's perspective. <small>Time Limit: 5 Min</small>		Problem	NO Practican Programación				
Define the solution only after you have validated a problem worth solving. <small>Time Limit: 5 Min</small>		Solution	Juego de Mesa				
List the assumptions that must hold true, for your hypothesis to be true. <small>Time Limit: 10 Min</small>		Riskiest Assumption	Buscan Forma Innovadora de Estudio				
Need help? Use these sentences to help construct your experiment.		Method & Success Criterion	8 / 10				
To form a Customer/Problem Hypothesis: I believe <u>my customer</u> has a problem <u>achieving this goal</u> .	To form a Problem/Solution Hypothesis: I believe <u>this solution</u> will result in <u>quantifiable outcome</u> .						
<b>GET OUT OF THE BUILDING!</b>							
To form your Assumptions: In order for <u>hypothesis</u> to be true, <u>assumption</u> needs to be true.	To identify your Riskiest Assumption: The assumption with the least amount of data, and core to the viability of my hypothesis is...	Result & Decision	10 / 10				
Determine how you will test it: The least expensive way to test my assumption is...	Determine what success looks like: I will run experiment with <u># of customers</u> and expect a strong signal from <u># of customers</u> .	Learning	Hábitos Tradicionales de Estudios				

Start here. Brainstorm with stickies, pull it over to the right to start your experiment.		Experiments	1	2	3	4	5
Who is your customer? Be as specific as possible. <small>Time Limit: 5 Min</small>		Customer	Alumnos de ICC	Alumnos de ICC			
What is the problem? Phrase it from your customer's perspective. <small>Time Limit: 5 Min</small>		Problem	NO Practican Programación	NO Practican Programación			
Define the solution only after you have validated a problem worth solving. <small>Time Limit: 5 Min</small>		Solution	Juego de Mesa	Juego de Mesa			
List the assumptions that must hold true, for your hypothesis to be true. <small>Time Limit: 10 Min</small>		Riskiest Assumption	Buscan Forma Innovadora de Estudio	Mayor consumo de tiempo ICC			
Need help? Use these sentences to help construct your experiment.		Method & Success Criterion	8 / 10	5 / 10			
To form a Customer/Problem Hypothesis: I believe <u>my customer</u> has a problem <u>achieving this goal</u> .	To form a Problem/Solution Hypothesis: I believe <u>this solution</u> will result in <u>quantifiable outcome</u> .						
<b>GET OUT OF THE BUILDING!</b>							
To form your Assumptions: In order for <u>hypothesis</u> to be true, <u>assumption</u> needs to be true.	To identify your Riskiest Assumption: The assumption with the least amount of data, and core to the viability of my hypothesis is...	Result & Decision	10 / 10	5 / 10			
Determine how you will test it: The least expensive way to test my assumption is...	Determine what success looks like: I will run experiment with <u># of customers</u> and expect a strong signal from <u># of customers</u> .	Learning	Hábitos Tradicionales de Estudios	Disponen de Poco Tiempo			

Start here. Brainstorm with stickies, pull it over to the right to start your experiment.		Experiments	1	2	3	4	5
Who is your customer? Be as specific as possible. <small>Time Limit: 5 Min</small>		Customer	Alumnos de ICC	Alumnos de ICC	Alumnos de ICC		
What is the problem? Phrase it from your customer's perspective. <small>Time Limit: 5 Min</small>		Problem	NO Practican Programación	NO Practican Programación	Uso de Sintaxis		
Define the solution only after you have validated a problem worth solving. <small>Time Limit: 5 Min</small>		Solution	Juego de Mesa	Juego de Mesa	Juego de Mesa		
List the assumptions that must hold true, for your hypothesis to be true. <small>Time Limit: 10 Min</small>		Riskiest Assumption	Buscan Forma Innovadora de Estudio	Mayor consumo de tiempo ICC	Uso de sintaxis en programación en Inglés		
Need help? Use these sentences to help construct your experiment.		Method & Success Criterion	8 / 10	5 / 10	4 / 10		
To form a Customer/Problem Hypothesis: I believe <u>my customer</u> has a problem <u>achieving this goal</u> .	To form a Problem/Solution Hypothesis: I believe <u>this solution</u> will result in <u>quantifiable outcome</u> .						
<b>GET OUT OF THE BUILDING!</b>							
To form your Assumptions: In order for <u>hypothesis</u> to be true, <u>assumption</u> needs to be true.	To identify your Riskiest Assumption: The assumption with the least amount of data, and core to the viability of my hypothesis is...	Result & Decision	10 / 10	5 / 10	8 / 10		
Determine how you will test it: The least expensive way to test my assumption is...	Determine what success looks like: I will run experiment with <u># of customers</u> and expect a strong signal from <u># of customers</u> .	Learning	Hábitos Tradicionales de Estudios	Disponen de Poco Tiempo	Programan en Pycharm y/o Repl.it		

