GUIDE HALL RADIATION MONITORING UPDATE

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INTRODUCTION

- Guide Hall radiation monitors' data are saved on local computer

- Inaccessible from the internet where most monitoring systems are available

- Data must be accessible from the NBSR web application

NCNR Guide Hall
Credit: Yiming Qui, April 17, 2017

Area Radiation Monitor
Credit: Scott Arneson

OLD SYSTEM

NEW SYSTEM

- Health Physics checks local computer twice daily for alarms

- Data can be lost if local computer crashes

- Allows remote access

- Data are stored in backed-up location

- Less storage space required

WINDOWS SERVICES

- Runs in background

- Ideal for long-term use
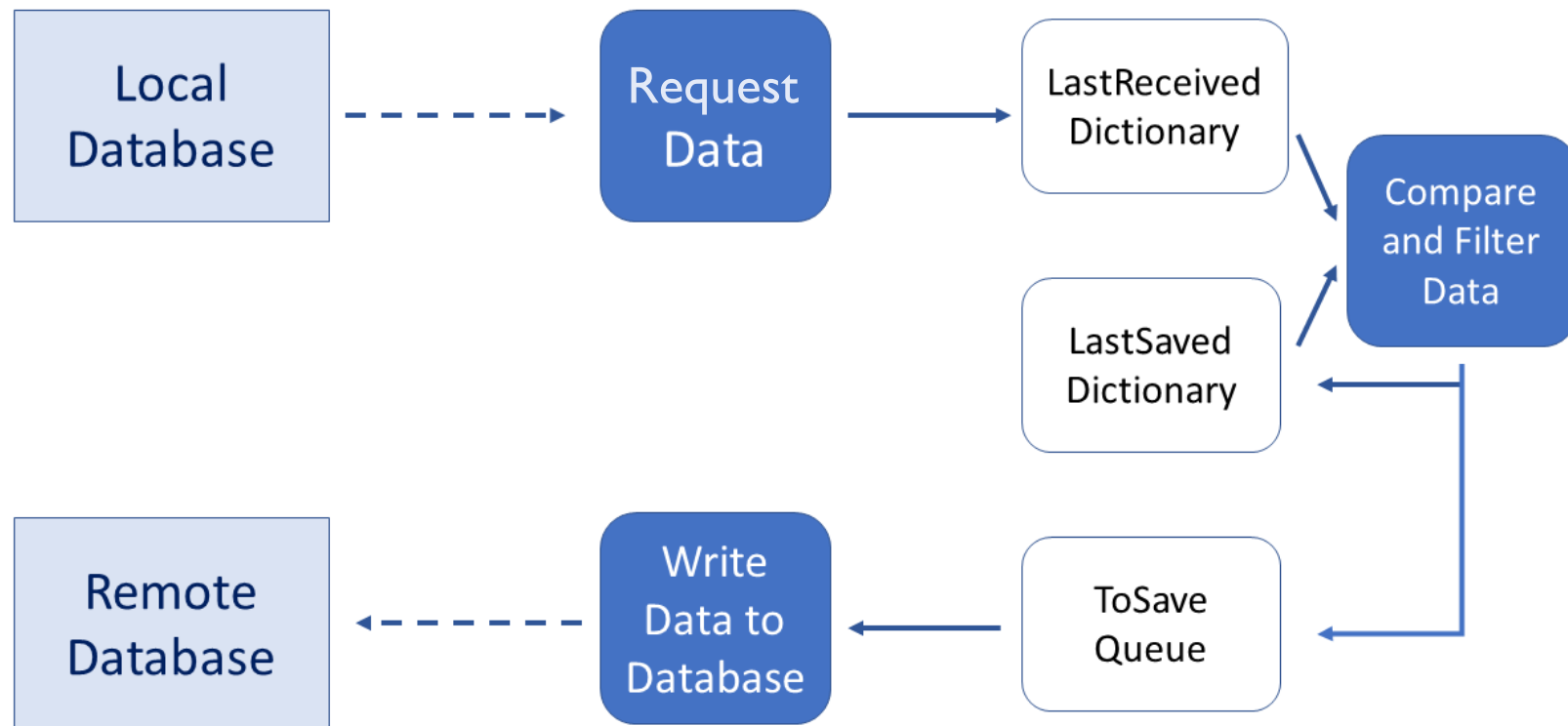
- No user interaction

