HyveDev 1st meeting

Thursday, 27.3.2014 21:49 in MCMED 208/209

minutes.io

Minute taker	Shalon Liu (SL)
Attendees	Calem Bendell (CB), Michael Golfi (MG), Loren Peter Lugosch (LPL), Angelo Pengue (AP)

			Owner	Due
1. Origanizational Plan	**INFO**	HyveDev has the potential to become independent entity after SD 2016		
1.1	**TODO**	Looking to get monetary compensation, research papers, or course projects for all participants, both for both McGill and Concordia students		
2. Goals (hardware)	**TODO**	MOST IMPORTANT for SD purposes and as part of the MVP: automate electrical load balancing (i.e. decide when to lower power delivery to certain appliance depending on the situation) This may require Baysian learning algorithms to decide when and how much power can be cut without effecting function		
2.1	**TODO**	Need to monitor all power usage and need controller for all applicances		
2.2	**DECISION**	Find programmable hardware for energy monitoring and control the power draw for each appliance. Can be started now.	LPL	
2.3	**DECISION**	Have all the hardware (i.e. the Raspberry Pis) ready before summer	CB	01.05.2014
2.4	**TODO**	Add surge protection to the Pi		
2.5	**TODO**	Get in touch with Pulse Engery	LPL	
3. Goals (software)	**INFO**	Will be using Raspberry Pi server. (i.e. 4 raspberry pi connected to sensors (cameras, etc) to collect all data) and use as security suit.		

3.1	**INFO**	The focus is on human interaction with the house (i.e. gesture control)	
3.2	**INFO**	To address privacy concern with cameras everywhere recording all the time: + may be circumvented with as similar solution as the TSA in never showing the video. Video is computer-analyzed and only the results of the analysis is displayed. + user can have option to never store the video/store for a brief time/store everything	
3.3	**DECISION**	Everybody learn a JS framework ex. EmberJS, NGinx, NodeJS, Grunt, JS	CB, SL, MG, LPL, AP
3.4	**TODO**	Set up frame work for Pi for the group	MG
3.5	**TODO**	connect camera to Pi and store info in MongoDB	
3.6	**TODO**	Once hardware is obtained, start work on wall plug controller software	
4. For Coders	**TODO**	What coders need to know (Frontend): + HTML + Javascript/Coffescript -Why JS? Google's V8 engine made JS 4x faster and more flexible than python & ruby. + MongoDB Backend: + python (for analysis)	
4.1	**INFO**	Basics of web programming: ask Calem or Michael because it's too complicated for me.	
4.2	**TODO**	Coding standards: + Calem will proof all code + follow internet standard for web coding + establish standards for commenting (i.e. every fun should have descriptive name and 1 function, and set up in regions) + evolve as we go	
4.3	**TODO**	make coding standard document for everyone.	MG
4.4	**TODO**	Need to 1 main manager for each repo	
5. Funding	**INFO**	+ funding can/may be obtained from SD	

		+ expected cost in $500 for equipment for one room + simple microprocessor ($15) for simple operations (for example, the doors).
5.1	**INFO**	If cameras with Pi can be used for security purposes, it would be great avenue to obtain funding.
6. Concerns	**TODO**	did we choose a good software stack? + think so. It's been developing for the last 5 years.
6.1	**TODO**	Do we have good people? + may have contacts from Auburn, MIT, Cambridge
6.2	**TODO**	get a good organization/communication channel + been using gist so far, but suggestions are welcomed
6.3	**TODO**	May need to keep in mind rare earths footprint
7. IP policy	**INFO**	Most agreeable plan is to have everyone own their own tech, but HyveDev is allowed to use and develop anything based the tech produced by the members
7.1	**INFO**	Anyone can split off individually at any point, with HyveDev having the rights to use anything that's been developed up to time of separation