# List of Amendments in Addressing Prof. Jia Weijia’s Comments

* There are too many pages described the typed APIs:

I’ve condensed the section on type-based API. In particular, I’ve summarized some of the works and merged the table on event operators.

* Referring to P107, how the composite events are formed? By semantics or common knowledge?

Our pub / sub middleware is a type-based system. Those composite event types are pre-defined by application programmers according to their domain-specific knowledge. Therefore, the events are detected / formed according to the semantics. I’ve also added a short discussion on this on P107

* Referring to P111, in 4.2: 1st paragraph, you said: the sink node will select the efficient nodes as event fusion points for each event and broadcast the information into the network. The nodes will then forward their events to these fusion points after a certain period of time”. In my opinion, this paragraph contains some important points related to your system performance:
  + By which criteria the sink can select the fusion points?
  + What is the cost for the broadcast of the fusion point information? Is that necessary to broadcast to all network, will be any localization solution?
  + What do you mean “certain period of time”? For how long?

The sink selects the fusion points according to our cost function. I’ve modified the description to clarify it. In our model, we only consider message cost in our cost function.

The cost for broadcasting fusion point information depends on the network scale. In our system model, we have not included network scale. I’ve updated added a paragraph to discuss the impact of the network scale to the switching probability. We can basically utilize the network scale as a parameter to refine the switching probability pswitch.

The broadcast problem is actually related to subscription dissemination problem. For this wok, the information is disseminated into the entire network because don’t assume the availability of any geographical knowledge in the sensor node and we mainly consider event detection cost. Nevertheless, I’ve updated the future direction section to include a short discussion on the possible future work for subscription dissemination.

For the last issue, I think a more accurate way to describe this would be: the fusion points may be changed or updated with a predetermined probability to cope with event dynamics. Therefore, I’ve updated the corresponding part to avoid any confusion.

* Referring to P153, implementation: the system components, both hardware and software features should be given.

PSWare has been implemented on Crossbow’s MicaZ sensor nodes with TinyOS 2.x. I’ve updated the corresponding section for this required information.

* How to define x and theta?

X is the distance between the events while theta is the angle between the events. I’ve modified the corresponding parts to add such descriptions.

* The analysis complexity of “flooding” should be given.

The analysis for “flooding” has been added as a function of the network scale.

* Typos

The whole thesis has been reviewed and the typos have been fixed.