- Starts upon computer restart
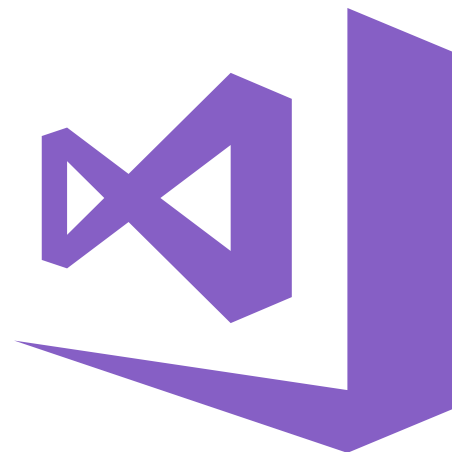
Microsoft.com

Pluralsight.com

GUIDE HALL ARM DAQ SERVICE STRUCTURE

FEATURES

- Reduces amount of storage required for data

- Saves up to a day's worth of data in queue if connection to remote database is lost

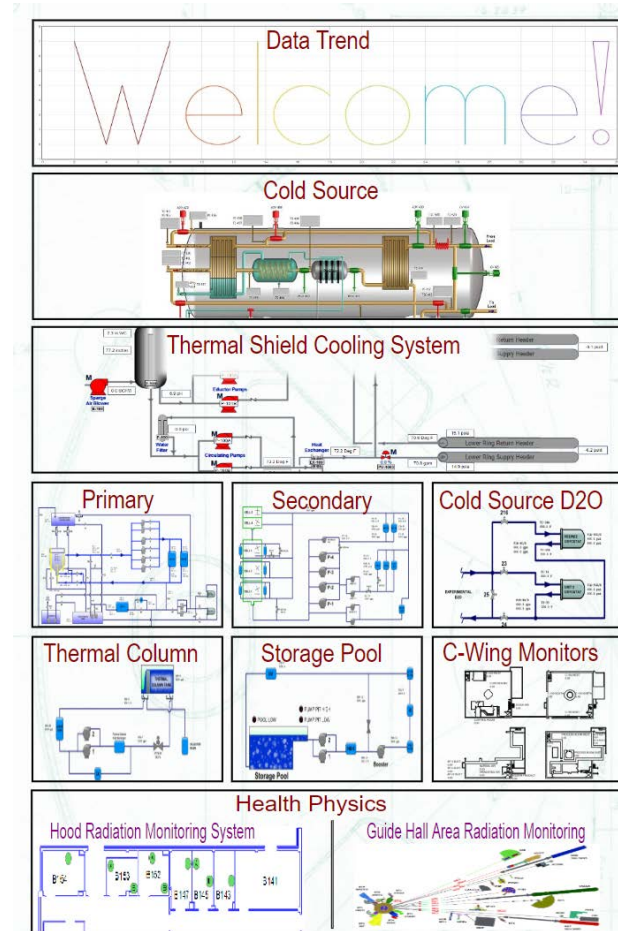- Makes ARM data accessible in a central location

