



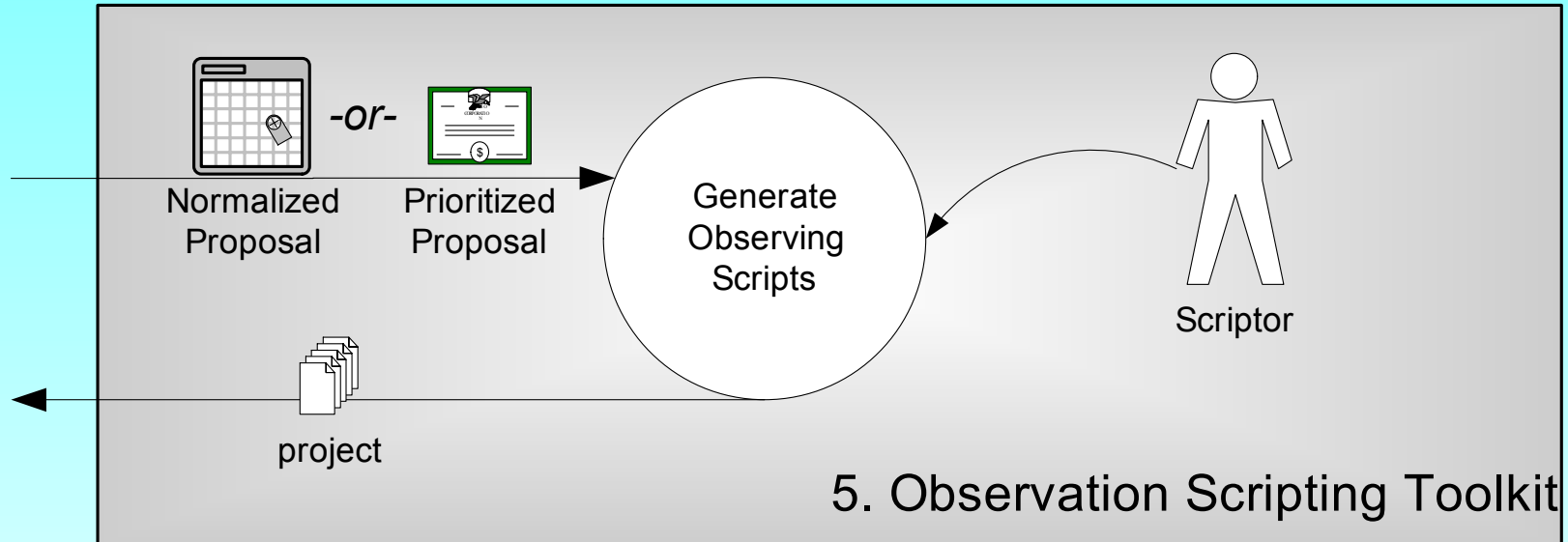
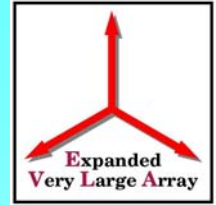
EVLA Data Processing PDR

