

KFAU CENG 3010 Computer Organization - Project I

# MIPS Simulator in Java

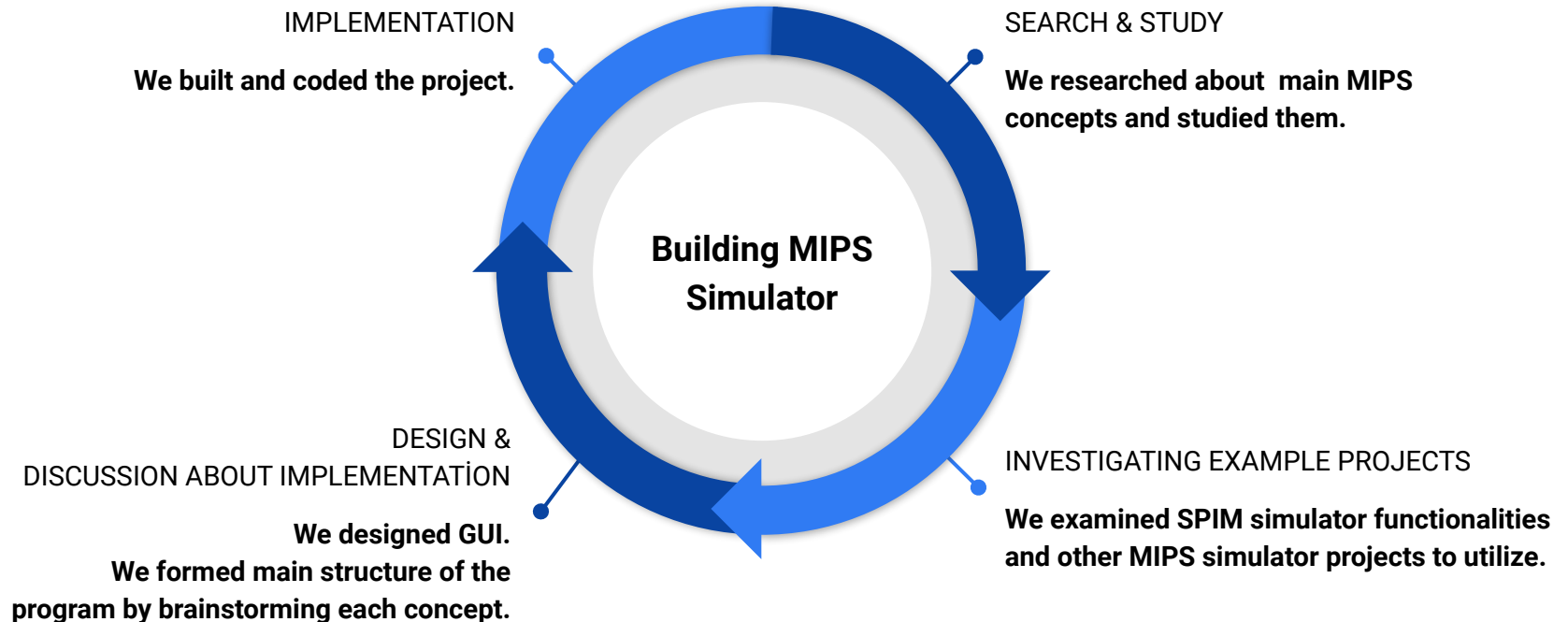
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<https://github.com/SevcanDogramaci/MIPS-Simulator/tree/devm>

# Project Configuration

- This project is developed in Java 11.0.3
- It uses JavaFX for GUI, this library must be added to run. To download this library, [click here](#).
- You need to add the installed JavaFX SDK library into your IDE before use. To see how to add JavaFX in IntelliJ Idea, [click here](#).
- There are sample assembly instructions inside “tests” folder.

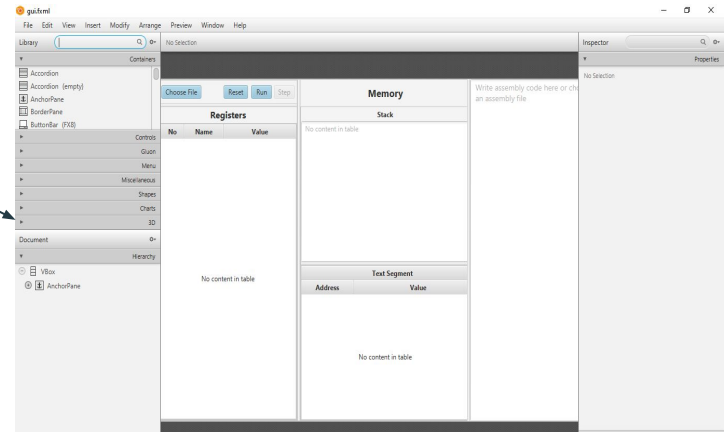
# Project Phases



# GUI Operations

[illegible]

- We made a prototype of program in **Figma**.
- We used **JavaFX software platform** to develop GUI.
- We utilized **Scene Builder Visual Layout Tool** integrated with JavaFX, in development.