	id	timeStamp	RM2d1	RM2d2	RM2d3	RM2d4	RM2d5	RM2d6	RM2d7	RM2d8	RM2d9	RM2d10	RM2d11	RM2d12	RM2d13	RM2d14	RM2d15	RM2d16	RM2d17	RM2d18	RM2d1
1	1	63617402120.8328	0.071	0.045	0.02	0.026	0.011	0.006	0.012	0.028	0.008	NULL	NULL	0.283	0.402	0.766	0.715	0.058	0.031	0.05	0.125
2	2	63617402245.7431	0.065	0.046	0.039	0.043	0.027	0.014	0.021	0.025	0.011	NULL	NULL	0.322	0.443	0.703	0.684	0.044	0.025	0.046	0.13
3	3	63617402360.9533	0.052	0.045	0.022	0.049	0.026	0.016	0.013	0.019	0.025	NULL	NULL	0.275	0.418	0.703	0.688	0.055	0.017	0.049	0.153
4	4	63617402476.1635	0.057	0.037	0.014	0.04	0.025	0.022	0.026	0.025	0.014	NULL	NULL	0.291	0.377	0.668	0.742	0.084	0.032	0.061	0.16
5	5	63617402591.3737	0.05	0.04	0.021	0.043	0.02	0.008	0.014	0.014	0.013	NULL	NULL	0.293	0.412	0.715	0.773	0.069	0.034	0.044	0.152
6	6	63617402706.6839	0.039	0.032	0.035	0.049	0.027	0.01	0.016	0.013	0.015	NULL	NULL	0.24	0.453	0.691	0.75	0.071	0.029	0.037	0.138
7	7	63617402819.7941	0.061	0.045	0.043	0.04	0.032	0.012	0.015	0.017	0.013	NULL	NULL	0.254	0.428	0.785	0.719	0.078	0.031	0.053	0.13
8	8	63617402934.9044	0.078	0.031	0.032	0.035	0.016	0.009	0.018	0.016	0.011	NULL	NULL	0.283	0.4	0.762	0.766	0.067	0.026	0.037	0.179
9	9	63617403050.0146	0.052	0.027	0.027	0.041	0.008	0.008	0.012	0.019	0.013	NULL	NULL	0.301	0.373	0.75	0.723	0.066	0.025	0.045	0.177
10	10	63617403165.0248	0.053	0.03	0.025	0.042	0.014	0.011	0.009	0.014	0.008	NULL	NULL	0.289	0.404	0.695	0.789	0.045	0.021	0.047	0.156
11	11	63617403279.835	0.073	0.03	0.023	0.047	0.009	0.003	0.014	0.017	0.021	NULL	NULL	0.262	0.428	0.719	0.723	0.049	0.03	0.04	0.134
12	12	63617403394.5452	0.054	0.027	0.034	0.057	0.017	0.01	0.008	0.007	0.01	NULL	NULL	0.289	0.398	0.73	0.75	0.089	0.028	0.042	0.152
13	13	63617403507.6554	0.058	0.044	0.032	0.044	0.027	0.013	0.013	0.007	0.013	NULL	NULL	0.239	0.441	0.668	0.73	0.062	0.026	0.056	0.155
14	14	63617403622.5656	0.062	0.057	0.022	0.064	0.024	0.005	0.014	0.013	0.014	NULL	NULL	0.262	0.393	0.719	0.77	0.058	0.021	0.037	0.148
15	15	63617403737.6758	0.061	0.03	0.025	0.042	0.018	0.007	0.018	0.02	0.01	NULL	NULL	0.217	0.436	0.68	0.727	0.039	0.046	0.054	0.173
16	16	63617403852.5861	0.063	0.039	0.023	0.053	0.023	0.021	0.019	0.015	0.013	NULL	NULL	0.299	0.4	0.711	0.688	0.063	0.027	0.072	0.165
17	17	63617403967.6963	0.052	0.021	0.031	0.059	0.015	0.006	0.021	0.013	0.027	NULL	NULL	0.266	0.43	0.723	0.648	0.072	0.053	0.042	0.172
18	18	63617404082.6065	0.062	0.04	0.028	0.034	0.006	0.017	0.028	0.016	0.019	NULL	NULL	0.24	0.344	0.738	0.758	0.051	0.034	0.053	0.141
19	19	63617404195.5167	0.046	0.048	0.034	0.047	0.017	0.003	0.015	0.024	0.018	NULL	NULL	0.264	0.398	0.723	0.75	0.049	0.02	0.059	0.137
20	20	63617404310.2269	0.083	0.049	0.056	0.056	0.035	0.006	0.017	0.013	0.016	NULL	NULL	0.264	0.357	0.754	0.719	0.048	0.024	0.045	0.146
21	21	63617404424.7371	0.035	0.033	0.029	0.049	0.023	0.004	0.008	0.021	0.021	NULL	NULL	0.271	0.426	0.707	0.777	0.056	0.025	0.026	0.158
22	22	63617404539.1473	0.057	0.025	0.026	0.053	0.021	0.013	0.026	0.008	0.015	NULL	NULL	0.303	0.406	0.707	0.785	0.052	0.028	0.062	0.171