Start here. Brainstorm with stickies, pull it over to the right to start your experiment.		Experiments	1	2	3	4	5
Who is your customer? Be as specific as possible. <small>Time Limit: 5 Min</small>		Customer	Alumnos de ICC	Alumnos de ICC	Alumnos de ICC	Alumnos de ICC	
What is the problem? Phrase it from your customer's perspective. <small>Time Limit: 5 Min</small>		Problem	NO Practican Programación	NO Practican Programación	Uso de sintaxis	Desaprueban y les va mal en ICC	
Define the solution only after you have validated a problem worth solving. <small>Time Limit: 5 Min</small>		Solution	Juego de Mesa	Juego de Mesa	Juego de Mesa	Juego de Mesa	
List the assumptions that must hold true, for your hypothesis to be true. <small>Time Limit: 10 Min</small>		Riskiest Assumption	Buscan Forma Innovadora de Estudio	Mayor consumo de tiempo ICC	Uso de sintaxis en programación en Inglés	Complicación en Bucles	
Need help? Use these sentences to help construct your experiment.		Method & Success Criterion	8 / 10	5 / 10	4 / 10	10 / 10	
To form a Customer/Problem Hypothesis: I believe <u>my customer</u> has a problem <u>achieving this goal</u> .	To form a Problem/Solution Hypothesis: I believe <u>this solution</u> will result in <u>quantifiable outcome</u> .						
<b>GET OUT OF THE BUILDING!</b>							
To form your Assumptions: In order for <u>hypothesis</u> to be true, <u>assumption</u> needs to be true.	To identify your Riskiest Assumption: The assumption with the least amount of data, and core to the viability of my hypothesis is...	Result & Decision	10 / 10	5 / 10	8 / 10	7 / 10	
Determine how you will test it: The least expensive way to test my assumption is...	Determine what success looks like: I will run experiment with <u># of customers</u> and expect a strong signal from <u># of customers</u> .	Learning	Hábitos Tradicionales de Estudios	Disponen de Poco Tiempo	Utilizan sintaxis en otro idioma	Complicación en While & For	

# Hypothesis Board

## Suposición

Nosotros creemos que...

Los alumnos buscan un método divertido para repasar junto con sus amigos.

Los alumnos cuentan con varios cursos que los saturan

Los alumnos utilizan sintaxis en Inglés

El punto débil de los alumnos son los Bucles

## Validación

Para validarlo haremos...

Comentar a los alumnos del curso sobre en qué consiste nuestro producto

Realizar pruebas en el club de juegos de mesa de la universidad

Mandar encuesta a alumnos del curso de la universidad

# VALIDACIÓN



¿Qué métodos de estudios aplicas?

10 respuestas

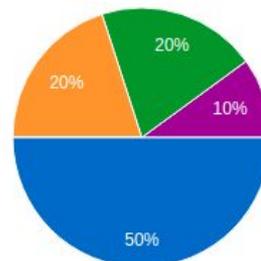
- Ninguno
- Realizar ejercicios
- Organización de tiempo
- Repasar ejercicios
- Haciendo resúmenes
- Copio las ideas principales en clase y luego reviso mis apuntes
- Trato de resolver ejercicios que dejan los profes y algunos de internet. También veo videos de los temas por que a veces entiendo mejor cuando me lo explican de dos formas diferentes.
- Pensar de manera estructurada
- Videos

## Hábitos de estudios tradicional

¿Qué curso es el que te consume más tiempo?

10 respuestas

5/10

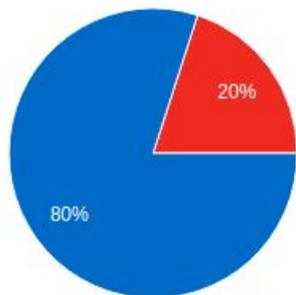


- ICC
- Matematica I
- Fisica I
- Lab. Comunicación I
- Termo



Cuando programas. ¿En qué idioma escribes tu sintaxis?

