

A web server for Auroville GIS

Giulio – CSR

Philippe - Blue Light



Water Group update

- Water group started in January 2015
- Setting up Auroville Survey Mapping activity/unit
- Framework and definition of Survey standards
- Addressing water security of an Urban settlement through multisource modelling, a project proposal
- Review of applications for borewells submitted by Aurovilians
- Installing of raingauges in Auroville
- Designing and assembling of a new weather station with Cynergy
- Acquisition of web domain aurovillewater.in, and initial frame of a website
- Review of water-related data from historic sources
- Implementation of sewage pipe line and Waste Water Treatment Plant for Residential Zone area
- Weekly Monitoring of 87 wells in Auroville
- Repair, coordination and monitoring of different weather stations in and around Auroville
- Initiating surface rain water harvesting practices on a community scale
- Starting work on Auroville Water Resource Management Plan
- Coordination of 8 interns /volunteers / Aurovilians for the work of drafting Auroville Water Plan
- Online Web GIS web initiative with Blue Light

Background

- Today, whenever in Auroville we need geographic data, where do we go?
- And what if we need data about water?
- Rainfall?
- Wells?

Background

- Who is collecting rainfall data in Auroville?
- Where are these data?
- In which format are the data?

Raingauges

- There are few Aurovilians who have been given a raingauge, which is a device to measure rainfall
- Raingauges are manually operated
- Data are on daily basis
- Each operator records data on his excel file

Raingauges

		2012	2013	2014	2015	2016
JAN	1	28				
FEB	16		2			
	24		37			
MAR	6		26			
	14		6			
APR	14		1		5	
	15				19	
	24				46	
	25	1				
MAY	2			0.5		
	4			9		
	5			46		
	6			12		
	7			45		

Station	Average Seasonal Rainfall all years->													
Gaia's Garden	CALC. Link	Dry Period Five Month Average Rain:				145m m	S/W Monsoon:				381mm	N/E Monsoon:		199mm

2016	January	February	March	April	May	June	July	August	September	October	November	December
1												5.00
2											6.60	30.60
3											2.80	
4						22.00					6.60	
5										8.40		63.80
6												
7							2.30					
8							1.60					0.60
9												
10								4.60	1.00			
11					T				1.60	6.50		
12									T	1.00		1.60
13								21.40		11.10	2.60	23.40
14								46.00	1.00			13.20
15						1.00			1.10			T
16					0.50							4.00
17					69.50		1.00	0.80				
18					33.00							
19					33.00							
20							6.00					
21						18.00		10.80	19.80			
22						7.00			1.90			
23						37.60			1.00			
24						3.90						
25								65.20				
26						1.50	7.10					
27					8.50	1.70		T	38.00			
28									28.20			
29								19.60				
30								6.00				
31								1.80		11.20		

All records are preceding 24 hr's from 8:30 AM each day.

													Total
Total mm	0.0	0.0	0.0	0.0	144.5	92.7	18.0	176.2	93.6	38.2	18.6	142.2	724
Rain Days	0	0	0	0	5	8	5	9	9	5	4	8	53
Trace Days	0	0	0	0	1	0	0	1	1	0	0	1	4

Weather stations

- Is there any other device in Auroville collecting meteorological data?
- Where are the data stored?
- In which format are they stored?
- Who can access the data?

Weather stations

Date	Time	Temperature [°C]	Pressure [hpa]	Sun Duration [W/m ²]	Humidity [%]	Wind Speed [m/s]	Wind Direction [°]	Rain [mm]
1/1/2016	0:30:00	21.2	1012.2	554	96	0	359	749
1/1/2016	1:30:00	20.5	1011.5	554	97	0	359	749
1/1/2016	2:30:00	20.1	1010.9	554	98	0	359	749
1/1/2016	3:30:00	20	1010.4	554	98	0.3	1	749
1/1/2016	4:30:00	19.6	1010.4	554	99	0.6	301	749
1/1/2016	5:30:00	20	1010.9	554	99	0.5	338	749
1/1/2016	6:30:00	20	1011.4	0	99	0.4	353	749
1/1/2016	7:30:00	21.2	1012.3	13	99	0.5	341	749
1/1/2016	8:30:00	23.6	1013.2	73	92	2.6	324	749
1/1/2016	9:30:00	26.1	1013.7	133	80	3.6	174	749
1/1/2016	10:30:00	27.1	1013.9	193	72	3.8	213	749
1/1/2016	11:30:00	27.4	1013.6	253	68	2.5	119	749
1/1/2016	12:30:00	28.4	1012.7	313	58	2.5	32	749
1/1/2016	13:30:00	28.6	1011.8	373	60	4.5	75	749
1/1/2016	14:30:00	28.3	1010.9	433	61	3.4	90	749
1/1/2016	15:30:00	28.2	1010.4	493	65	3.6	60	749
1/1/2016	16:30:00	27.1	1010.4	553	70	4	76	749
1/1/2016	17:30:00	26.4	1010.9	578	72	3.8	17	749
1/1/2016	18:30:00	24.8	1011.8	578	77	1.3	16	749
1/1/2016	19:30:00	23.9	1012.7	578	83	0.6	57	749
1/1/2016	20:30:00	23.3	1013.2	578	87	0.7	22	749
1/1/2016	21:30:00	22.8	1013.6	578	90	1	235	749
1/1/2016	22:30:00	22.4	1013.6	578	91	1.1	136	749
1/1/2016	23:30:00	21.9	1013.1	578	93	0.6	81	749

Meteo data

- What about meteorological data in the surrounding Region?
- Where are the data?
- In which format are they?

