***EE/CprE/SE 491 WEEKLY REPORT 04***

***February 21, 2022 – February 25, 2022***

***Group number: SDDEC22\_20***

***Project: Implement the i281 CPU in Hardware***

***Client &/Advisor:*** [Alexander Stoytchev](mailto:alexs@iastate.edu)

***Team Members/Role:***

| **Member** | **Role** | | |
| --- | --- | --- | --- |
| [Alex Kiefer](mailto:atkiefer@iastate.edu) | Project Manager | Lead Hardware Designer |  |
| [Saffron Edwards](mailto:saffrone@iastate.edu) | Software Testing Manager | Website Manager |  |
| [David Vachlon](mailto:dvachlon@iastate.edu) | Hardware Testing Manager | Secondary Documenter | Purchasing Manager |
| [Patrick O'Brien](mailto:pcobrien@iastate.edu) | Documentation Manager | Meeting Scribe | Secondary Hardware Designer |
| [Joseph De Jong](mailto:jdejong@iastate.edu) | Communications Manager | Secondary Hardware Tester | Secondary Hardware Designer |

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### Weekly Summary

*Weekly Objective: Start Individual i281 Components*

This week was very successful for the team. At the end of last week, we gave each individual a part of the processor’s hardware to work on. The goal was to get a start on each piece, and that’s what happened. When issues arose, others were able to troubleshoot and help solve problems.

| **Member** | **Component** |
| --- | --- |
| [Alex Kiefer](mailto:atkiefer@iastate.edu) | Register File |
| [Saffron Edwards](mailto:saffrone@iastate.edu) | OP Code Decoder and Instruction Set |
| [David Vachlon](mailto:dvachlon@iastate.edu) | Program Counter |
| [Patrick O'Brien](mailto:pcobrien@iastate.edu) | ALU |
| [Joseph De Jong](mailto:jdejong@iastate.edu) | Data Memory |

### Weekly Accomplishments

#### Weekly Accomplishments Summary

This week was mostly individual work, with troubleshooting from other members as needed. Each member was expected to make progress on their assigned piece of hardware.

#### Weekly Completed Tasks

| **Task Name** | **Members Involved** | **Due Date** |
| --- | --- | --- |
| Completed Adder | Patrick | March 4 |
| Completed Program Counter | David | Feb 18 |

#### Overall Completed Tasks

| ***Task Name*** | ***Members Involved*** | ***Due Date*** |
| --- | --- | --- |
| Build and Map Clock System | Alex, Patrick, Joseph | Feb 11 |
| Gather CPU Parts | All | - |

### Meetings Summary

The team met on Tuesday to discuss current progress and issues. The team also met with their advisor to discuss progress. During this meeting the group realized flaws with their current hardware. Each member will be redesigning their hardware to create working products.

### 

### Current Agenda

| **Task Name** | **Members Involved** | **Due Date** |
| --- | --- | --- |
| Design and Schematics for Each Module | All | Spring Break |
| Source/ Test bus Multiplexores | David, Patrick, Alex | Feb 25 |
| Test 7 segment displays for function | Joseph, Patrick | Feb 25 |
| Build Register File | Alex | March 4 |
| Rebuild Memory File | Joseph | March 4 |
| Rebuild Program Counter | David, Alex | March 4 |
| ALU Shifter Testing | Patrick | March 4 |
| Build EEPROM Reader | David, Saffron | March 4 |
| Pong game speed | All | Feb 18 |
| Update Website | Saffron, Joseph | Feb 18 |
| Watch CPU Videos | All | - |
| Learn Altium | All | - |

### Pending issues

| **NAME** | **Issue** |
| --- | --- |
| Group | Work on planning |
| [Alex Kiefer](mailto:atkiefer@iastate.edu) | Redesign Register File, Redesign Program Counter |
| [Saffron Edwards](mailto:saffrone@iastate.edu) | Work on Website Design |
| [David Vachlon](mailto:dvachlon@iastate.edu) | Redesign Program Counter |
| [Patrick O'Brien](mailto:pcobrien@iastate.edu) | Test mux vs Tri State Buffer |
| [Joseph De Jong](mailto:jdejong@iastate.edu) | Redesign Data Memory |

### Individual Contribution

| **NAME** | **Individual Contributions** | **Hours this**  **week** | **HOURS**  **cumulative** |
| --- | --- | --- | --- |
| [Alex Kiefer](mailto:atkiefer@iastate.edu) | Planned Meetings, Register Implementation, Hardware Organization | 6 | 31 |
| [Saffron Edwards](mailto:saffrone@iastate.edu) | Website | 5 | 26 |
| [David Vachlon](mailto:dvachlon@iastate.edu) | Communication Methods, Website, Report, Program Counter | 8 | 29 |
| [Patrick O'Brien](mailto:pcobrien@iastate.edu) | Adder Implementation, Adder Testing, Progress Reports | 6 | 31 |
| [Joseph De Jong](mailto:jdejong@iastate.edu) | Memory, Website, Group Work and Reports | 8 | 32 |