10 respuestas



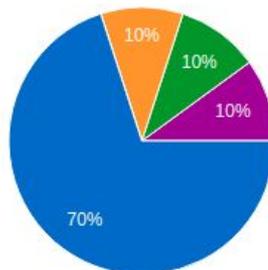
- Inglés
- Español
- Coreano

8/10

Que tópico se te hace más complicado?

10 respuestas

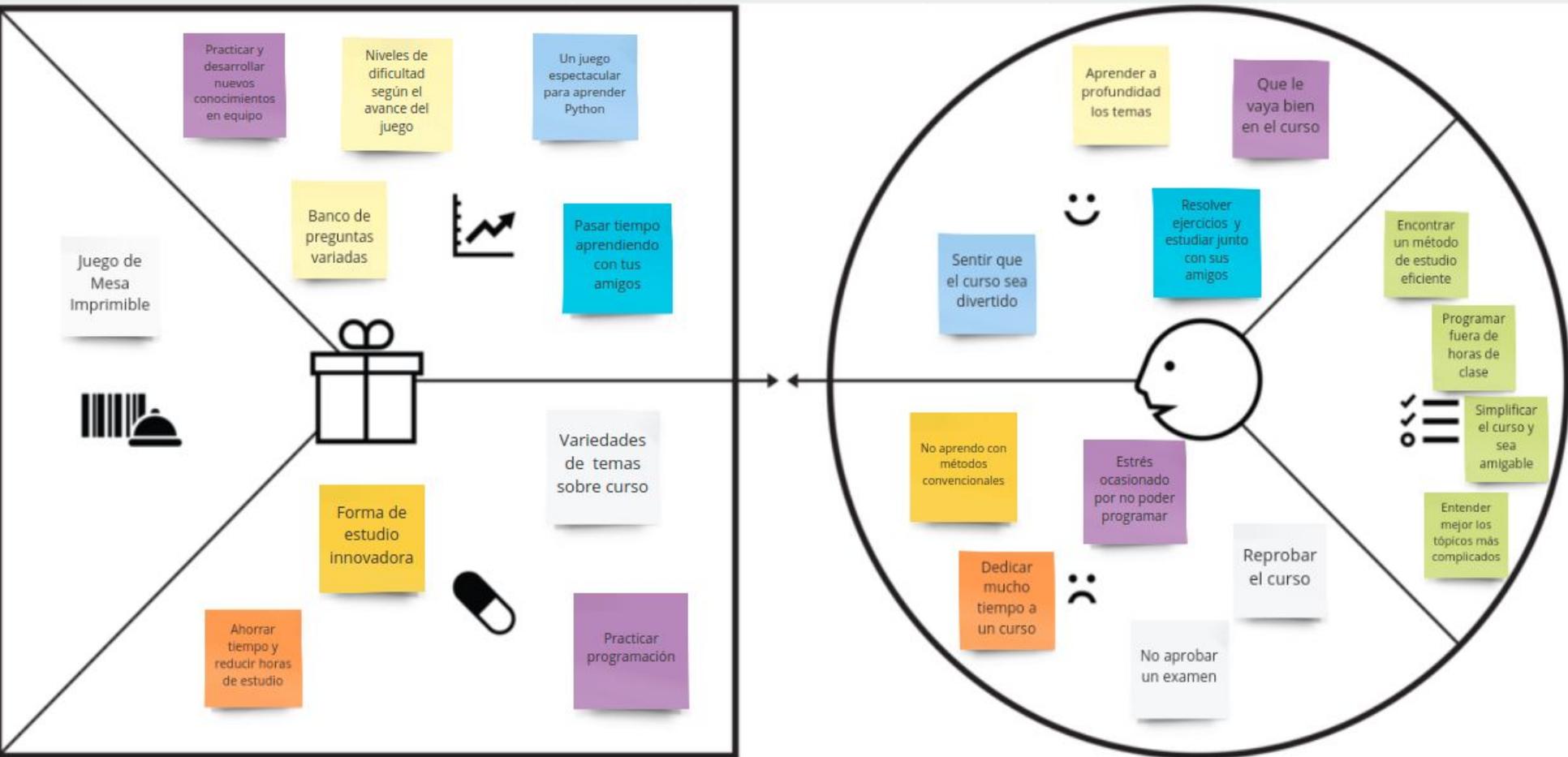
7/10



- Bucles (WHILE/FOR)
- Condicionales (IF/ELSE)
- Operadores
- Matrices y listas
- threads

