

Something a bit different: ICARE and its GRANDMA implementation



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A roadmap

Presentation of what you think about the Web Interface

The reality behind the Web Interface

A complete audit of the Interface

The future

Disclaimer

Some of you may think that I am very pessimist,
a lot is working if we play a little.
I am not attacking anybody nor bullying.
I will be factual.

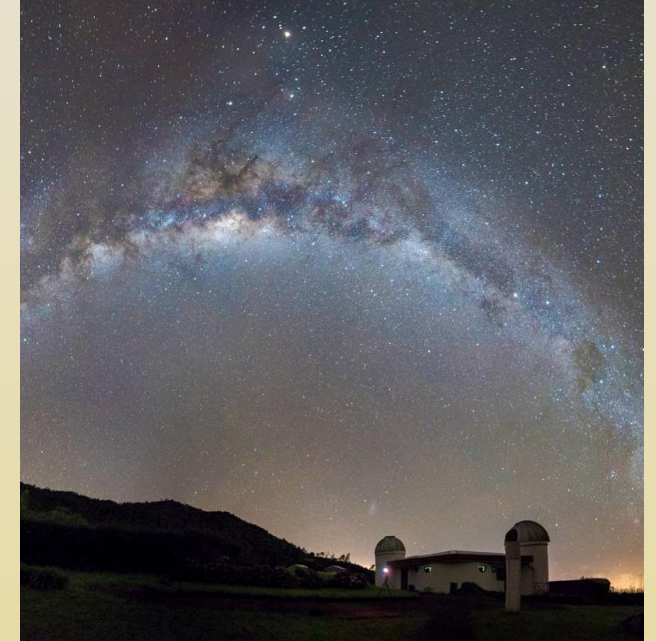
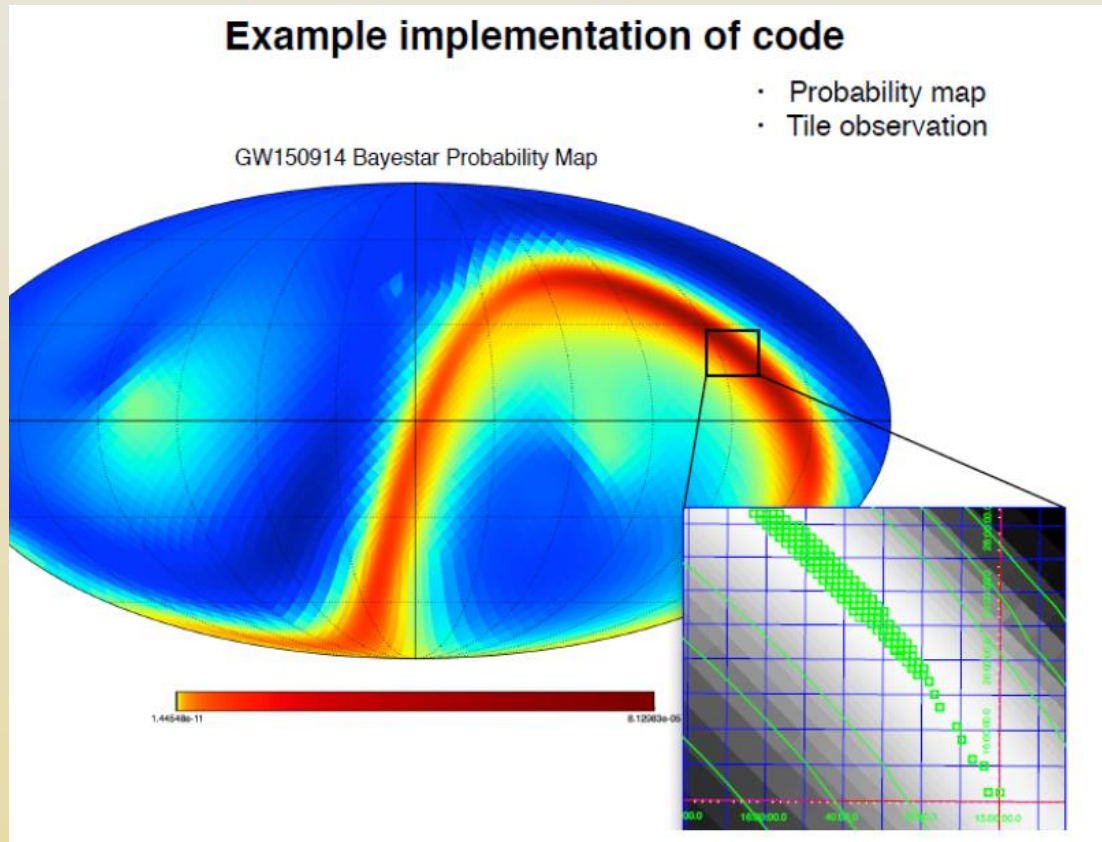
Think twice: would you call evil a MD who is telling you “this is serious, this is diabetes/infarcts/cancer/coronavirus” because except that point “everything is fine”?

