**WeSTEAM - Post Mortem**

WeSTEAM is a big project associated with Erasmus+ and is coordinated by Luleå University of Technology. It is made to empower women to think and work in STEM environments by adding an A to the STEM system, this assembles the STEAM workflow where STEAM in full stands for Science, Technology, Engineering, Arts, and Mathematics. The background to this is the big inequity between the genders in the IT sector.

To make this project we have been 4 Developers from Luleå University of Technology, Computer Game Programming Year 2, and have been working for 3 weeks on this project. We have been tackling this project with help from using an Agile workflow with daily meetings and two weeks sprints. The Tools to our help have been Trello for agile, Unreal Engine 5 (5.0.3 to be exact) for development and Google Drive for documentation.

Our solution to this problem has been developed together with one of the partners of WeSTEAM, changemakers. The solution we have is to make a city building game including all of the principles of STEM. We will include the principles by having different Islands to build on which are specialized on one of the areas and have quests related to these principles as well. The combination of this will be performed by having both a First person view and a top down view. First person view will be used to communicate with NPCs and solve problems on a low level and the top view will handle the city building part which will decide your “on ground” problem solving.

But as you can see this is a big project to be done in 3 weeks, so we needed to cut a lot of things down. The first things we cut down was which principles we would support and stuck to only the Mathematical part as all the other ones build upon mathematical thinking and theorems.

The agile development process was very helpful throughout the development phases, Our team was able to focus on individual components and functionalities which later on combined together to complete one of the core mechanics for the game. Thanks to the scrum frameworks and the management tool Trello, we were able to easily distribute works so no task was left unfinished during each spring. We thought that developing a VR game would be fairly difficult, cause none of us has any major experience with virtual reality and also using an unfamiliar working engine could lead to slowing down the development. However during the development, our team was quickly adaptable to the new environment and started producing results to meet the spring requirements.

In the first week there were some issues with getting our hands on the hardware which led us to having a slower start at the beginning of the project. Which made us need to double our workload for the first two weeks. This led to some of the tasks left unfinished at the end of the early spring so it needed to be pushed back to the next one as a priority. Which led to a chain effect where some mechanics needed to be simplified which the end result was not like we initially envisioned it to be.

We also had some miscommunications and missed some steps in the planning which got fixed by the agile development process but made it difficult to visualize what for example the map and the mood of the game would have been. We more or less only discussed the end result which as you might imagine resulted in more than one idea on how to get there from the team members so when the next scrum standup came, we found that the different ideas had made some components more or less opposites in game design and in some aesthetics fields. But as said, thanks to the agile process with scrum we found solutions to all of these conflicts and actually got a better way of developing the end result!

All of the problems have been a good learning experience for the team and even though somewhere around 45-55 cups of coffee (converted from energy drinks as well) has been consumed during these weeks, we have got a lot done and feel proud of our prototype!

For future projects, we could have started working on the mechanic which does not involve the hardware. For example, working on the task system and some tasks associated with the project contents. Also may need to scale down the project idea depending on the time and resources we have at disposal. Even just starting on a drawing board together would probably be a big improvement on the starting point of any future project!