# VALUE PROPOSITION CANVAS



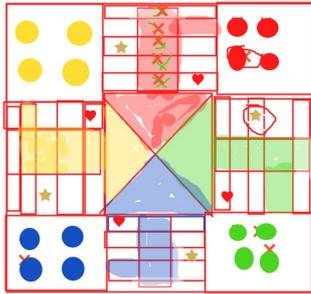


**OBVS:** Cada recuadro está relacionado según el color de los post-it

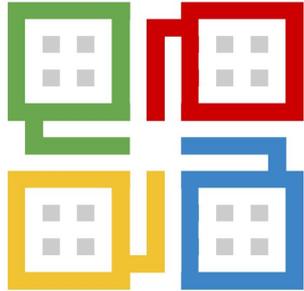
# MINIMUM VIABLE PRODUCT



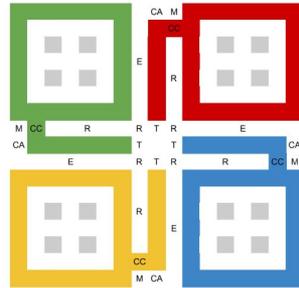
**MVP 1**



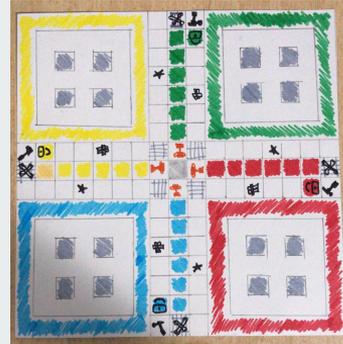
**MVP 2**



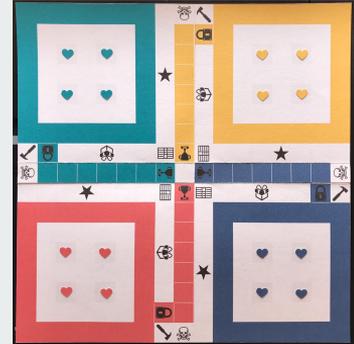
**MVP 3**



**MVP 4**

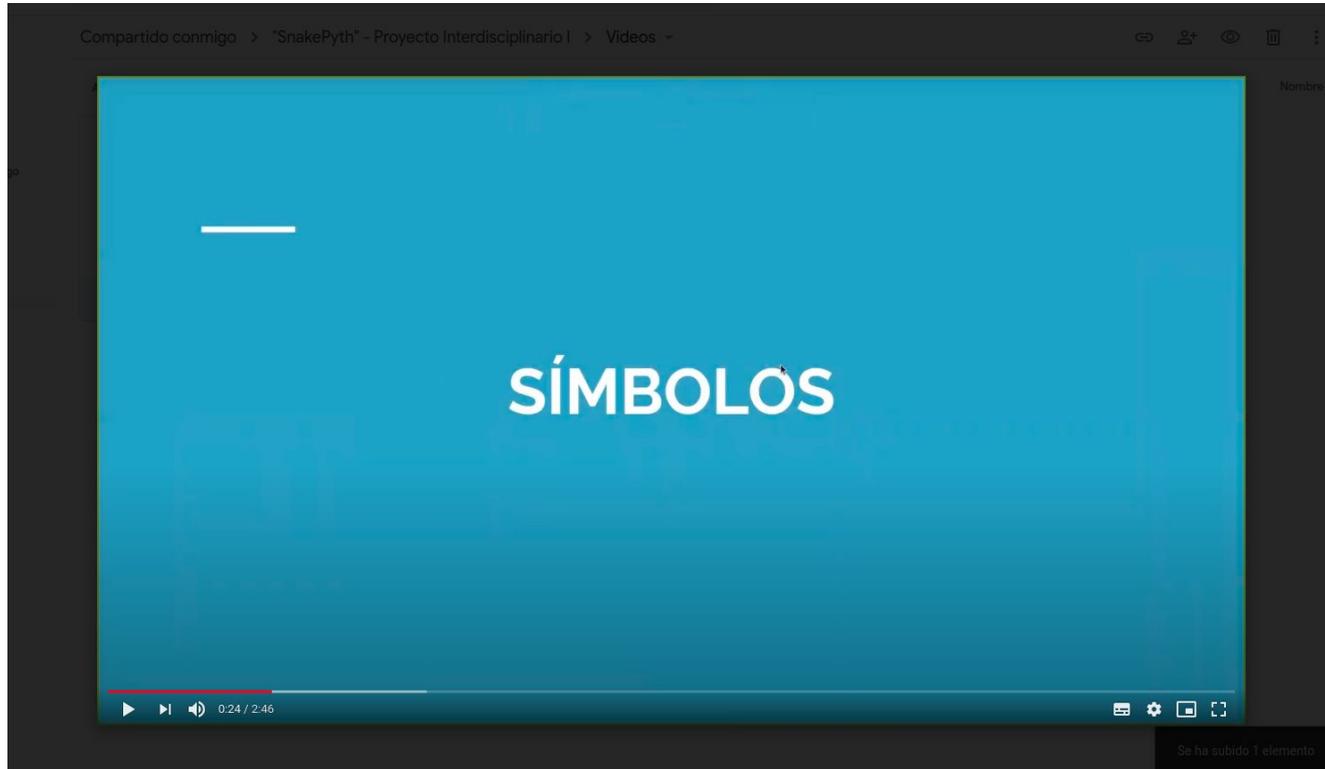


**MVP 5**





# SnakePyth - Simbolos del Tablero

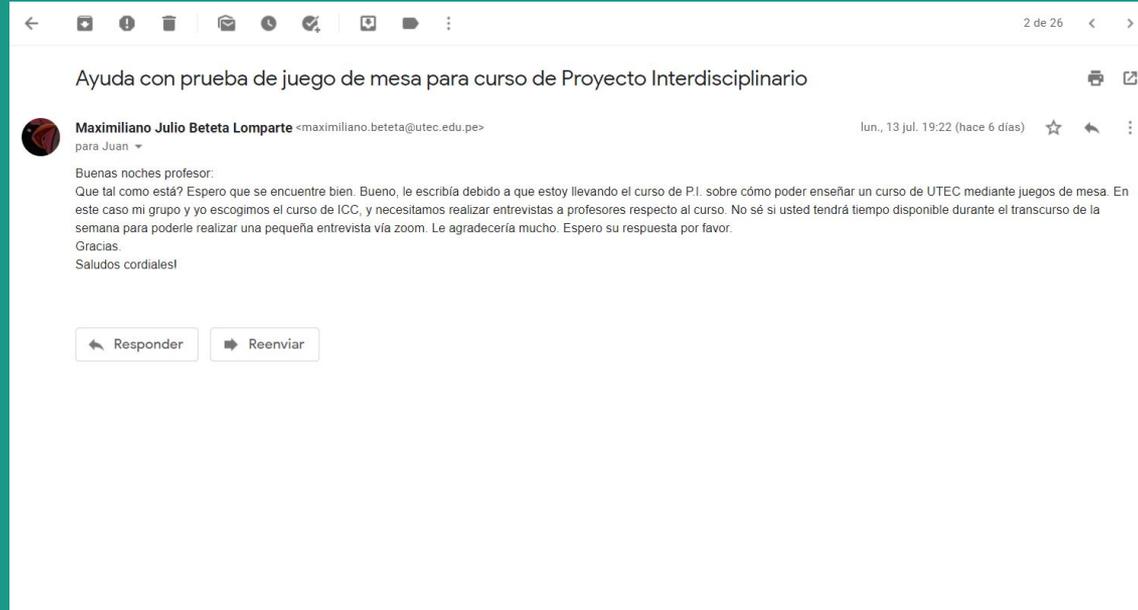


<https://drive.google.com/file/d/1FPApA46Ghe56RcTJJHntRo8ciB1mv4Wo/view?usp=sharing>

# EXPERIMENTOS



# Evidencia #1



Profesor Juan Bueno

# Evidencia #2

Situacion actual y un favor grande  

 **Maximiliano Julio Beteta Lomparte** <maximiliano.beteta@utec.edu.pe> dom., 12 jul. 12:54 (hace 7 días)     
para Henry ▾

Buenas tardes profesor, el motivo de este mensaje es acerca de mi situación actual en el curso y adicionalmente si podría ayudarme a testear un juego de mesa para mi curso de Proyecto Interdisciplinario, lamento los inconvenientes y gracias de antemano

 Responder  Reenviar

---

Profesor Henry Gallegos

# Experimento #1

The screenshot shows a Miro board titled "SnakePyth" with a hand-drawn board game layout. The board is a grid with four colored regions: yellow (top-left), green (top-right), blue (bottom-left), and red (bottom-right). Each region contains a 2x2 grid of dice. The yellow region has two yellow dice and two grey dice. The green region has two grey dice. The blue region has two grey dice. The red region has two red dice and one grey die. A yellow snake is on the yellow dice, and a red snake is on the red dice. The board is surrounded by a grid of small icons representing game pieces and obstacles. The Miro interface includes a toolbar on the left, a "Share" button on the top right, and a "Hide changes highlighting" button at the bottom center. A video feed of a man in a red jacket is visible in the top right corner.

