



Web-based Energy Efficiency Services

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energyInBalance - energy services for smart homes



*Create and market smart IT Systems
that provides energy efficiency
solutions for homes to save personal
costs and our common environment*



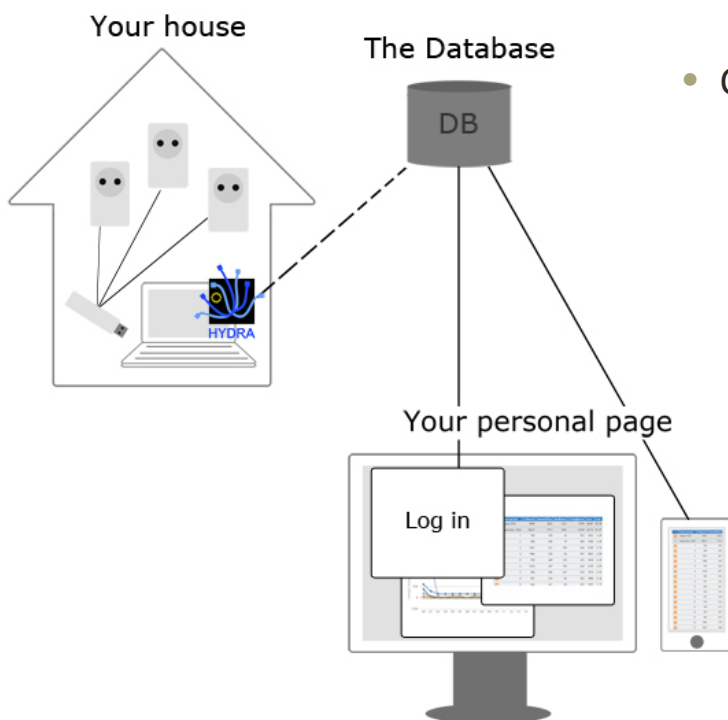
CheckWatt



- First commercial service based on Hydra middleware
- Internet based smart metering at appliances level
- Combines embedded technology in homes with P2P networking and data collection over Internet.



Overall architecture



- Components
 - Smart Plugs – Zigbee based
 - Hydra Middleware
 - Web Browser



How it works



- Customer gets a set of smart plugs and enters the type of appliance attached
- Smart plugs measure consumption
- Hydra middleware interfaces with the plugs and extracts energy data every 60 seconds.
- Hydra sends data over P2P to central database
- Customer logs into their account to get bill information and charts.



Features



- Detailed breakdown of energy bill
- Creating awareness of the energy behaviour of the family
- Energy benchmarking with neighbours, friends and others



Detailed energy bill



- Providing the details that your ordinary bill leaves out
- Energy consumption and Cost
 - Drill-down per day, hour and appliance

