

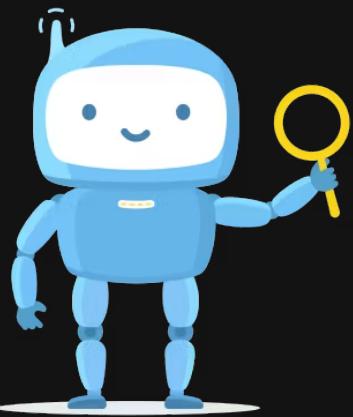
# Theseus

A Mobile & Web application  
for finding the **shortest**  
**path** in a simple polygon

Theseus

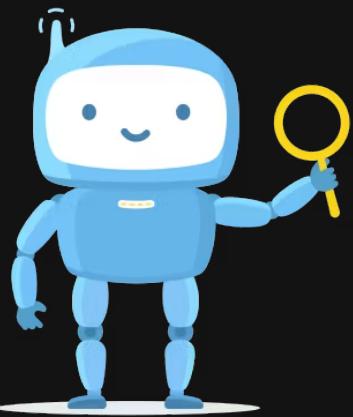
Try Pitch



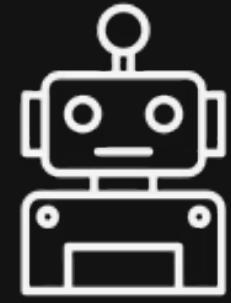


# Why ?

The problem of finding the shortest path in a simple polygon



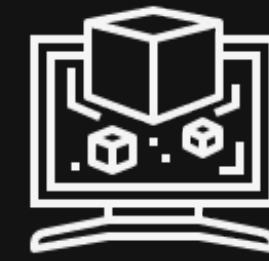
# Why ?



Robotics

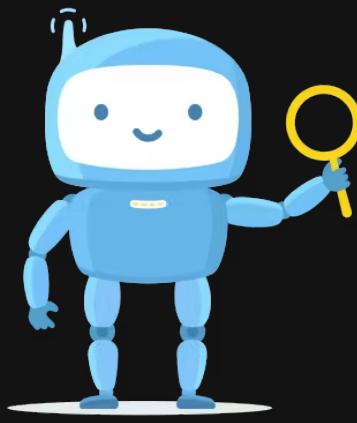


Geographic Information Systems (GIS)



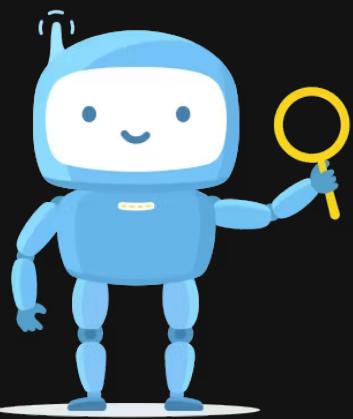
Computer graphics

The problem of finding the shortest path in a simple polygon



# Development process

The process of developing Theseus



# Development process

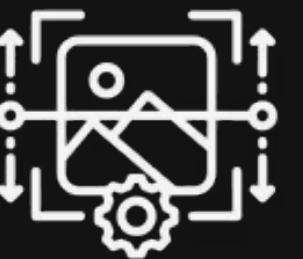
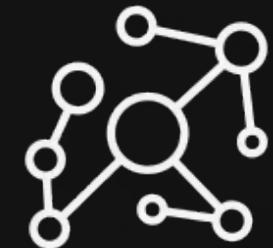


