

## Reserch for building infection information system for pandemic flu used with GPS and Ajax

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Recently, there are a critical issue that dangerousness of pandemic took place by new influenza virus especially bird flu. Then building the crisis-control structure of new influenza virus is significant challenge. But, now we, non co-medical people, can't get information of normal influenza infection in our living area easily. And in case of new influenza virus, expanding of prevalence is very speedy then at a minimum it is necessary to get flu information daily.

So in the present study, as part of precaution and action for new influenza pandemic, we set out the infection information system that citizens in general, non co-medical people, can get the detail infection information every area easily.

We use Ajax and cell phone with GPS to build this new infection information system.

Ajax is the technology of Web2.0, following generation internet. Legal name of Ajax is Asynchronous JavaScript XML. This technology is generic name of asynchronous cliant side scripting used with JavaScript. This time, part of Ajax building by plane JavaScript and Google Maps APIs.

Cell phone with GPS become popular recently and from here on. Getting location information when call emagency is one reason.

Then at building of new contagion information system, we thought about condition that we have to catch up with rapid contagion expansion, as information collection side that is ability of serverside not as browse side.

With growth of patient in pandemic, we contemplated about how much server capacity need. We made use of influenza contagion expansion model based on past three influenza pandemic ( Spanish flu, Asian flu, Hong-Kong flu ) used by Centers for Disease control and Prevention ( CDC). Based on expansion predication of patient number derived by simulation which used this model and the number of school, hospital and local authority in Japan, then we thought it moded in miniature.

There are language of two assortment ( PHP,Ruby) and way to lock up data of two assortment at system in server side. Now, we draw up their assortment, and measured which assortment is pertinence in their assortment.

The following is corclusion and knowledge derived in the present study.

- (1) Building new infection information system.
- (2) We found availability of cell phone with GPS.
- (3) We found the aspect of each system of data CSV and XML. CSV has advantage for writing data and XML has adavantage for reading data.
- (4) Searching speed of XML-XPath used by REXML class of Ruby is much slower than speed of recording text, so unfitting for recording a lot of text data.