Telescope Scripting

Boyd Waters, NRAO



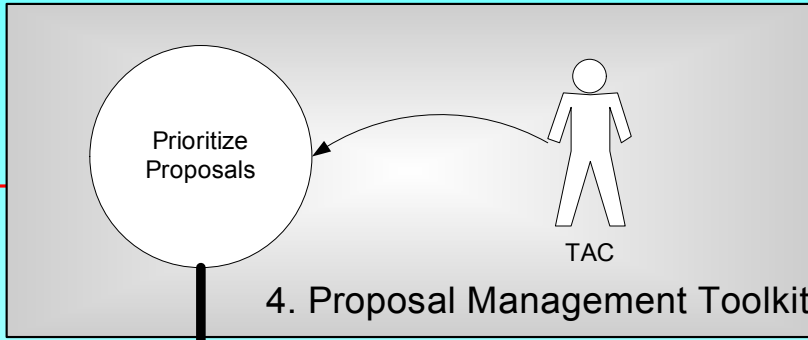
The Observation Scripting Toolkit



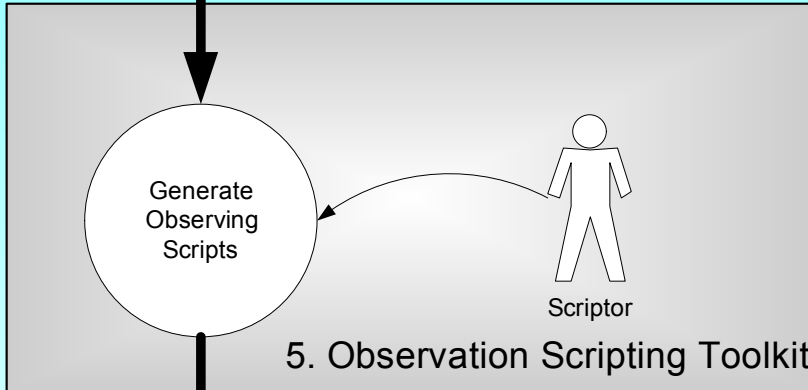
Scripting Context



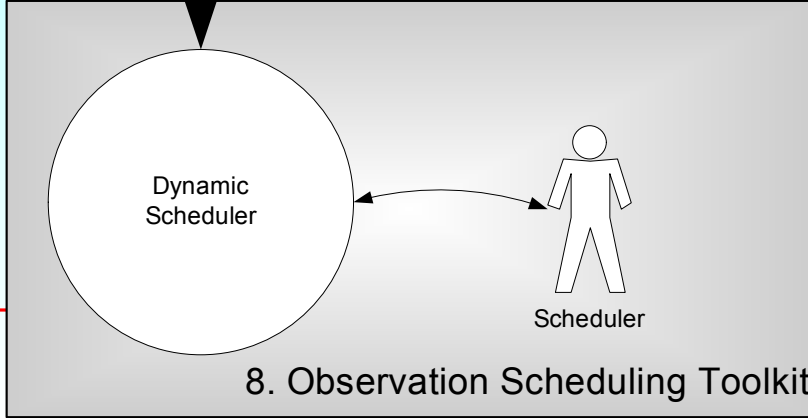
Intentional Proposal

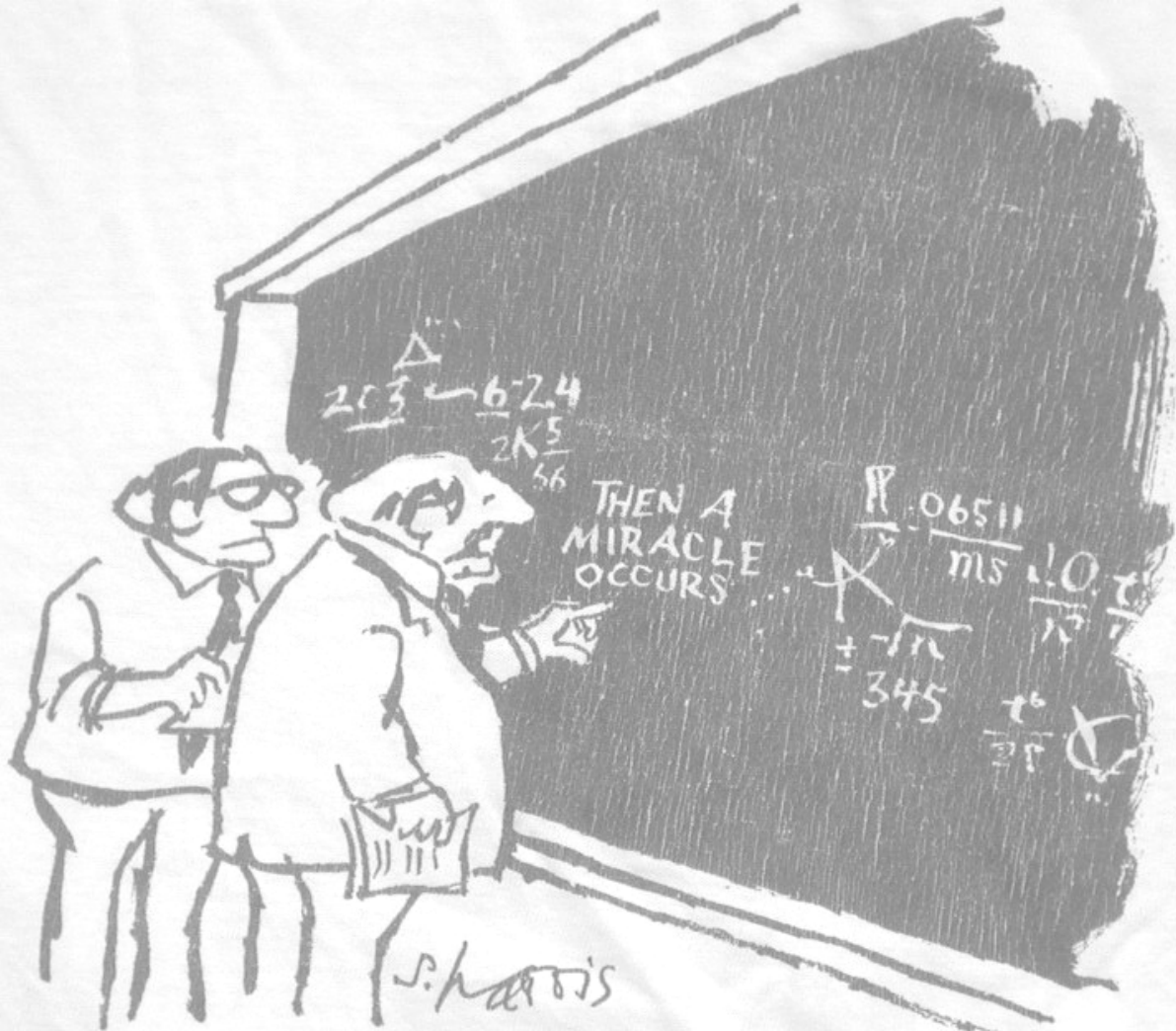


Prioritized Proposal



project





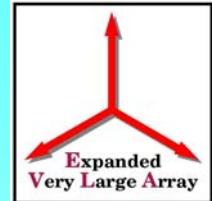
"I THINK YOU SHOULD BE MORE EXPLICIT
HERE IN STEP TWO."

©1995 COTTON EXPRESSIONS



Starview II (STScI)

JIPA (ST-ECF)



1. User selects Dataset(s).

Custom Results View

wp2_data_set_name	wp2_date	wp2_exptime
U2-50 C1T	1999-02..	1000
U2-50 C2I	1999-02..	1000
U2-50 C3I	1999-12..	1000
U2-50 C4I	1999-12..	1000
U2-50 C5T	1999-02..	1000
U2-50 C6I	1999-02..	1000
U2-50 C7T	1999-12..	1000
U2-50 C8T	1999-12..	1000
U2-50 C9T	1999-12..	1000
U2-50 C6I	1999-12..	1000

wp2_ra targ
wp2_dec targ

Quality Begin Search Field

Export Preview Help

2. Enable Preview

Quality

wp2_data_set_name U2-50

Begin Search Resolve Target

Quality

wp2_data_set_name U2-50C6

wp2_date 1999-02..

