Challenges – Database Group

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Throughout the traceability management system project, we have faced a lot of challenges that took us a lot of time and effort to solve. Through this process of overcoming challenges is difficult, the outcome of the costed effort is inspiring as we also learned new knowledge and techniques at the same time of contributing to the project. Generally, the challenges we met in the development of this project are mostly caused by the unfamiliarity with the topic of the project and the specific field our group is responsible for known as database design, querying, and maintenance.

As a novel and abstract concept, the topic “traceability” has caused great confusion at the beginning of the project as we need first to get familiar with the purpose of our tasks before working on them. The process of familiarizing has almost taken an entire week for us to understand what functions a traceability management system should have, and more knowledge related to the system like the web ontology, which was designed to be used in the system to uniquely identify an artifact or trace link. Moreover, as each student in the project belongs to a specific group responding for the corresponding part, every student needed to dig deeper into one specific field, for us, it is the database. Because the database knowledge is not covered in the course for the first-year and second-year students in WKU, we had to learn it by ourselves. In addition to the difficulty of self-learning, there is also a time limit on our work because the database is essential in the project and it will greatly affect the work of other groups, particularly website and data visualization, which made the learning of new knowledge a real challenge. In this situation, we had to both learn and work at the same time to keep up with the process of the project. As a result, done in a hurry, the first few versions of the database were problematical. However, we have eventually made it useable successfully. This kind of challenge continued coming up in the process of development that we must get familiar with a new field after learning the basic operation of MySQL.

The other challenge we met in this project is the cooperation between different groups. This is originally a tough problem in any big project with multiple members. In this project, it even became more difficult as we can’t have a meeting in person and because of this, the communication between different members is quite inefficient. At first, the only communication method was the weekly zoom meeting with all members, which could deliver rather limited messages and had an interval that is too long for close cooperation. Thankfully, the cooperation became smoother with more time working together and the use of more communication platforms like WeChat and GitHub.

Though these challenges had taken us a lot of time and effort to solve, they also brought us rich benefits like cooperation skills and knowledge that we can hardly get from college courses. Participating in a project is not only just about the topic but also about a large amount of other knowledge that is used in the project. For example, in this project, we have learned the basic operation of MySQL to build the database, the use of open-source projects to import trace link ontology in local RDF files to the database, the configuration of Maven to solve the dependency problem, use of git to keep the project on GitHub for cooperation, etc.