**5. Alternative Solution**

We have originally come up with some other solutions to realize the click. However, based on the feasibility and efficiency, we make the decision to give up those.

**5.1 Connection**

Actually, we initially didn’t want to use sever to realize the communication between the leader and the common users and connect them directly. Thus, we thought of some other solutions to take the place of it.

One method to make it may be Bluetooth, and another is using Wi-Fi to connect the leader’s smartphone.

Bluetooth has its limitation in distance other users can have accesses to the leader’s phone. Bluetooth can also add burden to the leader’s phone when it run the application and it is rather troublesome when we need to permit the connection to his phone from other users especially when it comes to a meeting or class concerned with plenty of participants. Moreover, Bluetooth is not stable enough. We abandoned it at first.

Wi-Fi can be quicker and stable. However, there are still some deficiencies compared to server.

|  |  |  |
| --- | --- | --- |
|  | Server | Wi-Fi |
| Available  Distance | Available anywhere where there is Internet | Available the scope that the Wi-Fi covers |
| Information received | All the useful information | Need the smartphone to calculate |
| Communication  Between different OSes | Easier to realize | More difficult |
| Convenience | It all depends on the server to allocate the information | Need time to connect the target phone |
| Persistence | With account it can last pretty long if you want | The group would dismiss as soon as the Wi-Fi is disconnected |
| Burden  to application | small | medium |

**5.2 Display**

Sometimes we need to display the results on the screen related to the computer. Besides the solution that developing a website to realize it, we originally want to develop a PC application which is C/S software architecture. However, based on some essential parts, we discarded it.

|  |  |  |
| --- | --- | --- |
|  | Web | PC application |
| difficulty | Middle | High |
| Compatibility on different OSes | High |  |
| Convenience | High. For example, teachers can display the results on screen by using school’s computers. | Low. It must be installed before we use it. |
| Download | On the web, it’s easy for us to download files and we can take advantage of other software to download them. | Not easy to design the downloading by ourselves and can be slow. |

**5.3 Conclusion**

In conclusion, we can find the proposed solution is the most convenient and powerful one we can come up with. Our software develop group members have Java software, web and python developing experiences. Moreover, several of us are familiar with using MySQL to store data. We also choose GitHub to do teamwork.

**6. Cost/Benefit Analysis**

**6.1 Cost**

**Hardware Cost**

Sever (at least one)

5 Personal Computers

Storage for the file users upload to share

**Software**

Python 2.7 extended with MySQLdb

MySQL

Eclipse extended with ADT

Sublime

Web Browser

GitHub

**Environment**

Make the reservation for meeting or programming together

Electricity bills about air-conditioning and so on

**Human Resources**

5 group members

Consultants concerned with the programming

**Time Cost**

Learning basic knowledge

Meeting

Programming

Debug

Thinking

**Learning Resources**

Books

Search Engines (e.g. Google, Baidu)

Consulting consultants

**Long Term**

Sever maintenance

Database maintenance

Elevating compatibility

Upgrade version

Manage the accounts and database in the long run

**6.2 Benefit**

a) By using GitHub, we can make our teamwork easier to carry on and more efficient. As we know, GitHub is a web-based Git repository hosting service, which offers all of the distributed revision control and source code management (SCM) functionality of Git as well as adding its own features. That means it make work more closely.

b) By coding web instead of PC application, it can save us a lot of time and can display it more flexible on different terminals. Moreover, we also can save the money and time to improve the client software and maintain the infrastructure.

c) Use MySQL which is free save the money to employ other database or develop new database. Moreover, MySQL can be easily supported by python used as backstage language of the web.

d) Develop this system can make better use of our group’s resource ---- different members are skilled in different areas.

e) Our product can be used widely and flexibly.

f) The experience of allocation can do lots of help to our further development of this application or even another application. Actually, a good allocation is important in the development of software which can keep most of the work from chaos.

g) The goals we aim at can exercise our capacities for its different functions covering many different

h) Discussing in group also makes us familiar with teamwork. We always need to negotiate on different ideas come up with by us and discuss their feasibilities. As a result, our decisions have been refined from varied aspects.

i) The new hardware device and software imported can be reused, and the knowledge we would learn in the project can be useful in the long run.

j) From some kind of degree, this project is also aiming at the communication among the team. The information that flows when application is running is simple but efficient for the work of the team, like a class. In some aspects, the project itself can also help us with other work in the future.

k) In the beginning, we are not intended to charge customers on the application. If we can achieve success, we may charge them for them to upgrade some service or get some new service.