I will not discuss what is working, I will insist on what is not working!

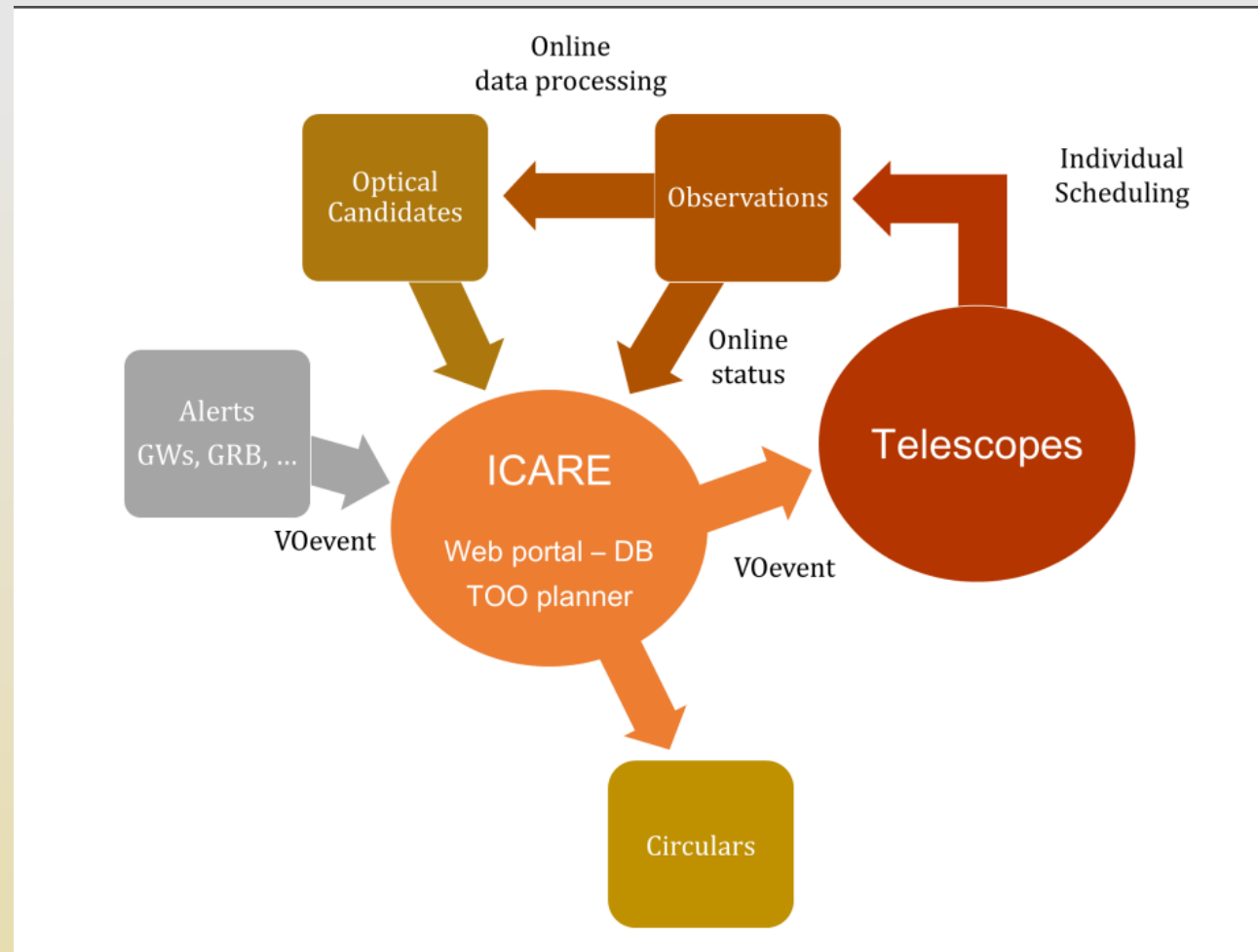
GRANDMA?