Image transfer & Image processing



Graph construction  
& Triangulation



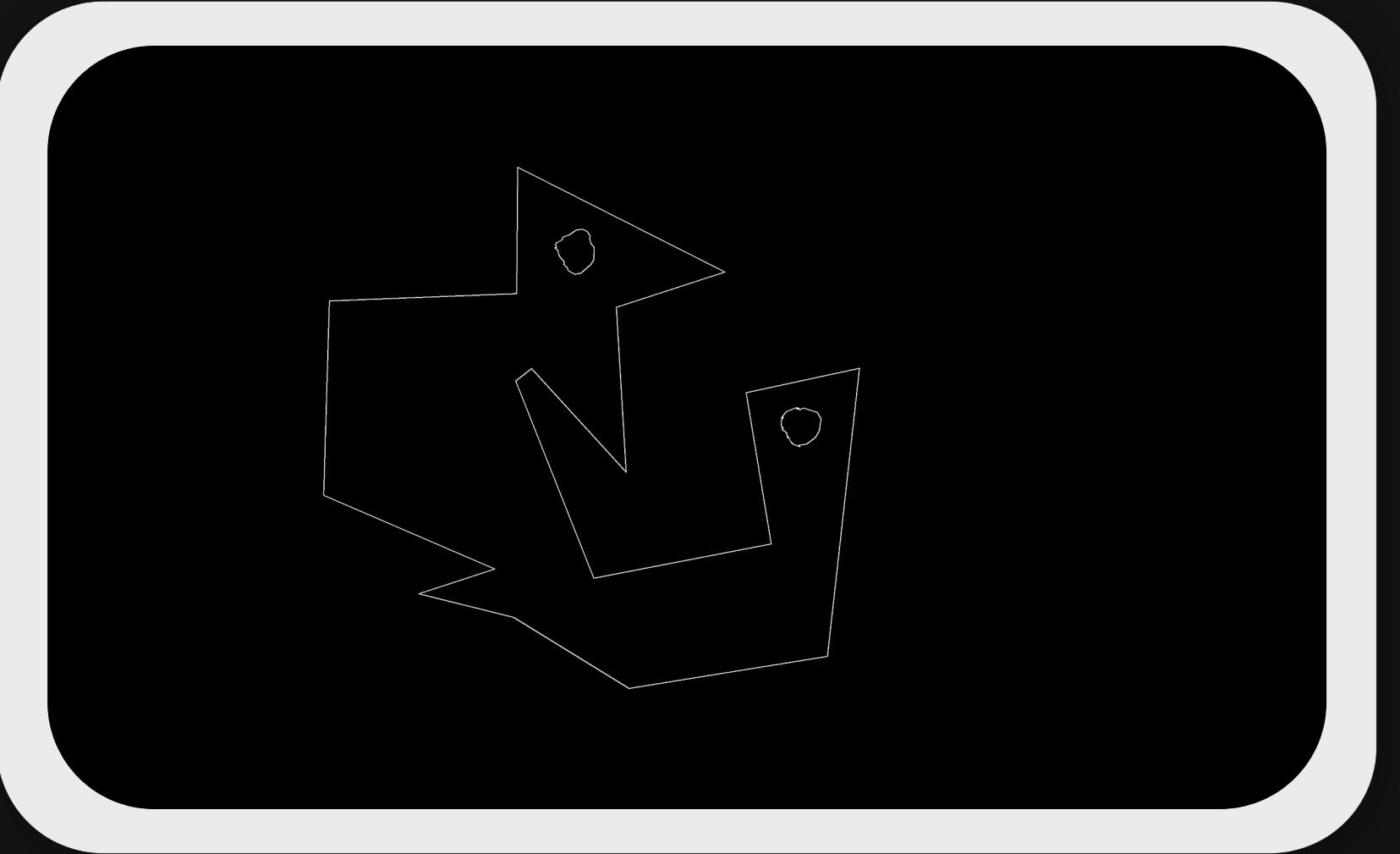
Path computation



Data transfer from  
server to web &  
animation

The process of developing Theseus

01

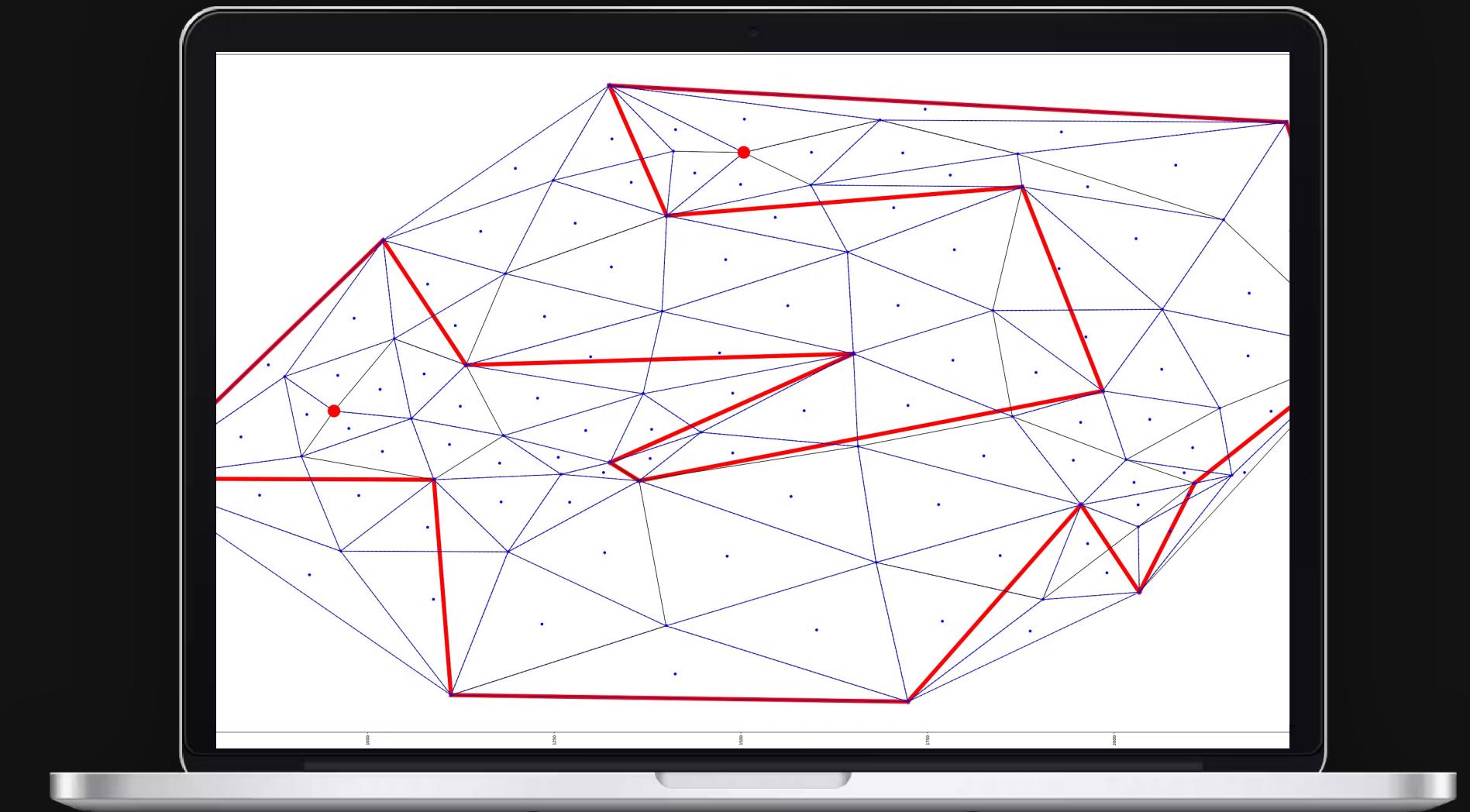


# Image transfer and Image processing

02