16	16	RM2d16	2018-08-07 10:15:08.540	0.1190
17	17	RM2d17	2018-08-07 10:15:08.540	0.0160
18	18	RM2d18	2018-08-07 10:15:08.540	0.0150
19	19	RM2d19	2018-08-07 10:15:08.540	0.0170
20	20	RM2d20	2018-08-07 10:15:08.540	0.0140
21	21	RM2d21	2018-08-07 10:15:08.540	0.0140
22	22	RM2d22	2018-08-07 10:15:08.540	NULL
		RM2d23	2018-08-07 10:15:08.540	0.0100

14	16	2018-07-26 15:01:25.457	0.0100
15	17	2018-07-26 15:10:55.407	0.0020
16	18	2018-07-26 15:31:47.507	0.0060
17	19	2018-07-26 15:37:31.237	0.0050
18	20	2018-07-26 15:41:15.357	0.0100
19	21	2018-07-26 15:45:04.477	0.0060
20	22	2018-07-26 15:52:37.807	0.0040
21	22	2018-07-26 15:54:12.417	0.0100

WEB APPLICATION

- Similar to a website – accessible from web browsers but stored on a server

- NBSR web app displays data related to the condition of the reactor or radiation exposure of people around NCNR

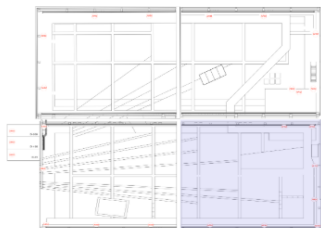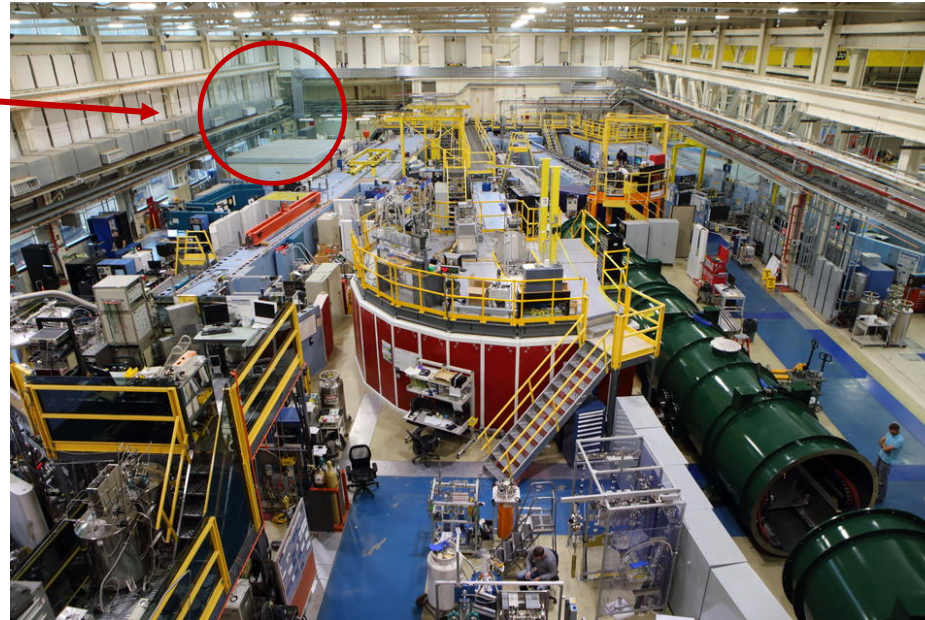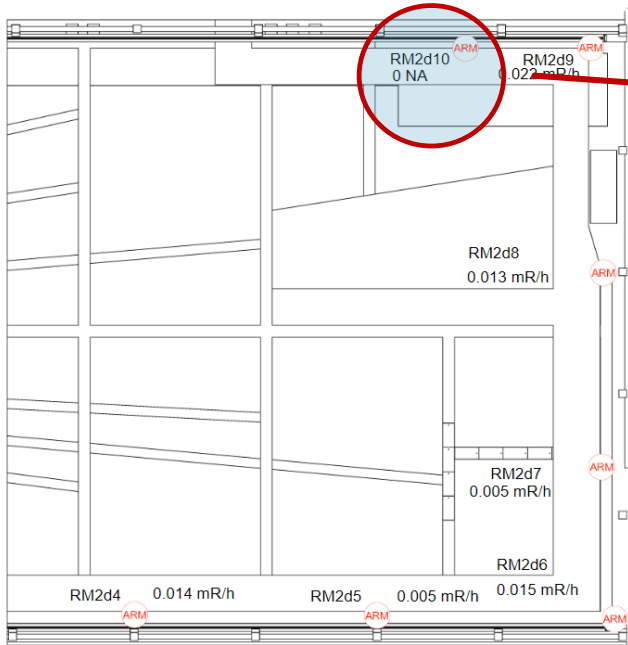- Uses Windows Authentication for security

GUIDE HALL MIMIC
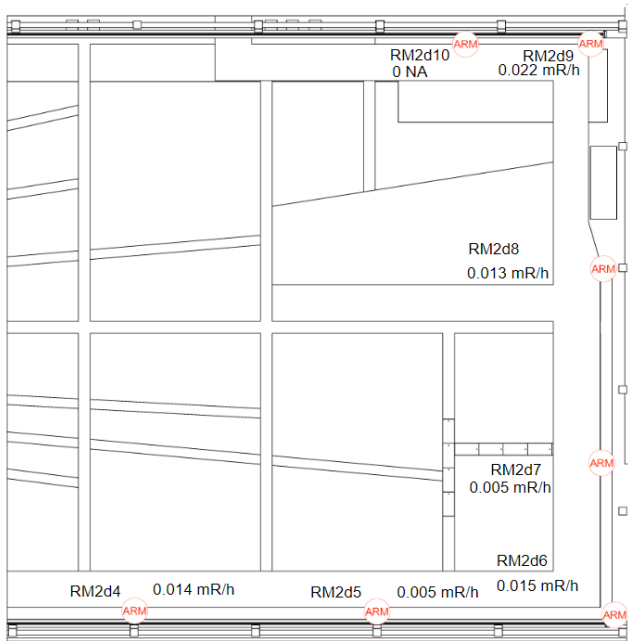
RM2d10
0 NA

RM2d9
0.022 mR/h

RM2d8
0.013 mR/h

RM2d7
0.005 mR/h

RM2d6
0.015 mR/h

RM2d4   0.014 mR/h   RM2d5   0.005 mR/h
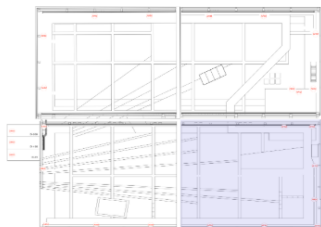
Last Saved:
2018-08-01 14:26:53

