

Individual Assignment Phase 2

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Disclaimer

I was not able to participate in the evaluation evening, due to some work related tasks. This has been cleared with course administrative *Muhammad Aufeef Chauhan* via e-mail.

While this is not intended as an excuse, the coming report might feel a bit lackluster due to me not being part of the main events which should be the focal point of this report.

Introduction

As mentioned I was not able to participate in the evaluation evening. I have been able to get my hands on a phase 1 assignment from one member of our counter group (the group evaluating our solution), which therefore solely will be the fulcrum of this report. This report will begin with a quick rundown of my experiences with evaluating the other group's architecture, then followed by a presentation of the mentioned feedback report, and lastly I will try to reflect upon this given feedback.

My evaluation experience

I used the ATAM model for evaluating the other group's architecture. I like the whole idea of being able to evaluate the given project (proposed architecture) at any given time, further, that the evaluation method focusses on risks rather than quality attribute behavior. Obviously being part of the presentation (the evaluation evening), is required in order to actually fulfill such kind of evaluation, since discussing with the team being evaluated is key in the understanding of the entire architecture. My experience was that the actual report/architecture which we were given to evaluate was a bit inadequate, and talking with the group members could perhaps answered a lot of the question which I had, in order to create an even better understanding of the architecture - and this way a better evaluation. I am sure that the group have been doing a lot of thinking about their architecture/solution, but might not been able to put these thoughts on paper.

The feedback from our counter group

The feedback given from the counter group (in this case from one member *before* the evaluation evening), was clearly very well made. I have no doubt that they actually read our entire report closely and with attention to details. I will try sum up the key points that they came up with regarding our proposed architecture, and the effect that they meant this could have for our solution.

1. Lack of user stories and detail in the ones which was actually there. This could result in missing some important considerations determining the architectural requirements.
2. Usability is not being discussed in the report.
3. The architecture focusses on a solution servicing many Smart Homes (a cloud architecture), instead of setting the scope to only one house, resulting in a lot of the attention being directed to scalability.
4. The handling of emergency cases included the devices to be equipped with 4G SIM cards, which seems quite costly.
5. The proposed architecture did not have any form of backup system running. For instance in the case that the users wanted to override the system, e.g. if the much needed smart phone ran out of battery and therefore were not able to access their own house.

Reflection upon feedback

This section serves as my response to the feedback given. Obviously being part of the evaluation evening, and this way discussing the feedback, would have made this reflection a lot better. I will use the numbering given in the above section, and try to argue and respond to the given feedback.

1. We did not have many user stories in our proposed architecture, which obviously is a necessary artifact in an architecture. This is something that we need to re-do, and further, go a bit more into detail with all our user stories. I completely agree that this potentially could result in us missing some key architectural requirements.
2. Usability in our architecture resides primarily in the apps that the users use to interact with the cloud solution. As we see it, we have the need for at least two applications; one being accessible from a smart phone, and one through a web browser. We felt that setting up the baseline for the architecture, though, was a more important task, and therefore we have not gone into much detail about the actual usability. For a complete architecture, this is obviously something that we need to look into.
3. The decision of making the proposed architecture a cloud solution, was one that we took early in the project. We imagined this architecture to potentially hold all the households on the planet, and therefore having a central cloud to manage and store all this information was the only way to implement such a system. Having some kind of central device (referred to as a *central hub* in the feedback) in each household would require **a lot** of maintenance and support from the supplier, which we felt were not a feasible solution, with regards to the idea of having all the worlds resident connected to our solution. One could only imagine the amount of technicians required to support this central device for each household, every time “something” had to be fixed and/or updated. Having all the required logic stored in a cloud, and this way making each device responsible for communicating with the cloud, would shift the support and maintenance responsibility to the manufacturer of the devices. Obviously our solution would only support devices using “some” accepted framework, which our system was able to communicate with. The only requirement would then be that these sensors were connected either via the internet or via 4G.
4. These devices having a 4G SIM card would be the backbone of our emergency handling. In the case of power failure, the devices had a battery which via the 4G technology could reach our cloud. Without knowing the exact cost of a SIM card, I expect this to be a minor cost compared to having the above mentioned central hub in each Smart Home. Further, having the mobile companies compete over who to deliver these cards to the manufacturers of devices, would properly lower the prices a lot (this is just a guess – I am *no* market analyst 😊).
5. This is a really good observation. As the system is proposed in its current formulation, the users had to use the mobile application, in order to unlock their house. Obviously if the smart phone had no battery power left, this could result in some challenge. This point is something that we as a project team needs to discuss. A solution could be having some kind of keypad at the house, which required a PIN-code to be entered. Another solution could be having some kind of physical keycards being issued to the users, but this could result in safety breaches (if users lose their keycards) but the supplier also had to make all these cards resulting in more cost. A final solution

could be via physical scanners, e.g. an eye scanner. This would be a more complex solution, but could potentially be pretty secure.