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Subject: POM
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More information on the DOM versus POM discussion.

It seems the partitions of DOM come from the "three layers" of the web itself:
content, style, behaviour.

Content or structure is what is defined using HTML
Style is what is defined using CSS
Behaviour is defined using JavaScript

DOM needs to capture all three aspects of the web because it is a 'unified' way
of representing all the information. So it has the corresponding partitions.

POM

Here we are focused on describing physical spaces and objects. The spaces could be immobile like rooms or mobile spaces like the "airport queues".

So, describing the organization of the elements in the space is one of the problems. What is contained in what. What are their attributes. This is little like the structure of the document in DOM. However, unlike the structure, the spatial structure (or composition) can change due to external stimuli - which is not the case with DOM (the structural change occur due to the 'behaviour' aspect of the DOM). That is, in DOM the structure does not change except due to behaviour impacting programs that are attached to the document. In POM, the structure is going to change due to external activity - like people or objects moving from one location to another.

Another aspect that is relevant to POM is the control we want to place on the capabilities of the elements. We need to good name for this aspect - I will call it control/capability for now. However, what we actually want to do is to control the behaviour of the elements in a context or space dependent manner.

For instance, smartphones should be turned off mandatorily in a hospital environment. Without relying on the users to turn off the smartphones, the infrastructure could turn some of the capabilities of the phone depending on the locations. This way of controlling the elements should be specified in the POM.

Can we actually use XML schema here? This about enforcing constraints so I am thinking that XML Schema could be relevant and appropriate here. What do you think? May be XML Schema is after all less appropriate for the 'behaviour' aspect as I suggested in the previous email.

The third aspect is the behaviour of the elements. I will call it 'behaviour' - however, it is different from the behaviour of DOM. In there, a program is manipulating a DOM element as a reaction to some event - UI or otherwise. This considered behaviour there.

In POM, behaviour is the trend of physical objects and people in the space. For example, if we expect a person with certain characteristics to be present in a space that is a behavioural observation. So this is the behaviour we observe from physical activities.

I am thinking that each individual element would have a "AI" program that is going to predict actions locally. Note I am not advocating for collecting all the data to a central server and then treating it with an existing or new machine learning process. Instead I am thinking of a truly distributed process.

What are the pros and cons of the two approaches? We need to think about them. However, the distributed approach is certainly going to be more agile for reconfigurable usage scenarios.

What do you think?
Any thing I missed?

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