# Classes

Main

Entry point

Instruction

ProgramCounter

Register

Controller

Track GUI operations & program execution

RFormatInstruction

ALU

Performs arithmetic & logic operations

RegisterFile

Keeps registers

Parser

Parse assembly code

IFormatInstruction

ALUControl

Determine operation

MemoryFile

Keeps stack data

Processor

JFormatInstruction

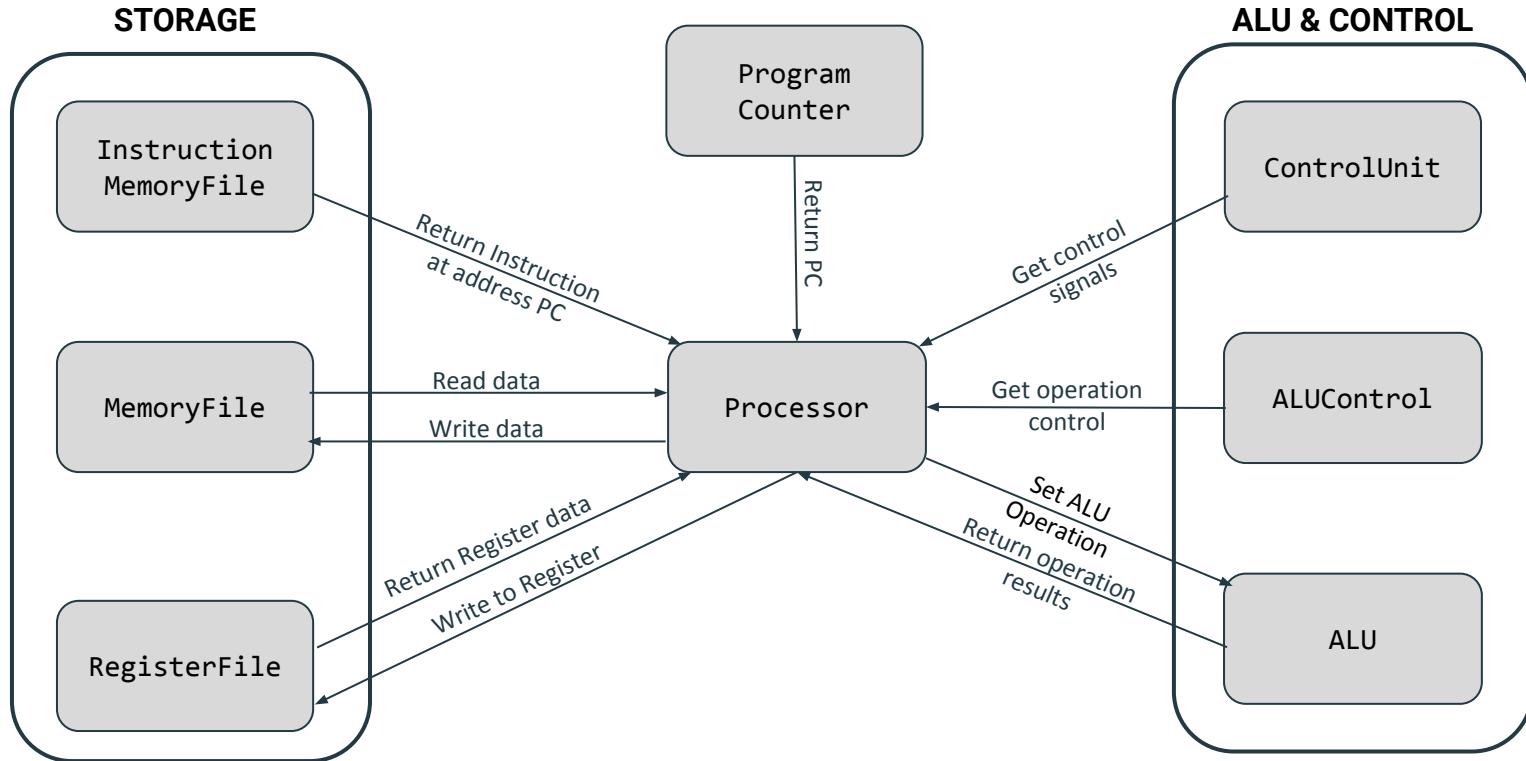
ControlUnit

Manage control signals

InstructionMemoryFile

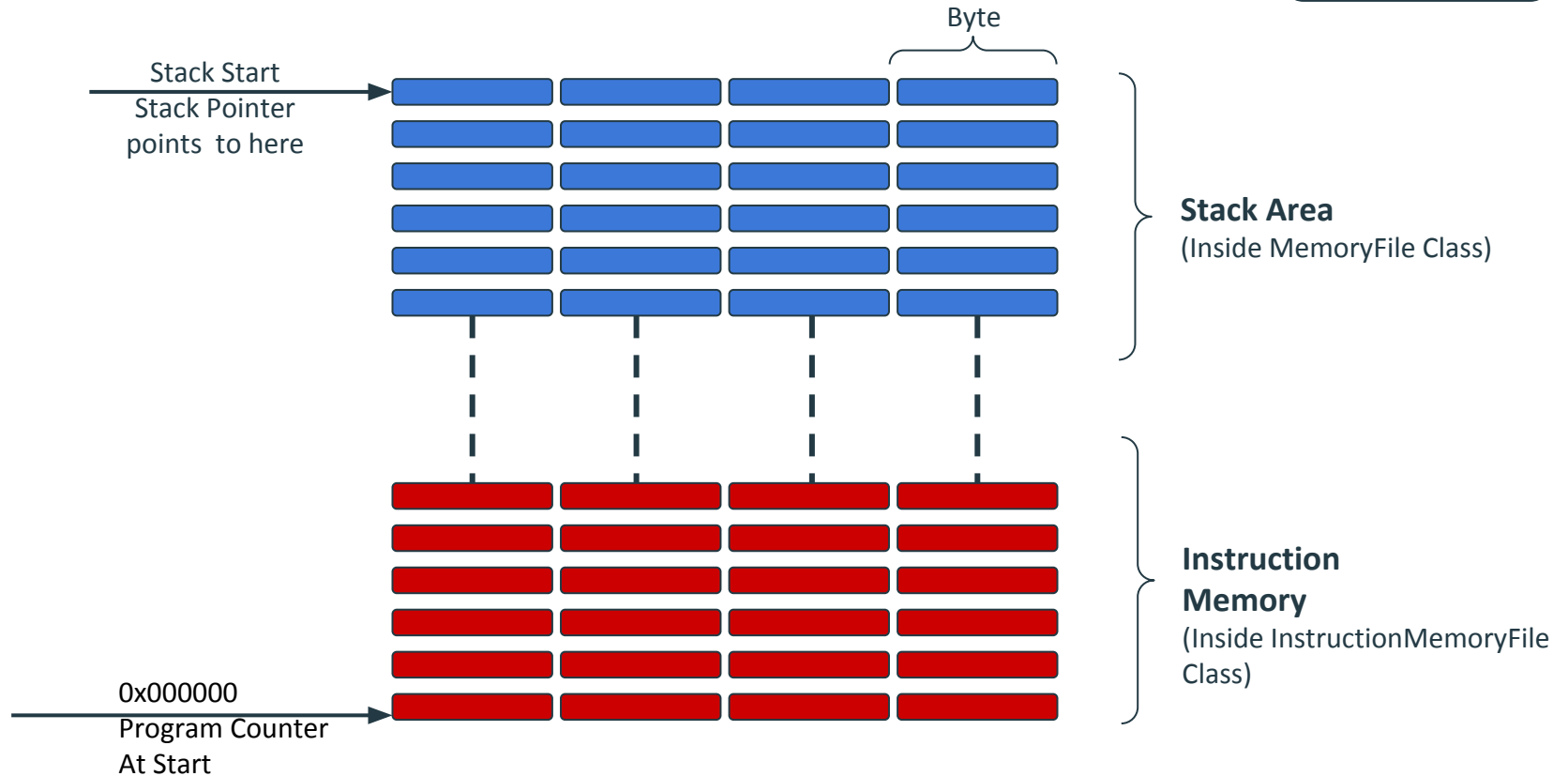
Keeps instructions

# General Flow Of Processor



# Memory

We used Little Endian structure.





Thank you !