wp2_exptime 1000

wp2_ra targ 307.97

wp2_dec targ -29.72

Begin Search Resolve Target

4. SVII implements Interface Class incl. Method to push back RA and Dec at Mouse Location.

JIPA V1.2

File Tools

U2-50C6 1999-02-12 07:11 Dec-15:45:05... 1000

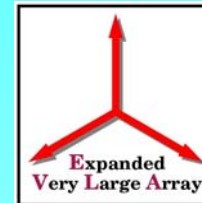
Image 1000x1000 1000 x 1000

3. JIPA 'observes' currently selected Dataset and loads FITS Image when Preview Button is pressed.

Markus Dolensky, Bruce Mayhew, Bridget Kennedy
<http://rai.astro.uiuc.edu/adass98/Proceedings/dolenskym/>



Scientific Requirements



Ident.	Pri.	Description
5.1.1	0	Describe observations with NRAO telescopes
5.1.2	1	Provide one interface for all NRAO telescopes
5.1.2	1	Text-based, human-readable, and human-editable format
5.1.3	1	Graphical user interface for novices
5.1.4	2	Expert mode for experts
5.1.5	0	Verify observing scripts for correctness
5.1.6	1	Check observing scripts for minimum standards (<i>e.g.</i> minimum time on source)
5.2.1	0	Allow specification of a range of criteria for scheduling
5.2.2	0	Allow specification of pipeline processing
5.2.3	0	Allow use of default or user-defined observing procedures
5.2.4	0	Allow use of default or user-defined observing setups
5.2.5	0	Allow use of default or user-defined processing procedures
5.3.1	0	Allow use of information from existing NRAO catalogs and images
5.3.2	1	Allow use of existing non-NRAO catalogs and images



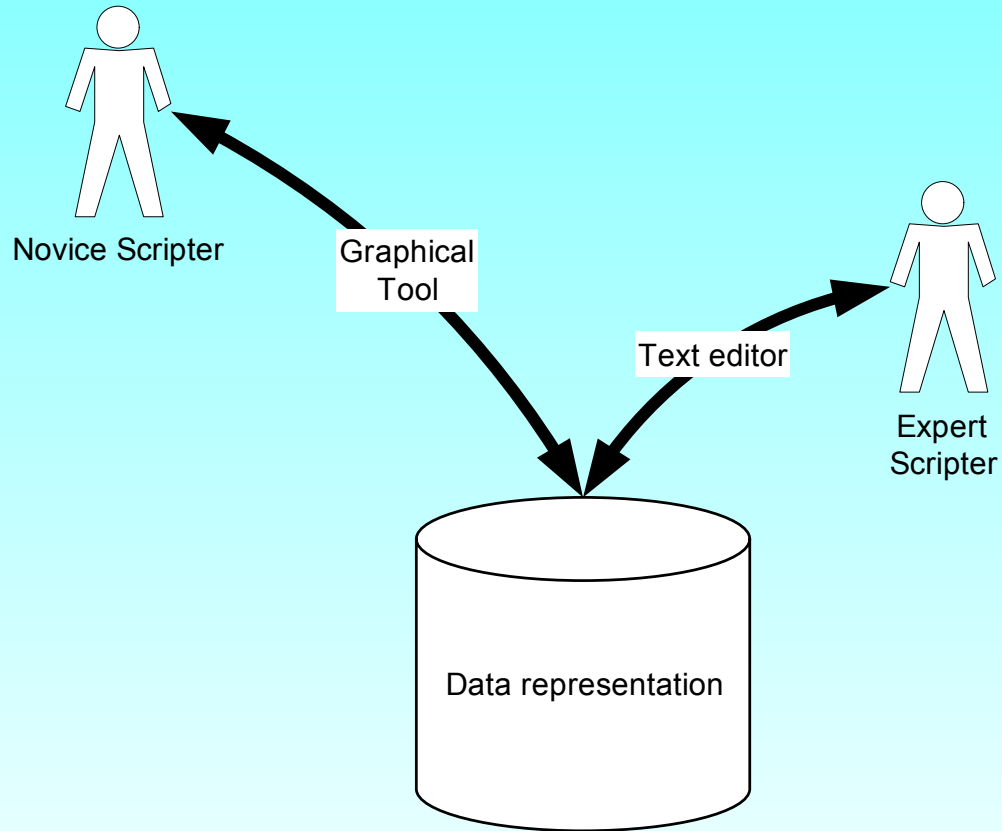
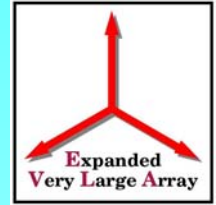
Scientific Requirements II



