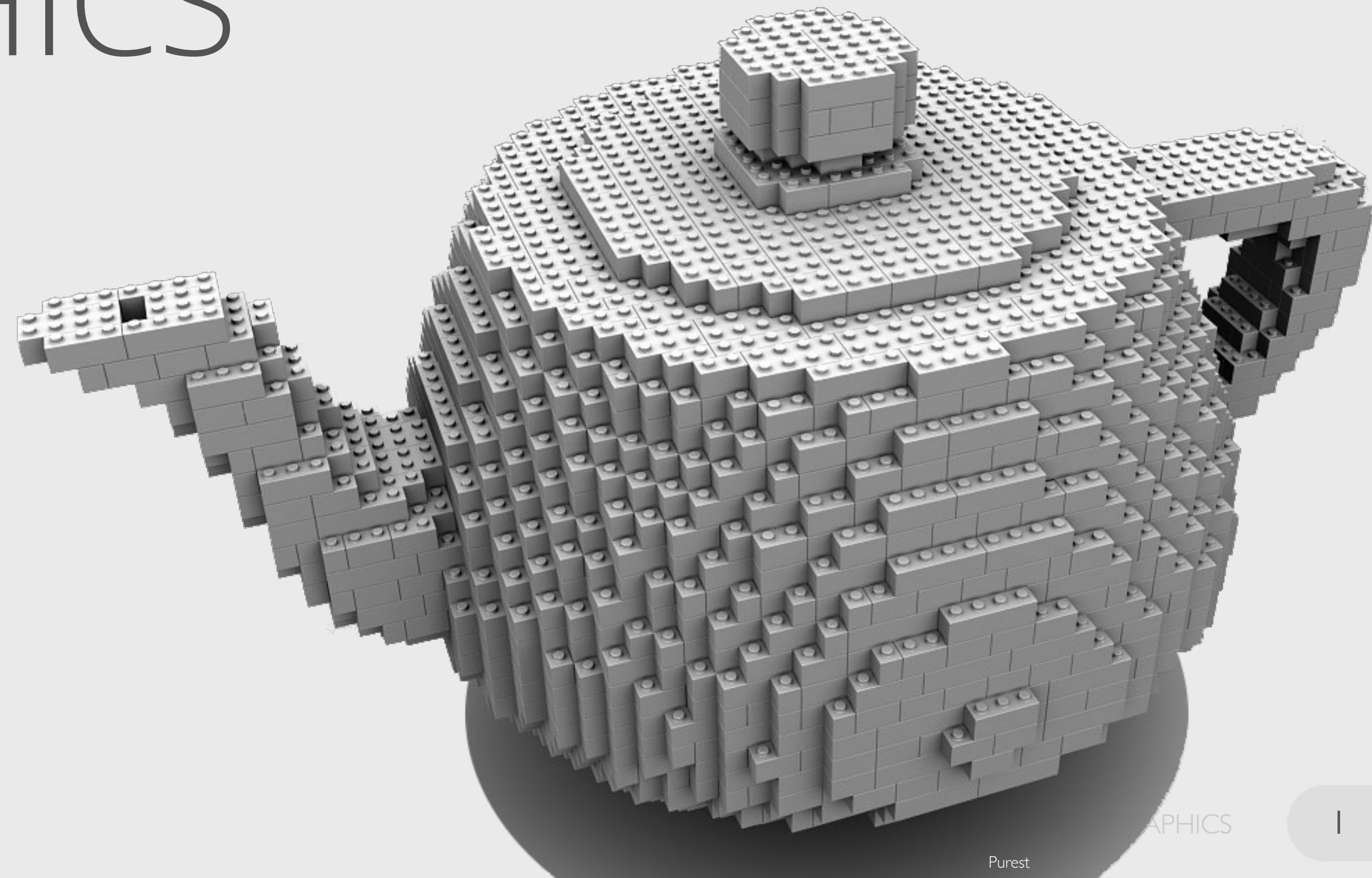


MULTIMEDIA & COMPUTER GRAPHICS

Dr. Arturo Jafet Rodríguez Muñoz

Ing. Bernardo Moya de la Mora

PIPELINE, EXIF & WEBSERVICES



JAVA RUNNING EXECUTABLES

Runtime vs ProcessBuilder

Windows and Linux interpret differently

```
ruvelro@ruvelro-vm: ~  
To run a command as administrator (user "root"), use "sudo <command>".  
See "man sudo_root" for details.  
  
ruvelro@ruvelro-vm:~$
```

```
Microsoft Windows [Version 6.3.9600]  
(c) 2013 Microsoft Corporation. All rights reserved.  
  
C:\Users\I.Scur>help  
For more information on a specific command, type HELP command-name  
ASSOC      Displays or modifies file extension associations.  
ATTRIB     Displays or changes file attributes.  
BREAK      Sets or clears extended CTRL+C checking.  
BCDEDIT    Sets properties in boot database to control boot loading.  
CACLS      Displays or modifies access control lists (ACLs) of files.  
CALL       Calls one batch program from another.  
CD         Displays the name of or changes the current directory.  
CHCP       Displays or sets the active code page number.  
CHDIR      Displays the name of or changes the current directory.  
CHKDSK     Checks a disk and displays a status report.  
CHKNTFS    Displays or modifies the checking of disk at boot time.  
CLS        Clears the screen.  
CMD        Starts a new instance of the Windows command interpreter.  
COLOR      Sets the default console foreground and background colors.  
COMP       Compares the contents of two files or sets of files.  
COMPACT    Displays or alters the compression of files on NTFS partitions.  
CONVERT    Converts FAT volumes to NTFS. You cannot convert the  
            current drive.  
COPY       Copies one or more files to another location.  
DATE       Displays or sets the date.  
DEL        Deletes one or more files.  
DIR        Displays a list of files and subdirectories in a directory.  
DISKCOMP   Compares the contents of two floppy disks.  
DISKCOPY   Copies the contents of one floppy disk to another.  
DISKPART   Displays or configures Disk Partition properties.  
DOSKEY     Edits command lines, recalls Windows commands, and  
            creates macros.
```



OPENAI API

<https://openai.com/pricing>

<https://platform.openai.com/account/usage>

<https://platform.openai.com/docs/api-reference>



CURL

cURL (client URL)

Commands to communicate with a server

You need to run *sudo apt install curl*

```
curl -X POST https://postman-echo.com/post --data foo1=bar1&foo2=bar2
```



2ND ASSIGNMENT

Normal mode (24,761 pts)

You will create a tourism commercial video using the tools we have learned. The project will require you to write Java code that processes media files and outputs a final video.

Input:

1. A set of photos and videos (in mixed orientations).
2. A text prompt describing the desired mood for the video (e.g., “relaxing beach vibe” or “adventurous mountain trip”).