Profesor Ernesto Cuadros

# Experimento #2

The image shows a computer screen with two overlapping windows. The left window is a web browser displaying the 'Tirar Dados Online' (Online Dice Game) website. The website has a purple background and features a dice icon showing two dots, with the text 'Tu resultado: 2' (Your result: 2) and a 'Tirar' (Roll) button. Below the game, there is a section titled 'Cómo funcionan los "Dados Virtuales" online' (How online 'Virtual Dice' work) with a brief description. A 'Participantes' (Participants) window is open over the text, listing 'Frings Douglas Barrueta A...' and 'Andres Jaffet Riveros Soto'. The right window is a Miro board titled 'DADO VIRTUAL: https://app-sorteos.com/es/apps/tirar-dado-online'. The board contains a hand-drawn board game with four colored squares (yellow, green, blue, red) and various icons. The Miro interface includes a toolbar on the left and a bottom status bar showing '06:07 p.m. 19/07/2020'.

# Experimento #3

Zoom Meeting 40-Minutes

You are viewing Frings Douglas Barrueta Aspajo's screen

View Options

The screenshot shows a Zoom meeting interface. At the top, there are three video thumbnails for participants: Mariana Bastarrachea (M), Aldo Castro (A), and Frings Douglas Barrueta Aspajo. Below the thumbnails, a browser window displays the 'Tirar Dados Online' website. The website has a purple background and shows a virtual die with a single dot, indicating a result of 1. The text on the website includes 'Número de dados: 1' and 'Número de Caras: 6'. Below the die, it says 'Tu resultado: 1' and 'Tirar'. A note below the button says '(o presiona la barra espaciadora)'. To the right of the browser, a Miro board is visible, featuring a grid with four colored squares (yellow, green, blue, red) and various icons and drawings. The Zoom meeting controls at the bottom include Mute, Start Video, Participants (3), Chat, Share Screen, Record, Reactions, and a red Leave button.

The screenshot shows the Zoom meeting chat and participants list. The participants list at the top shows three participants: Mariana Bastarrachea (Me), Frings Douglas Barrueta Aspajo (Host), and Aldo Castro. Below the list are buttons for 'Invite', 'Mute Me', and 'Raise Hand'. The chat section is titled 'Zoom Group Chat' and contains a message from Frings Douglas Barrueta Aspajo to Everyone, with a link to a Miro board: <https://miro.com/welcomeonboard/fpaA87Y2Bqo7kDs0Ohs6vj0h6yKB0MvuLI6I0ZMnbBklI4WZaQpRm9QrafXZctkw>. At the bottom, there is a text input field for the chat, a 'File' button, and a 'Type message here...' prompt.

# Experimento #4

The image displays a Discord server interface during a live stream. On the left sidebar, under "CANALES DE TEXTO", there are channels for "# general" and "# musica". Under "CANALES DE VOZ", the "General" channel is active, showing two participants: "Maximili..." (marked "EN DIRECTO") and "Jose Francisco Meza Lla...". At the bottom of the sidebar, a window titled "SnakePyth, Online Whi..." is visible, and the status bar indicates "Voz conectada" (Voice connected) for "General / Discovidfenders".

The main video area is split into two sections. The top-left section shows a dark screen with a circular profile picture of a person with a red and black mask. The top-right section shows a Miro board titled "SnakePyth" with a grid of colored squares (yellow, green, blue, red) and various icons. A red "EN DIRECTO" (LIVE) indicator is in the top right corner of the Miro board. The bottom section of the video area is a grey rectangle with the Discord logo.

At the bottom of the interface, there are buttons for "Video" and "Pantalla" (Screen), with "Pantalla" being highlighted in green.