- Text-based, human-readable, and human-editable format
- Graphical user interface for novices
- Expert mode for experts



Model-View-Controller





GBT Observe - Main Screen

Observer's Name	Bill Smith
Project ID	test
Glish Log File	gbt_glish_log
Observing Type	Receiver (GHz)
Pulsar Timing (SP)	0.51 - 0.69

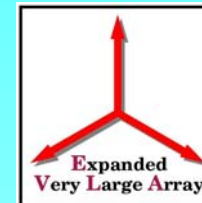
Pulsar Timing Spectral Processor Setup		
Configuration	Bandwidth	Balance
4x256 IFxCh	10 MHz	Yes
Pulse Coef. File	polyco.dat	
Source Name	3C286	
Integration Time	1	seconds
Pulse Period	1	seconds
Disp. Measure	50	parsecs/cm ³
No. Time Bins	128	
Actual Time Bins	128	
Center Frequency	1420	MHz

Other Panels	Observing Procedure >>>
Backends, etc.	Track

UTC	20:59:23	LST	11:53:30
Start Time	ASAP	20:59:23	
UT Date	7/25/98	MJD	51019
Time left in scan	10		

Status	Ready	Scan No.	0
Coord Mode or Solar System Object	J2000		

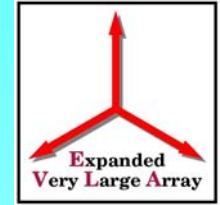
Procedure: Track	
R. A.	00:00:00.00 HH:MM:SS.SS
Dec.	-00:00:00.0 sDD:MM:SS.S
R. A. Rate	30 arcmin/min
Dec. Rate	30 arcmin/min
Duration	10 seconds
Repeats	1
secant(dec)	Yes
Record Data?	Yes
Start	