Hydrogeological Data – WELLS

- What about status of water levels in Auroville wells?
- Where are data recorded?
- In which format?

Hydrogeological Data – WELLS

- Till few years ago, Auroville Water HARVEST was monitoring and collecting data on weather, wells, etc. in Auroville and the Bioregion
- Since few years this is not done anymore

So, where is the data?



It is here...

Or here?

Concept

- What if one wants to just sit at home and check status of the meteo data in Auroville? Or about wells water level?
- The required tool shall be an interface operating via web, which has the possibility of combining numeric data with geographic information

Proposed solution

Let's call it a

WEB GIS SERVER

Proposed solution

- What does it need?
- Data in an *organised* and *consistent* format, let's call it a **normalised database**
- **Quality of the data:** accurate, updated geographic information

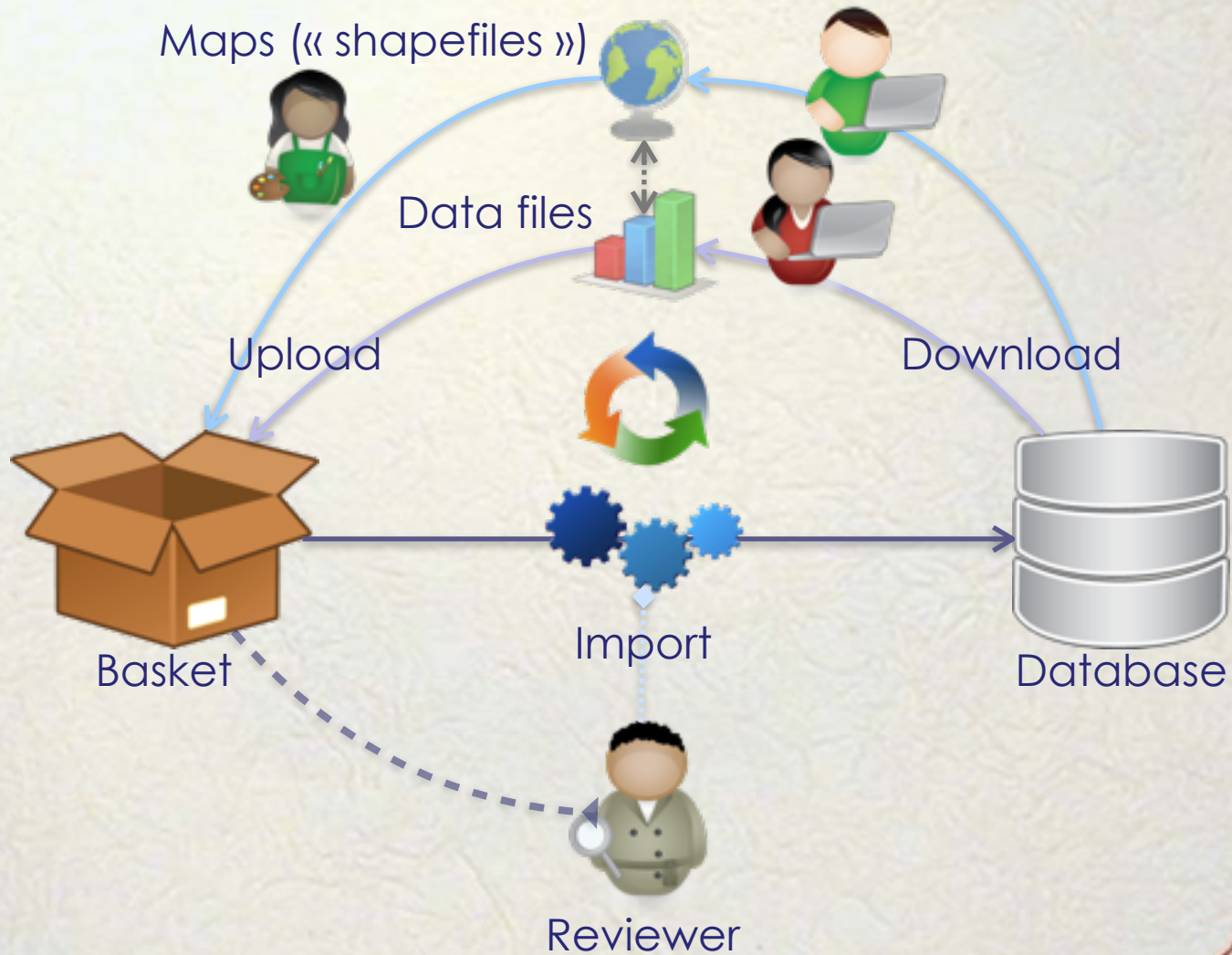
Proposed solution

- A software to put these things together in a way which can be usable by the so-called layman
- The software can also allow the public and relevant services to visualize and work on these informations