# Graph construction and Triangulation

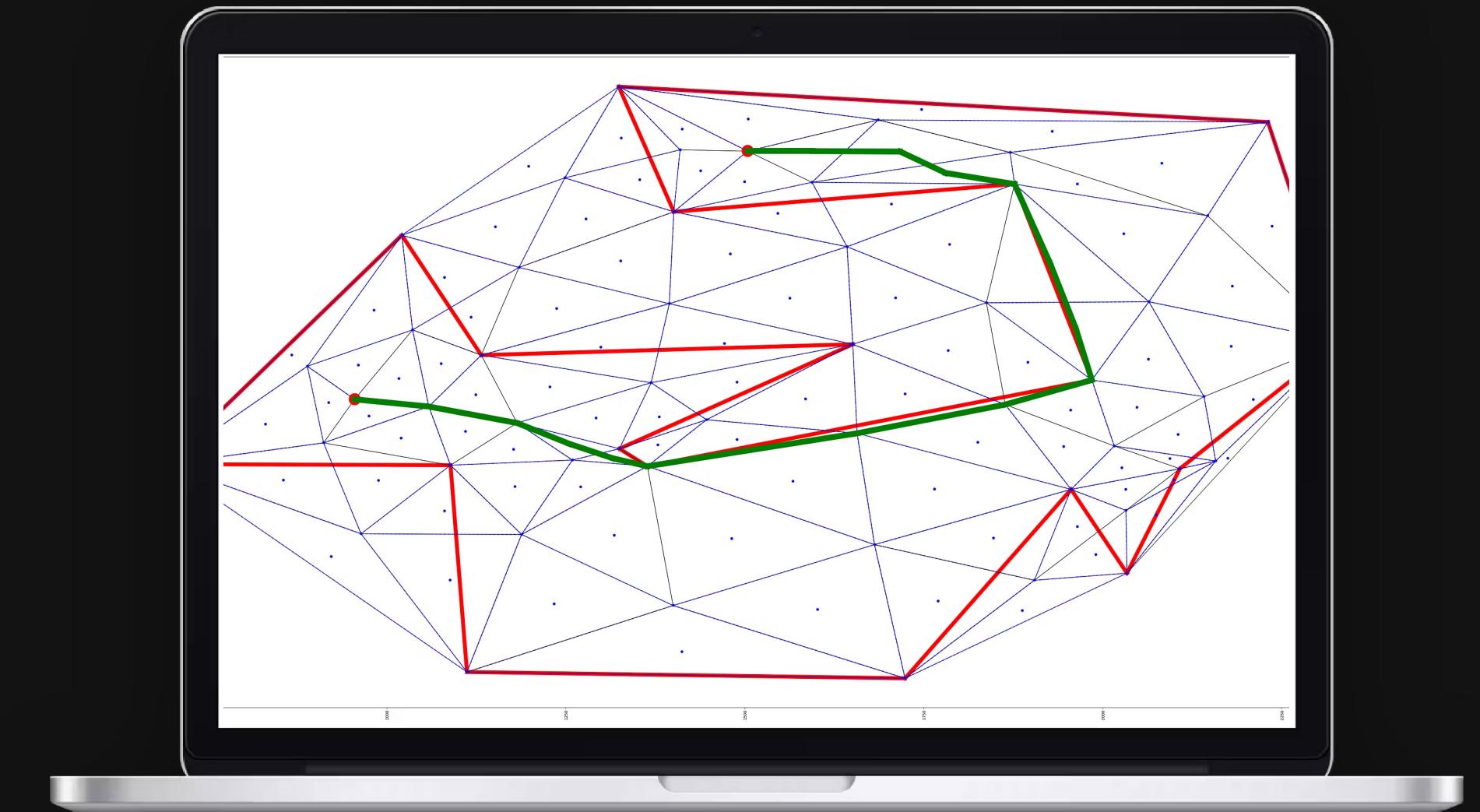
Try Pitch



03

# Path computation

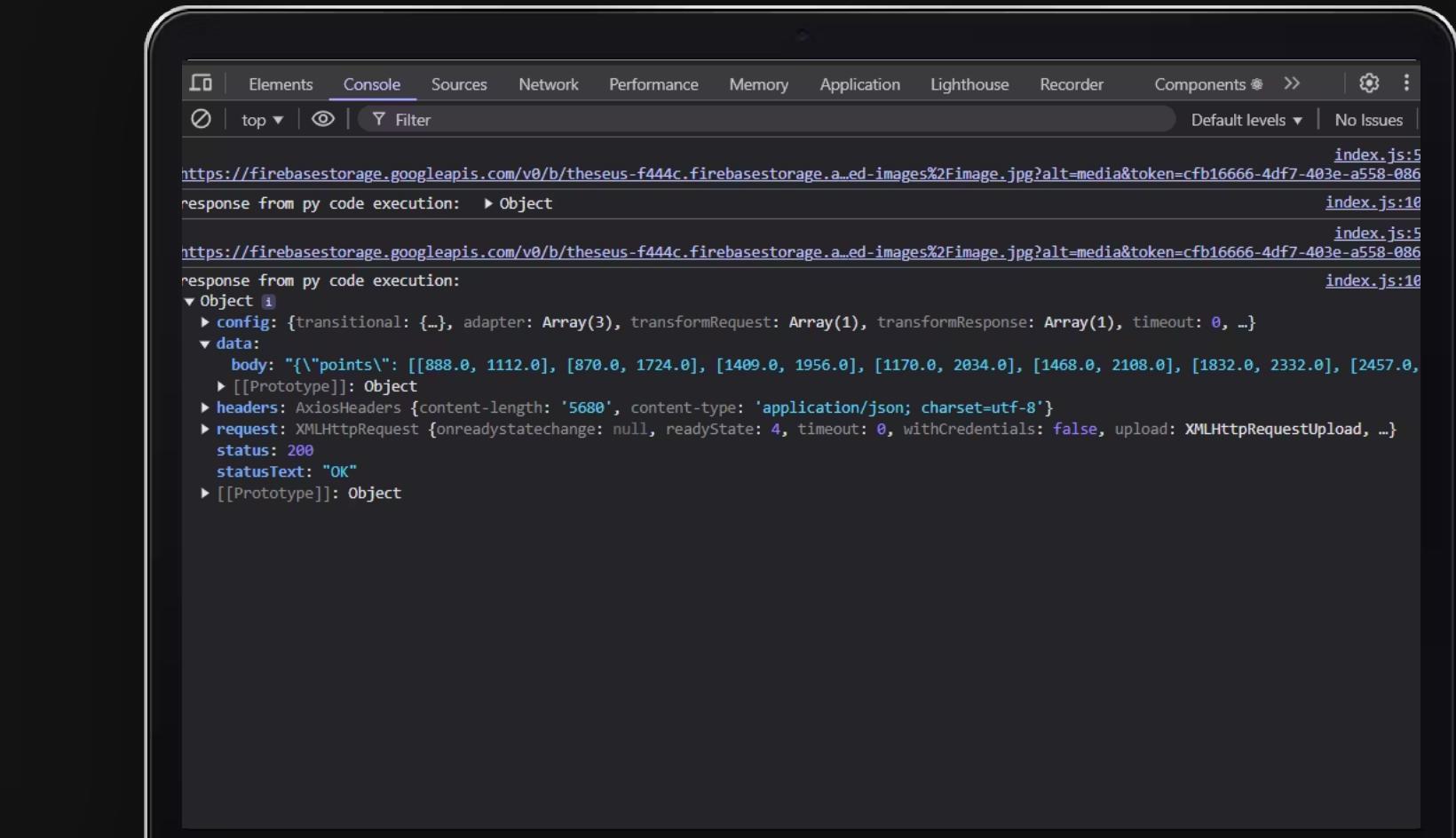
Try Pitch

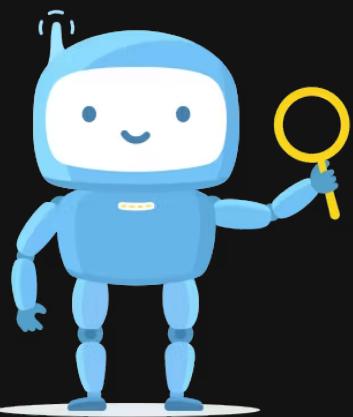


# 04

# Data transfer

Try Pitch





# Timing

0.099794s