GRANDMA

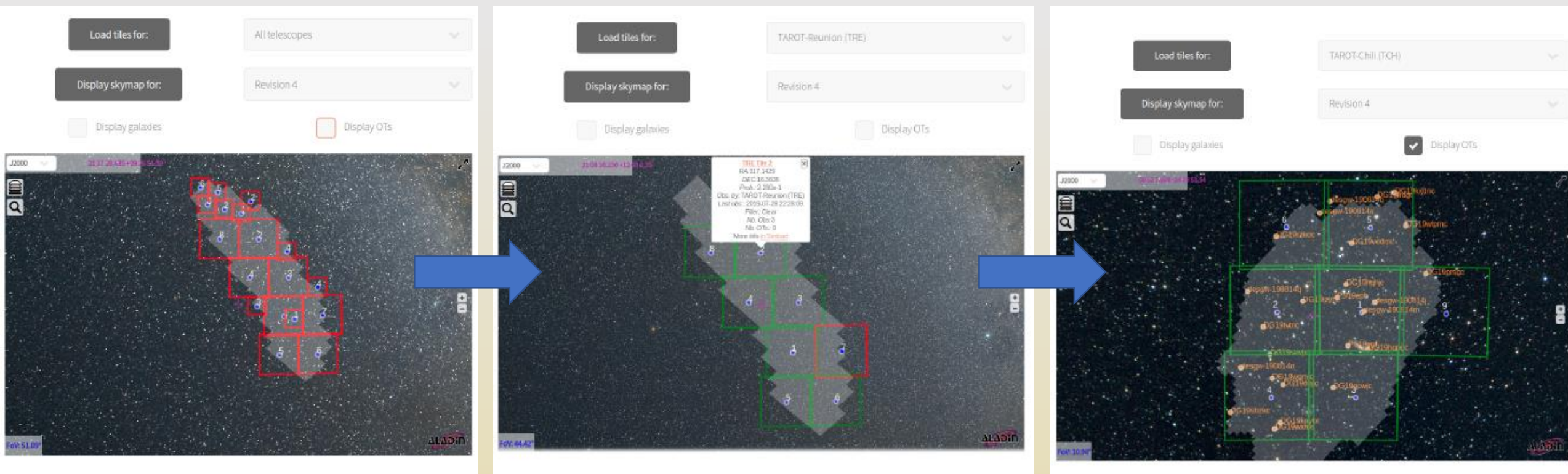
- Global Rapid Advanced Network Devoted to the Multi-messenger Addicts
- Centrally coordinated network of telescopes



Handling an alert



Responding to an alert



Had you said coordination?