Credit: Yiming Qui

- Displayed as an SVG file – interactivity, scripting features

GUIDE HALL MIMIC

RM2d10
0 NA

RM2d9
0.022 mR/h

RM2d8
0.013 mR/h

RM2d7
0.005 mR/h

RM2d6
0.015 mR/h

RM2d4   0.014 mR/h   RM2d5   0.005 mR/h

Last Saved:
2018-08-01 14:26:53

Credit: Yiming Qui
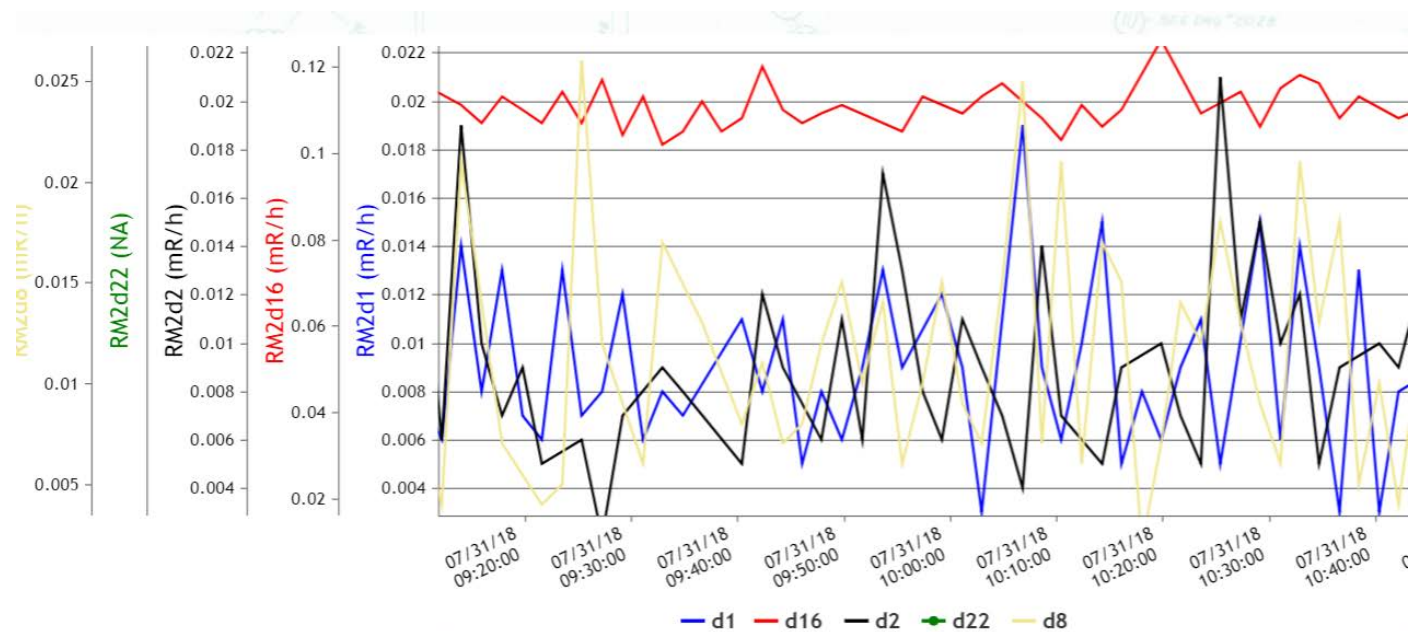
- Displayed as an SVG file – interactivity, scripting features

GUIDE HALL TRENDING PAGE

■ Allows individual monitor trending or custom group trending

FUTURE PROJECTS

- Add a table of monitors to mimic to locate monitors easily

- Add alarm function for high radiation levels

- Add email function to alert HP or ROE of alarms or broken monitors

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- ROE SURFers

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- NCNR and CHRNS

Credit: Scott Arneson

Credit: Kirill Stakhovsky

Credit: Yiming Qiu

QUESTIONS