- http://www.gb.nrao.edu/~rfisher/Glish/gbt_obs_intro.html



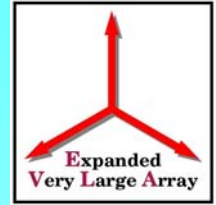
GBT Observe: Observing Table



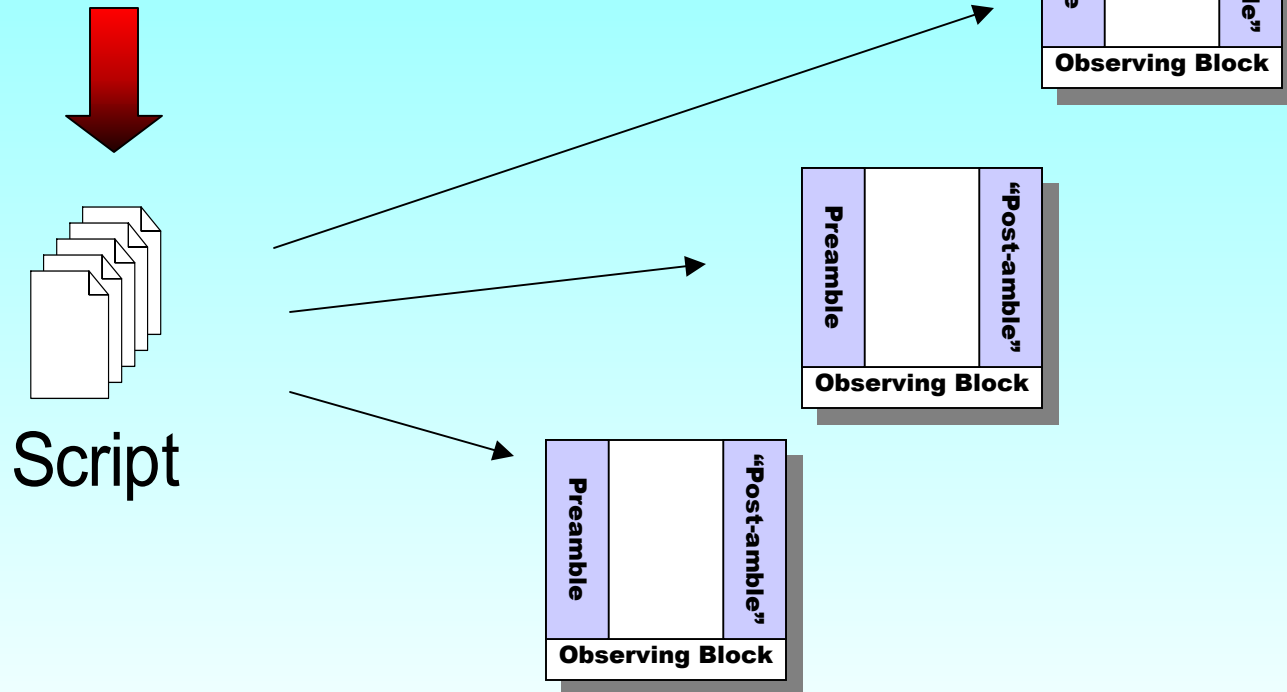
Header	sourcename	ra	dec	velocity	bandwidth	procedure
	3C286	28:49.7	30:46:02	500	10	cross
	M82N	51:36.0	70:05:00	500	10	ralongmap
	M82	51:42.0	69:56:00	500	5	declatmap
	M81	51:30.0	69:18:00	400	5	ralongmap
	M81S	51:30.0	69:05:00	400	10	ralongmap
	3C286	28:49.7	30:46:02	400	10	cross



Table → Scripts → Blocks

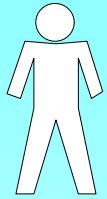
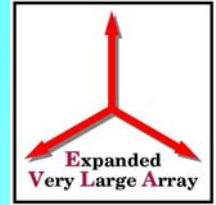


Header	sourcename	ra	dec	velocity	bandwidth	procedure
	3C286	28:49.7	30:46:02	500	10	cross
	M82N	51:36.0	70:05:00	500	10	ralongmap
	M82	51:42.0	69:56:00	500	5	declatmap
	M81	51:30.0	69:18:00	400	5	ralongmap
	M81S	51:30.0	69:05:00	400	10	ralongmap
	3C286	28:49.7	30:46:02	400	10	cross





Implementation Details I



Scriptor



Intentional
Proposal



Prioritized
Proposal

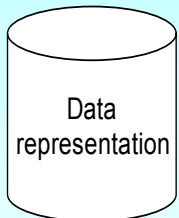


project



Queue

Real-time



Data
representation

XML

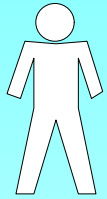
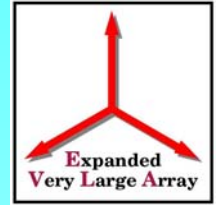
XML

**Observing
Table**

**Glish
Script**



Implementation Details II



Scriptor



Intentional Proposal



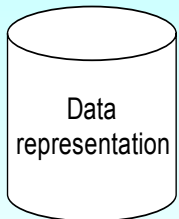
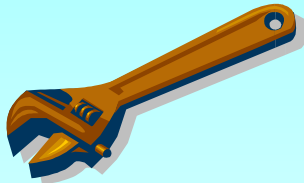
Prioritized Proposal



project



Queue



Data representation

XML

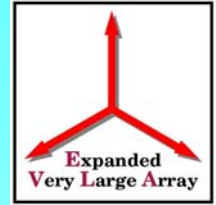
XML

Observing Table

Glish Script



Conclusions



-
- Keep it simple, stupid!