Initial sky scanning

OT follow-up

GCN

Stop all observation

Jump to

Request FA power

Bruce Gendre

Logout

GW alert S190924h: Observation summary

Load tiles for:

All telescopes

Display skymap for:

Revision 0

☐ Display galaxies

☐ Display OTs

J2000

08 29 45.840 +15 47 29.04

Logbook

Show

3

entries

Search:

Date	Comments
2019-09-26 22:02:17	Nothing to report; No GCN, No GW event.
2019-09-25 06:26:05	GCN 25845 : no counterpart from FERMI-LAT
2019-09-25 06:25:24	GCN 25844 : no observation from CALET (gamma ray)

Showing 1 to 3 of 10 entries

Previous

1

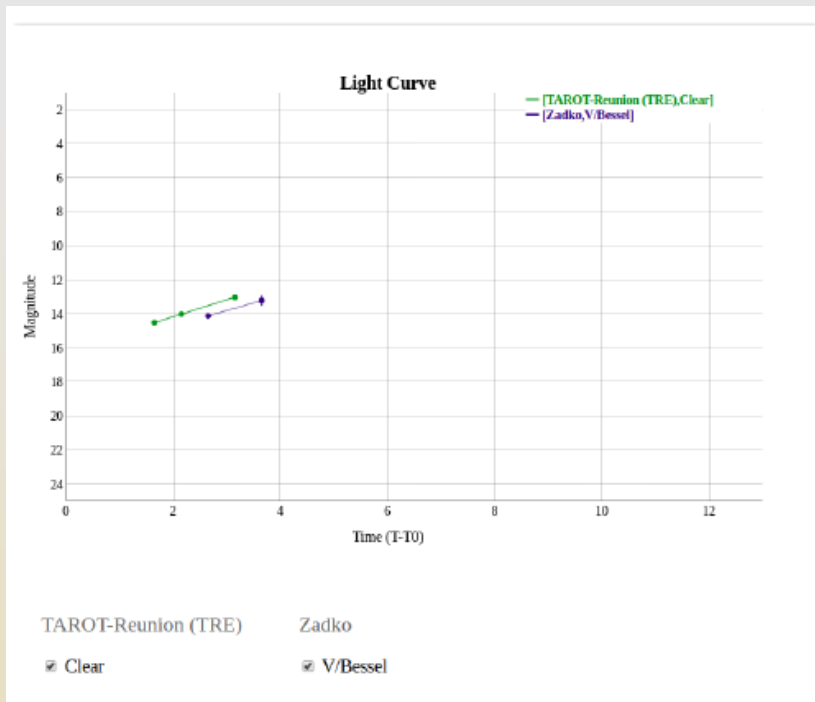
2

3

4

Next

Had you said coordination?



Initial sky scanning OT follow-up GCN Stop all observation Jump to

Send GCN circular summarising GRANDMA follow-up campaign

Please read carefully and correct the circular if necessary before sending the circular!

Display GCN and Telescope for: Revision 4

Telescope: TAROT-Reunion (TRE) Load GCN

Title:

LI00/Virgo S190728q : TAROT-Reunion (TRE)/GRANDMA observation report.

D. Corre (LAL), S. Beradze (Illauni), M. Coughlin (Caltech), M. Vardosanidze (Illauni), X. Zhang (THU), M. Boer (Artemis), N. Christensen (Artemis), L. Eymar (Artemis), A. Klotz (IRAP), K. Moysena (Artemis, IRAP), S. Antier (APC), S. Basa (LAM), D. Coward (OzGrav-UWA), J.G. Ducoin (LAL), B. Gendre (OzGrav-UWA), P. Hello (LAL), C. Lachaud (APC), N. Leroy (LAL), D. Turpin (NAOC)

Report on behalf of the TAROT network and GRANDMA collaborations.

We performed tiled observations of LI00/Virgo S190728q event with the TAROT-Reunion (TRE) telescope operating in the visible located at Les Mages astronomical observatory.

The observation started on 07/28/19
20:45:51 UTC which corresponds approximately to 841 minutes after the trigger time.

