

Assembler and Disassembler

ES 215: COA | Group Project

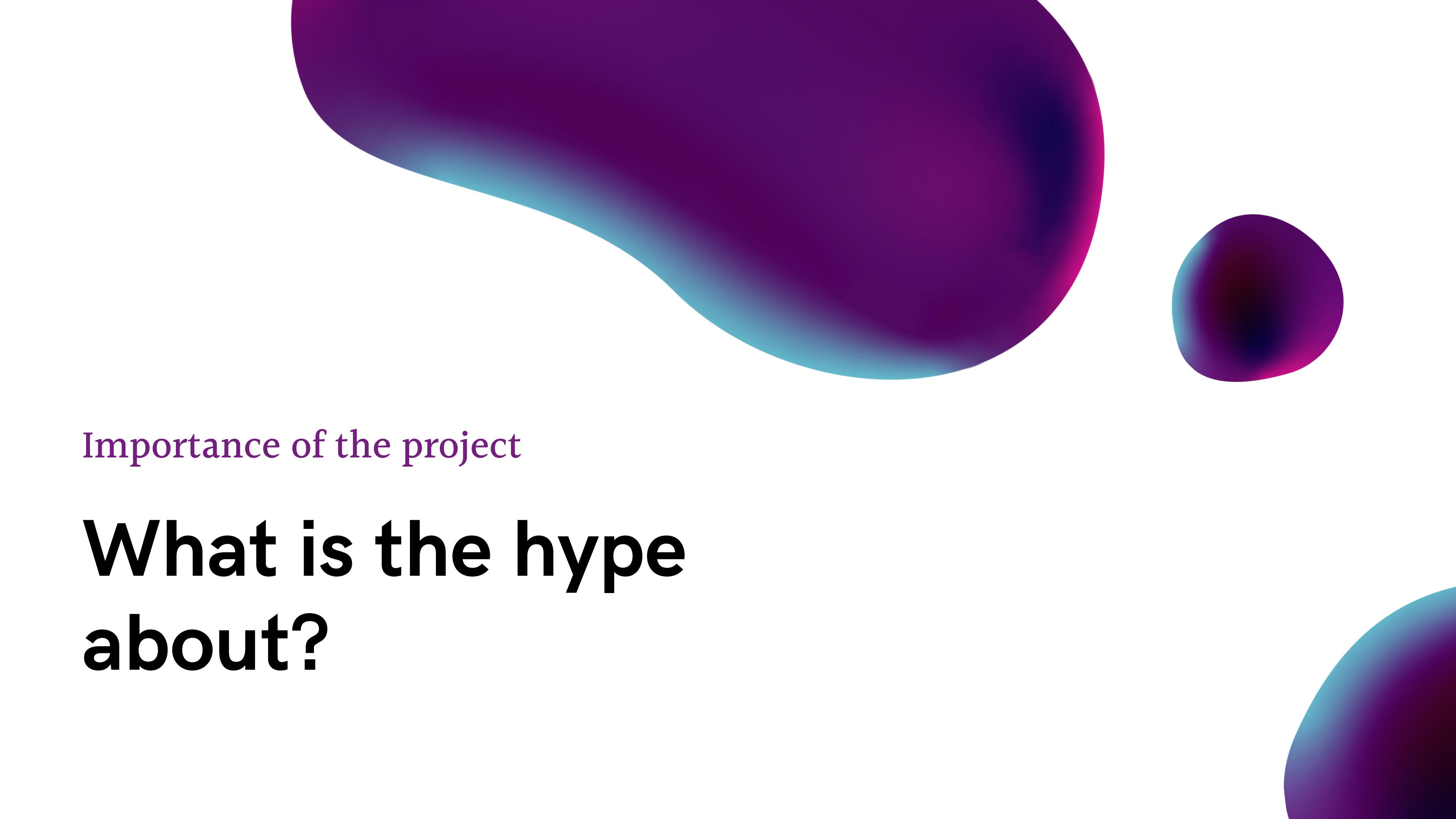
What is the project about?

Our project consists of two parts.

- The first part involves implementing a MIPS assembler that takes assembly code as input and produces the corresponding machine code as output.
- The second part consists of implementing a MIPS disassembler by producing the MIPS assembly code corresponding to the machine code given as input by the user.

What is Assembler and Disassembler?

- Assembler converts assembly language into machine language
- Disassembler converts machine language into assembly language.



Importance of the project

**What is the hype
about?**

- This project is of very high importance in the field of Instruction Set Architectures like MIPS.
- Assemblers provide very important inside information about the code which is used by the linkers and is quite crucial for the debuggers to find any type of errors in the code.
- Obviously, disassembler is necessary because a human cannot understand the type of instruction by just seeing a series of 0's and 1's in front of him. He needs something which could translate that into a ‘readable’ instruction.

The background features a dark purple gradient with three large, semi-transparent overlapping circles. One circle is light blue at the top and transitions to pink at the bottom. Another is light pink at the top and transitions to light blue at the bottom. A third, smaller circle is located in the bottom right corner, also with a light pink-to-light blue gradient.

Here comes the
implementation...

Is this the end?

There are a lot of future prospects to this project.

- We could have added comment detection in our assembler. Like, if anybody adds any comment in the code, then our assembler should detect that ok, this is a comment, and I don't need to convert it into the machine code.
- To make the project more presentable, we can add a graphical user interface, which could showcase our project in a more presentable manner.

Good Work!

This project helped us strengthen our conceptual understanding of the course and its application in the outside world rather than just bookish knowledge.

We as a team are quite happy to work on such an interesting project. Everyone tried their best to contribute their time and knowledge in this project. We must say that the concepts which were taught prior to the mid semester examination were put to a great test through this project.

**"The best feeling in the world is seeing
the benefits and rewards of hard work."**

- Kevin Hart