Image processing

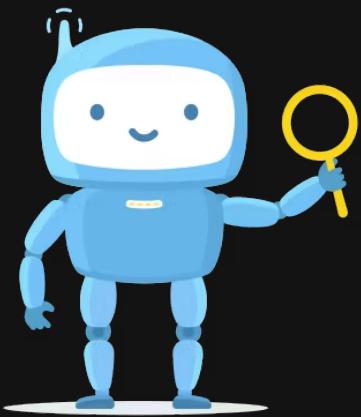
0.027759s

Graph construction

5.012003s

Overall computation

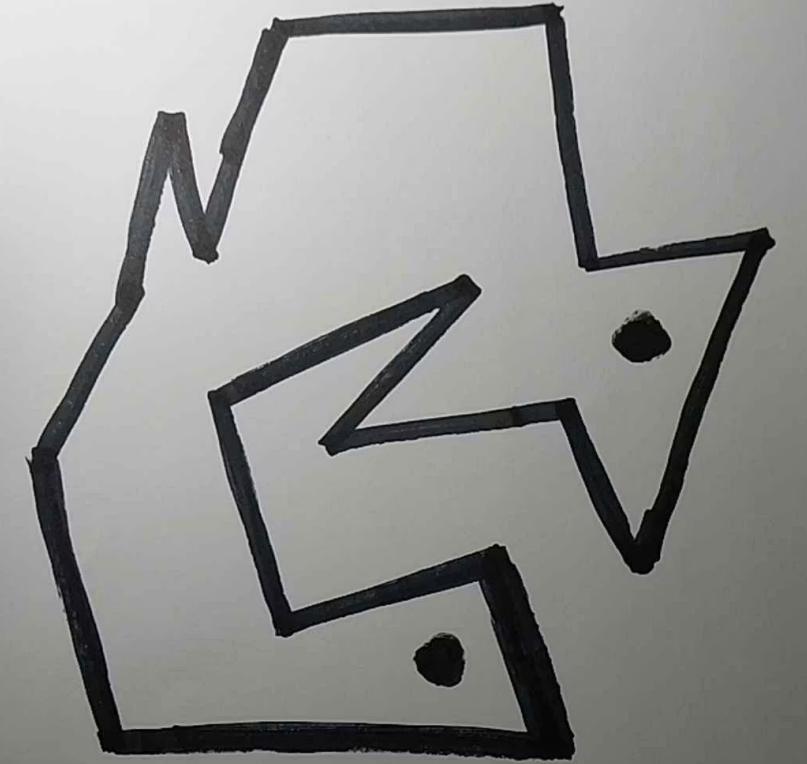
Time resulted in completing parts of the computation and then the whole process

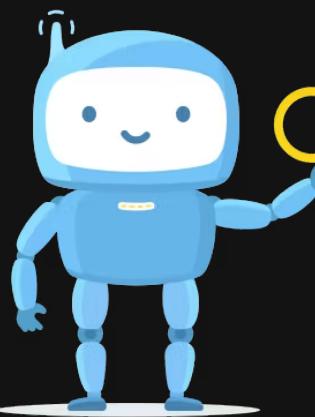


# Live demo

# Next Steps

Try Pitch





# Thank you.

Theses

Try Pitch

## Instructions

### Draw a simple polygon

The polygon must have clear lines, with **NO** interruption  
It must have a margin of at least **6cm**  
It must **NOT** be extremely complicated  
(it might fail when building the graph from the processed image)

### Draw start & finish points

The points must be a bit large (around **1cm**)

### Click "Process image" button and wait

It takes around **5s** to process the image and animate it on the screen



Last



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