Home Menu Request FA power David Corre Log

Current FA : Christina Thone

In this section, you can correct the shift attribution. Look at the list below to help you. Once the shift is attributed to you, the system will check the hour and if you are on shift, you will gain the FA powers automatically. This should be the standard way to proceed.

Change current shift for me today

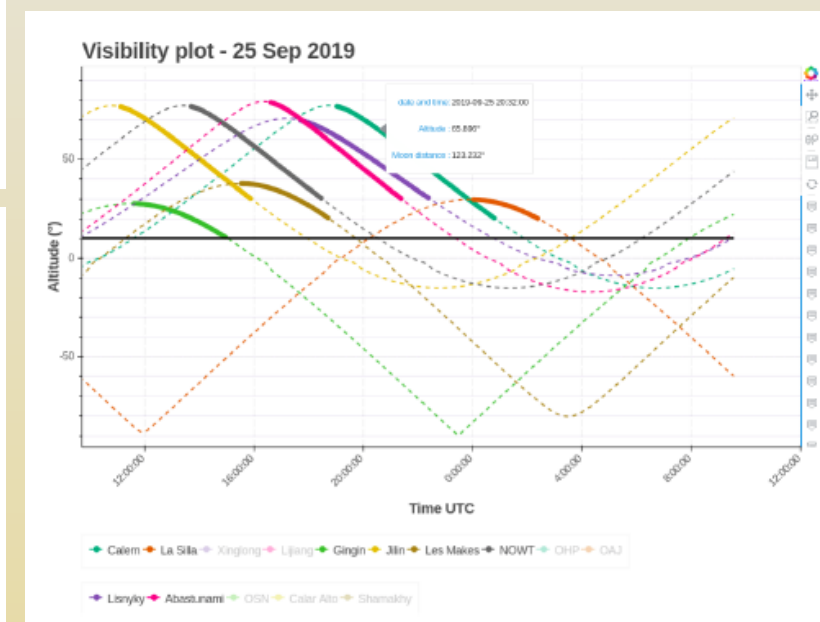
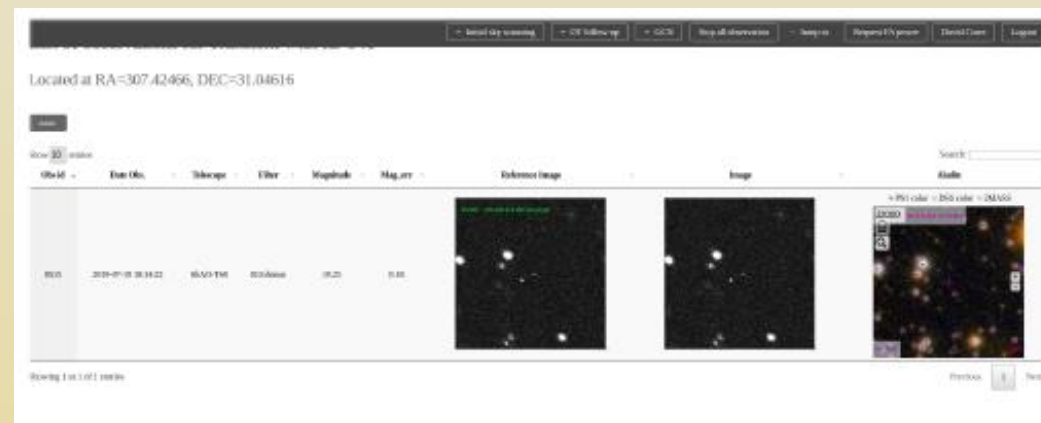
Change next shift for me today

Request the FA power

In this section, you can request in a hurry the FA power, even if you are not the FA. This is supposed to be used for emergencies, such as 'the intern hit the wrong button'. Because this is urgent, you will be directly sent to the alert pages. Remember: great powers come with great responsibilities. To be used wisely!

By the power of Greyskul

I have the FA Power



In practice...