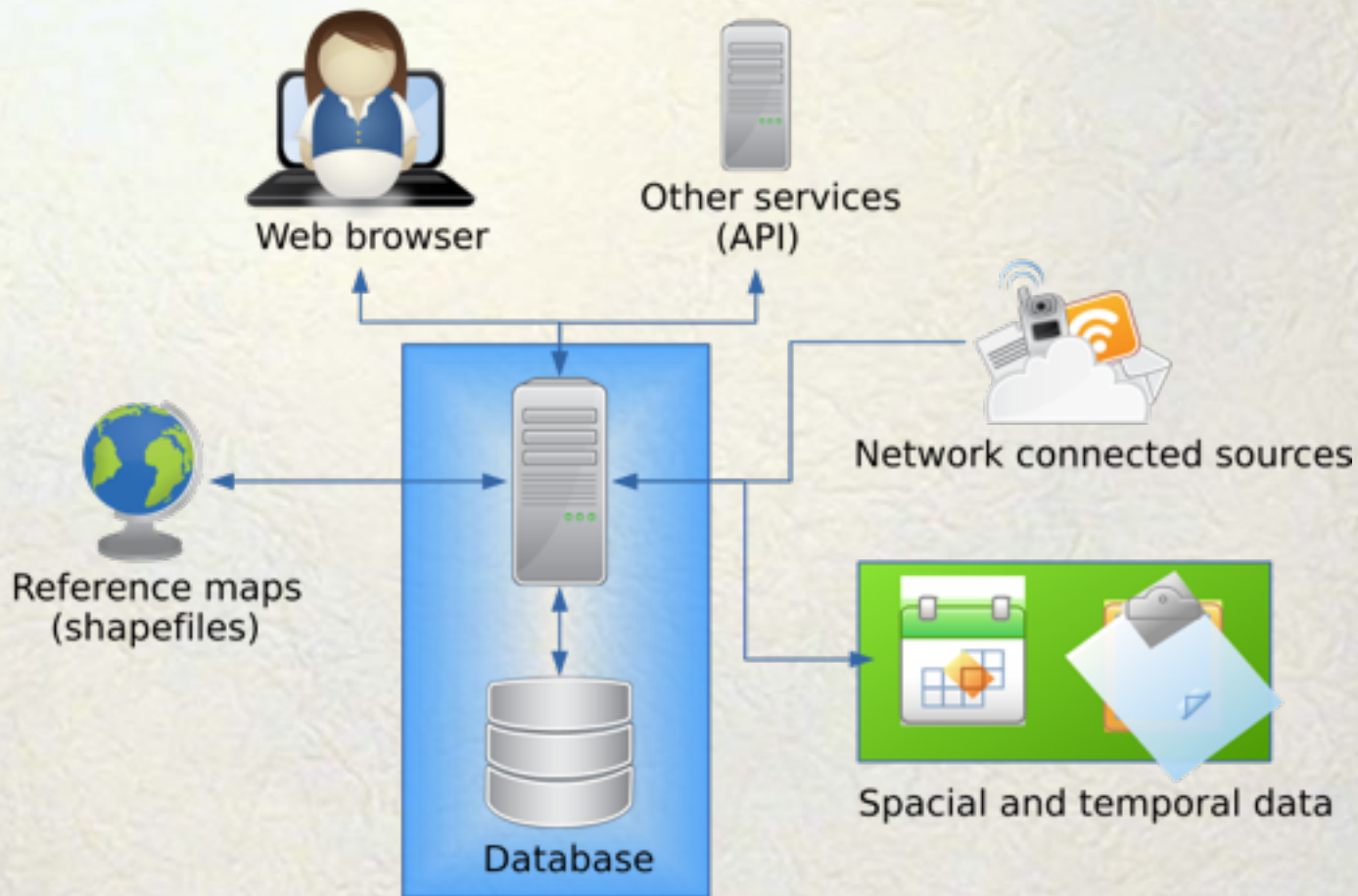
Proposed solution

- We have worked on this idea, and we have realized a GIS server, already available online
- It's work in progress
- All based on Open Source, and planning to release it to the Open Source communities

Workflow



Architecture



Future?

Potential applications for other purposes
can be studied together

Communication

- Platform for communication to/from the **Water Group** will be:

aurovillewater.in

- **Gisaf:** go to:

water.auroville.org.in