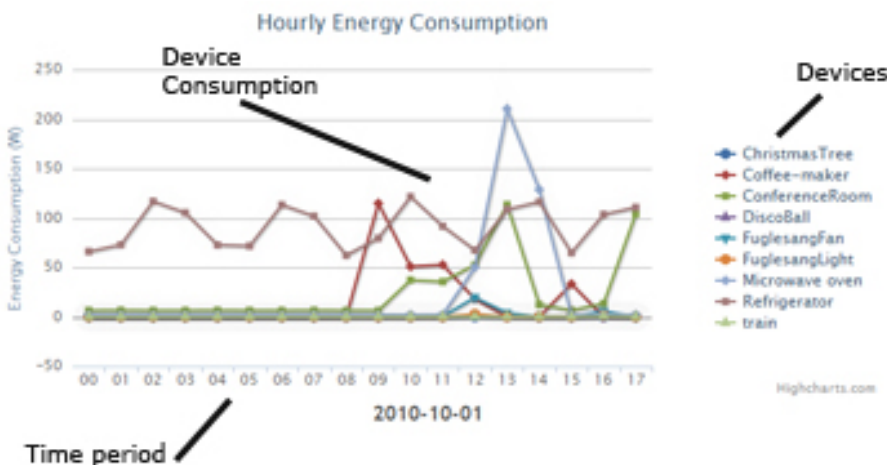
Time period	Entertainment System VR	Jonathans TV	Jonathans Computer	Sebastians TV	Sebastians Computer	Fridge and Freezer	Dishwasher	Lights Living Room	TV Alrum	Sum	Cost
August 2010	172.47	6.392	2.748	10.067	15.884	11.429				63.766	79.71
September 2010	565.32	15.132	20.128	23.170	45.347	28.506	8.340	3.008	1.97	200.361	250.45
October 2010	89.191	2.242	5.9410	7.388	5.7291	1.9923	48.524	4.567	85.4	289.390	361.74
1	30.79	3.5	2.020	3.76	1.119	7.34	3.155	1.58	2.0	10.695	13.37
2	5.828	6.5	2.597	3.44	2.358	7.27	2.771	4.93	1.9	15.202	19.00
3	3.858	8.0	3.264	2.37	2.883	6.97	2.321	2.2	1.9	13.380	16.73
4	3.141	3.4	1.644	2.17	4.598	6.67	1.096	2.2	2.0	11.438	14.30
5	3.225	1.80	1.697	1.84	2.060	7.30	6.79	2.2	2.0	8.796	10.99
6	3.656	3.3	1.907	2.63	6.10	6.40	1.750	2.1	1.18	8.998	11.25
7	3.773	1.37	2.117	4.85	3.078	7.41	1.085	2.2	1.13	11.551	14.44
8	3.577	6.7	2.248	3.02	2.023	7.81	2.518	2.2	1.58	11.696	14.62
01:00	3.16	5.8	1.13	1.01	1.92	3.4	2.47	1	1	1.062	1.33
02:00	1.85	0	4	4.3	1.1	3.9	7.83	1	1	1.067	1.33
03:00	1.09	0	4	0	1.1	3.1	2	1	1	1.160	0.20
04:00	1.07	0	4	0	1.1	1.6	2	1	1	1.143	0.18
05:00	1.08	0	4	0	1.1	3.0	2	1	1	1.158	0.20
06:00	1.07	0	4	0	1.1	3.9	2	1	1	1.165	0.21
07:00	1.07	0	4	0	1.1	3.3	2	1	1	1.160	0.20
08:00	1.07	0	4	0	1.1	1.1	1	1	1	1.137	0.17
09:00	1.09	0	4	1.2	1.1	3.3	0	1	1	1.171	0.21
10:00	1.69	0	4	5	1.88	6.0	0	1	1	4.28	0.54



Create awareness



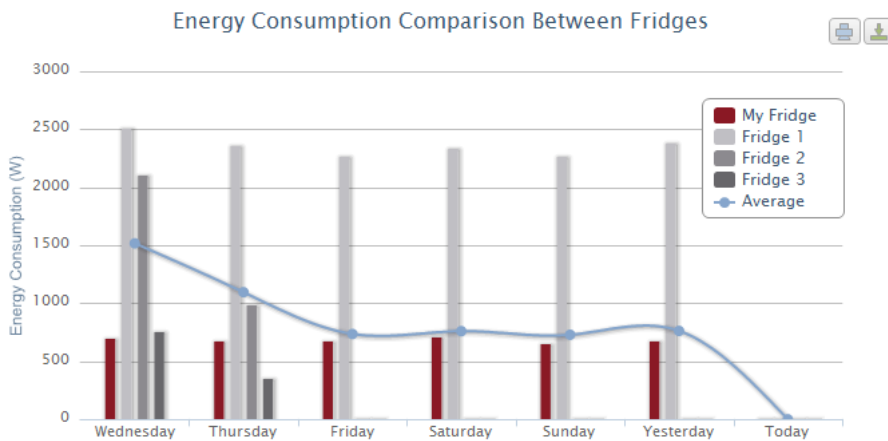
- Check current consumption,
 - which appliances are on and how much do they consume
- Monitor your household consumption over time
 - Discover patterns
 - Detect unnecessary use



Energy Benchmarking



- Is my household consuming more than the average household of the same size?
- How does my fridge compare with newer models?
- Is my TV energy efficient?



Current status



- Entering into test phase with 20 households which will be expanded to 200 beginning of next year.
- Subscription-based service

Learn more:

www.energyinbalance.com