An interface with a lot of options and abilities...

... but very difficult to use by the shifters

- Reporting observations is very uneasy
- The shifter has nearly no control of anything
- The pages are difficult to find, and we can get lost very easily

The main reason is a poor design of the Database

- The first fix in last November turned to be a disaster
- Responsible: B. Gendre

A second reason is a lack of consideration of the feedback by users

- Implementing workaround instead of fixes

In practice...

The situation has grown up to a breaking point

- Some observations plans were not computed
- Some observations were lost

And we still had ICARE to do

- ICARE is the public release of the code for other projects using it
- It has to work, it has to be useable and customizable for “any” project
- Totally impossible with the current implementation

In late November, it was decided:

- To leave the current interface lives its life until a complete audit of the code is done
- To prepare ICARE from fresh ground, with an updated database structure
- To keep the possibility at any time to apply the new ICARE to the current project

Audit of the code

It took a lot of time!

- Code version as of 10/12/2019

The code was studied from all parts

- Database, web interface, scripts, documentation, everything was checked
- It took more than 1 month!

Results:

- **Documentation**: useless in most of its aspects, except if you know what you want to do.
- **Database**: not adapted to the goals of the interface
- **Scripts**: most of them are not documented or commented
- **Web Interface**: its customization needs a 6-month training and a good knowledge of grep to find the code to modify; its use is complex; its installation is impossible without a 6 dans-black belt of Apache managing.

Decisions taken

The current GRANDMA interface

- The end of the run O3 is now in 2 months
- The modifications of the database will need more than 2 months of corrections
- The current interface will stay as it with only punctual modifications when appropriate

The ICARE project

- Will use the new database
- Several tools have to be modified
- It will fit better non-GW events, such as neutrinos, high energy particles, GRBs...
- The release of ICARE will be incremental, with the first version by July
- All the settings for a Grandma II collaboration will be ready by then

So, now, ICARE

Houston, we found the latex2pdf command!

- A large part of January was devoted to some basic documentation
- A lot of jargon has been explicated.
- This is not finished, this is a long process

Houston, we have also found the users!

- ICARE is there to allow the shifters to coordinate the observations
- Example: creation of scripts to enter into the DB the content of the GCNs and a button to launch it.
- Inputs from the TAROT, Zadko and Spain teams.
- Other teams are welcome to help also: send comments

The jargon

Most of the issues we had are due to a misunderstanding of what is what. These are the essential concepts:

- Observation Plan. This is one single plan made to observe an event. It does not depend on a telescope nor a revision of the error box.
- Tile: this is a shape in the sky. Nothing physical, and albeit linked to some field of view parameters, is independent of a telescope
- Observation: this is an image of the sky. Can be linked (or not) to a tile, but is linked to an Observation Plan (by definition).

Obvious consequences:

- It is now possible to update an observation plan, and not to reset everything
- It is now possible to re-assign an observation request if a telescope is not operational
- The FA now has a real coordination role to play, requesting the updates and the observations

Install and configuration

It is a small step for a coder, but a huge leap forward for the users!

- There is now instructions to install and configure ICARE
- There is an installation procedure using your browser
- There is a check page to be sure everything is OK

Except two files with the path to the executables and the passwords, everything is stored into the database

Consequences:

- A modification of any setting is done via several webpages on the administration part
- All scripts which were using configuration files will need to use now the database
- A good practice consequence: you do not modify the database to fit your tool, you modify your tool to fit the database!

What is going next

I will show you a demo

- Remember that this is not finished, we still have a lot to do
- I will also explain the “new” structure of the repository, and what we should distribute.

The questions are allowed, the discussion also, but please once I have finished.

- Because of the lack of slides, I may go back if I’ve forgotten something

Last, I put my feet into the shoes of a lambda user or a new project leader, so do not argue that “yes, but we know it should be like this despite that”. A new project may need something different, I’ve tried to think about all possible cases.