# Experimento #5

The screenshot displays a web browser with three main components:

- AppSorteos - Tirar Dados Online:** The main interface features a purple background with the title "Tirar Dados Online". It includes two dropdown menus for "Número de dados" (set to 1) and "Número de Caras" (set to 6). A central white die shows a result of 4. Below the die, it says "Tu resultado: 4" and "Tirar" (with a note "(o presiona la barra espaciadora)"). At the bottom, there are social media share buttons for Facebook (1.3k Shares), WhatsApp, Pinterest, Twitter, and a generic share icon.
- Chat Window:** A floating chat window shows a conversation. Messages include: "From Me to Everyone: Brandon Ganador!", "From Brandon Campos Castañeda to Everyone: print('Gracias')", "From Me to Everyone: Gracias", and "From Juan Andres Matias Zarate Inga to Everyone: FFFFF". The chat includes a "To: Everyone" dropdown, a "File" icon, and a "Type message here..." input field.
- Miro Board:** A Miro board titled "DADO VIRTUAL" is visible in the background. It contains a complex diagram with various icons (dice, hammers, stars, locks, skull and crossbones) arranged in a grid-like pattern. A "Questions" sticky note is attached to the right side of the board.

The browser's address bar shows the URL <https://app-sorteos.com/es/apps/tirar-dado-online>. The Windows taskbar at the bottom shows the search bar, task view, and system tray with the time 11:26 PM on 7/19/2020.

# Experimento #5

The screenshot shows a video player interface with two browser windows displayed side-by-side. The left window is titled 'AppSorteos - Tirar Dados Online' and shows a game interface with 'Número de dados' set to 1 and 'Número de Caras' set to 6. A die is shown with a 2, and the text 'Tu resultado: 2' is displayed. The right window is titled 'SnakePyth, Online Whiteboard' and shows a Miro whiteboard with a board game layout. The board has various colored squares and icons, including dice. A URL 'DADO VIRTUAL: https://app-sorteos.com/es/apps/tirar-dado-online' is visible in the whiteboard. The video player controls at the bottom show a progress bar at 0:14:24 out of 0:16:37.

The screenshot shows a WhatsApp chat conversation. The chat background has a pattern of various icons and text. The messages are as follows:

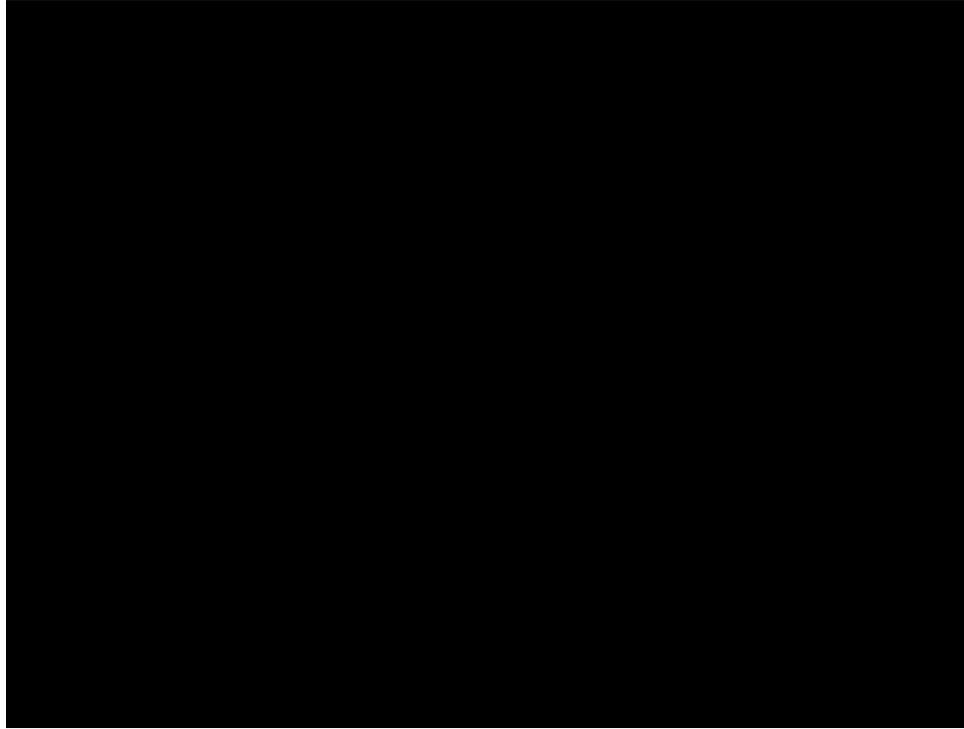
- Brandon Campos: @Brandon Campos 23:14 ✓
- Brandon Campos: 9 23:15
- Juan Andres Matias Zarate Inga:  $(3+2+1) / (6-3-$  23:16 ✓
- Juan Andres Matias Zarate Inga: 3 23:16
- Brandon Campos: 

```
def xyz(i):  
    print(';Snake' + i + '!')  
    return  
xyz('Pyth')
```

 @Brandon Campos 23:17 ✓
- Brandon Campos: ¡SnakePyth! 23:17

The video player controls at the bottom show a progress bar at 0:14:24 out of 0:16:37.