Deadline: Tuesday April 1, 3.59pm

2ND ASSIGNMENT

Output:

A fully generated commercial video that follows this structure:

1. Opening Scene:
 - Generate an AI-created postcard of the destination (based on the input mood).
 - Display the postcard as the first frame of the video.
2. Main Content (Chronological Order):
 - Sort photos and videos by date.
 - Ensure each photo/video is displayed with the correct orientation.
 - A voice-over AI narration describes the scene based on what is seen in the images.
3. Closing Scene:
 - Create a collage where all the images and videos are played simultaneously.
 - At the center of the screen, show a final AI-generated postcard as a closing image.



2ND ASSIGNMENT

Technical Requirements

- Java Code: Your code must process media files and generate the final video.
- FFmpeg: Use FFmpeg to merge and process video clips.
- EXIF Data Handling: Read metadata to ensure correct orientation of photos.
- AI Integration:
- Use a text-to-image AI API to generate postcards.
- Use a text-to-speech AI API to generate the voice-over narration.
- CURL Commands: Use CURL to send API requests for AI-generated content.



2ND ASSIGNMENT

Deliverables

1. A report that includes an interpretation of what you need to do for the project, along with proposals on how you plan to solve it.
2. Java Code that processes inputs and generates the video.
3. A working output video demonstrating the commercial.
4. A report in which you propose how to scale your current solution into a commercial IT tool that addresses a real market need.



2ND ASSIGNMENT

Deliverables & Scoring (Total: 24,761 points)

1. Project Interpretation & Solution Proposal – 3,000 pts
 - Explanation of project understanding (1,500 pts)
 - Proposed approach to solving it (1,500 pts)

Deadline: Thursday March 13, 3.59pm

2. Java Code Implementation – 8,800 pts
 - Correctly processes images/videos (3,500 pts)
 - Ensures chronological order & orientation (2,000 pts)
 - Integrates AI-generated elements (image, narration) (2,300 pts)



2ND ASSIGNMENT

3. Final Commercial Video Output – 5,200 pts
 - Includes AI-generated opening postcard (1,000 pts)
 - AI narration correctly describes content (1,500 pts)
 - Chronological and properly formatted display (1,200 pts)
 - Correct closing scene with collage & final postcard (1,500 pts)
4. Scaling Proposal for Commercial IT Tool – 2,000 pts
 - Explanation of how to turn it into a real-world IT tool (1,000 pts)
 - Market need analysis (1,000 pts)
5. Coding Principles – 6,400 pts
6. Self-Evaluation – 1,261 pts



CODING PRINCIPLES

Does it have only necessary code? (400 pts)

Does it properly uses OOP? (600 pts)

Is the code reusable? (1,000 pts)

Is the code flexible? (1,000 pts)

Does it have bugs? (800 pts)

Is the code scalable? (800 pts)

Does it have comments? (800 pts)

Is the code a huge mess or neat? (1,000 pts)



REFLECTION

