In this module, I have learnt a lot of new knowledges about Internet protocol, I have done experiments about chat room by using UI and I have drawn the clear detailed header picture for our group. We discuss which method should we use or what essential information should header contains in the class. It is a quite flexible module for me, because most things about protocol design are discussed between two groups rather than being told in advance.

After doing experiments in the lab, I recognize that the timeout rule is quite significant and should be set to carry out retransmission after a period time without acknowledgement, which is to cure the losing messages in underlying service. The duration of timeout is quite an important point in this design, because if duration of timeout is too short that will lead to duplication of messages, however, if duration of timeout is too long that will bring other problems.

I also have several questions about acknowledgement, after enquiring Ian I have learnt that if messages have been received, but acknowledgement has been lost when transmission, sender also will retransmission. In this situation, receiver have received two same packets, so receiver will discard the second one immediately according to its own record, then send another acknowledgement to sender.

The other important problem should be solved in this design is corruption control, the traditional mechanism to control the corrupt error is to use checksum or error-detecting code. The general principle of corruption control is that correct blocks satisfy a certain standard, however, the corrupt blocks do not satisfy this. It can help protocol to distinguish correct blocks from corrupt blocks, but the accuracy of filter still relies on the complexity of the standard. And I consider that checksum is a good way to filter the corrupt messages and it is also an important part for error-detection.

Broadcast routing relies on link-state and it equals to n-way-unicast, and in fact, it is a way to control flooding that each node maintains a list of source address. To avoid flooding, the mechanism to check source id for not sending message back to source should be set, and to hold a record after receive messages for only forward once is also significant.

When we discussed about dynamic routing and file transfer which are two possible enhancements, we tried to achieve broadcast and dynamic routing, however, there are some problems in carrying out these two objects. And low feasibility of broadcast also obstructs achievement of dynamic routing and file transfer.

In the summary, I certainly learn many knowledges not only from class but also from discussions we made, and this method can inspire our inspiration to solve the problems we faced at that time.