# Esperimento #6



# APRENDIZAJES





While & For

Poco Tiempo

Dinamismo & Competitividad

Comodidad

Instrucciones Complicadas

Repetición de Preguntas

Garantizar Aprendizaje

Personalizado

Guardado



While & For (Cartas)



Poco Tiempo (Tiempo de Respuesta)



Dinamismo & Competitividad (Símbolos)



Comodidad (Tamaño del Tablero)



Instrucciones Complicadas (Video)



Repetición de Preguntas (100 Preguntas)



Garantizar Aprendizaje (Examen de Prueba)



Personalizado (Opción a Modificación)



Guardado (Caja)

# Examen de Prueba

## Pregunta #1:

Escribir un programa que muestre el eco de todo lo que el usuario introduzca hasta que el usuario escriba "salir" que terminará.

## Respuesta #1:

```
while True:
    frase = input("Introduce algo: ")
    if frase == "salir":
        break
    print(frase)
```

## Pregunta #2:

Escribir un programa en el que se pregunte al usuario por una frase y una letra, y muestre por pantalla el número de veces que aparece la letra en la frase.

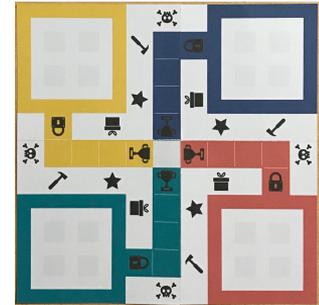
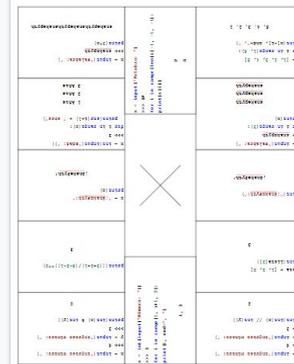
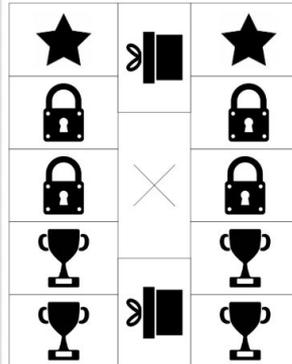
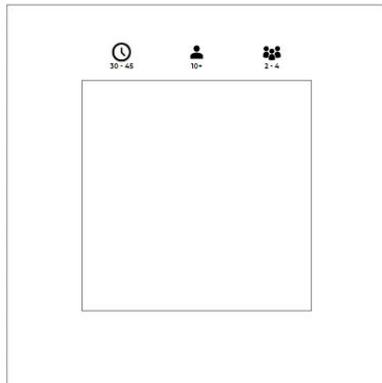
## Respuesta #2:

```
frase = input("Introduce una frase: ")
letra = input("Introduce una letra")
contador = 0
for i in frase:
    if i == letra:
        contador += 1
print("La letra '%s' aparece %2i veces en la frase '%s'." % (letra,
    contador, frase))
```

```
def xyz(x):
    x = list(x)
    x.reverse()
    y = 0
    for i in range(len(x)):
        y += int(x[i]) * 2 ** i
    return y
print(xyz('10'))
#99 (8)
def xyz(x):
    y = []
    while x > 0:
        y.append(str(x % 2))
        x //= 2
    y.reverse()
    return ''.join(y)
print(xyz(2))
#100 (5)
def xyz(x):
    return x * 2
def zyx(x):
    return x / 2
```



30 segundos



12 cm x 12 cm

# TRELLO



## TO DO

Mejorar  
Dinámica

Mejorar  
MVP

Mejorar  
Jugabilidad

## DOING

Presentación  
Final

Códigos de  
Python

Actualización  
del Miro

## DONE

Aumentar  
Tamaño del  
Tablero

Añadir  
Trello

Añadir  
Tiempo de  
Respuesta

# SPRINT RETROSPECTIVE

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# START

**Coordinar  
Reuniones  
por Zoom**

**Lluvia de  
Ideas**

**Energía  
Positiva**

# STOP

**Procrastinar**

**No Leer el  
Chat Grupal**

**Estrés**

# CONTINUE

**Reuniones  
por Zoom**

**Presentar  
Buenas  
Diapositivas**

**Cumplir las  
Tareas  
Asignadas**