Gemini Observatory

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Gemini Observatory

Two 8.1m telescopes: Chile (lat~−30°) and Hawai'i (lat~+20°)

Each has 4 instruments + AO + changing suite of visitor instruments

Partnership of 5 countries (US, CA, BR, AR, CL)

Additional participants include UH and KR

Time sharing agreements with Subaru and CFHT communities

Each group has separate proposal deadlines and TACs

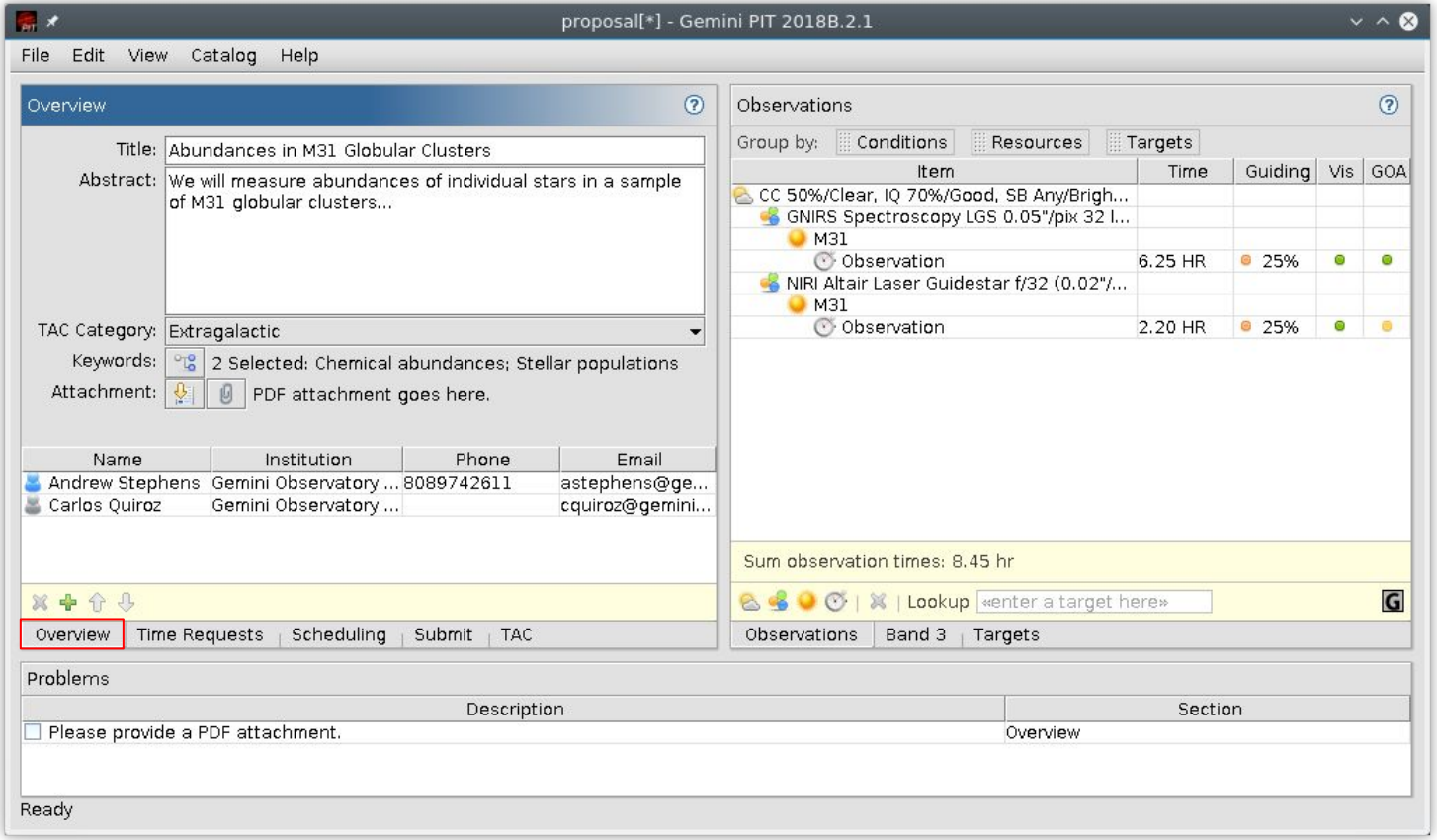
Receive ~500 proposals per semester

Accept ~140 programs per site per semester

Current Proposal Submission System

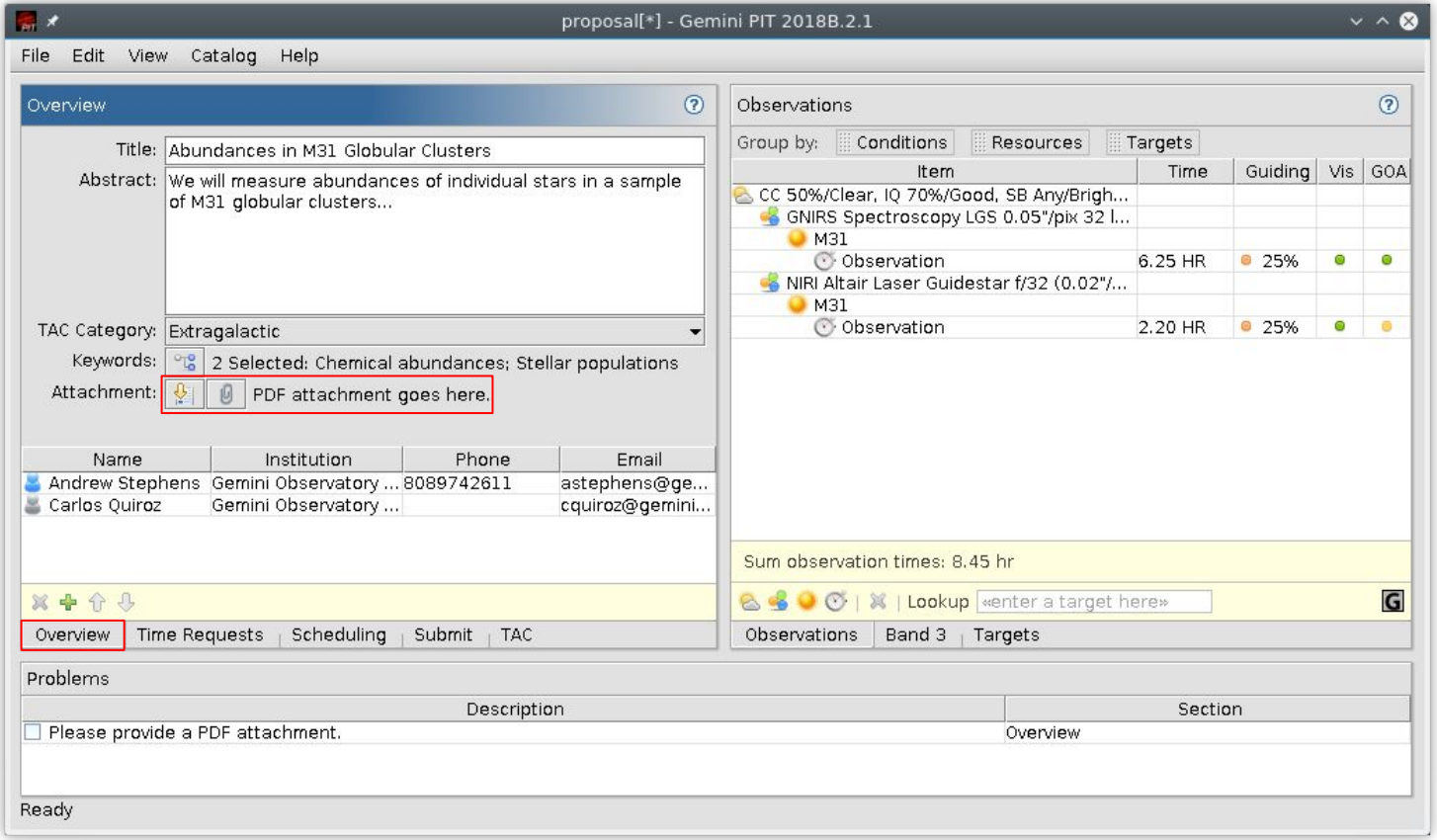
Stand-alone Java & Scala application updated every semester for instrument availability, new observing modes, and new partners

Available for Mac, Linux, and Windows



Current Proposal Submission System

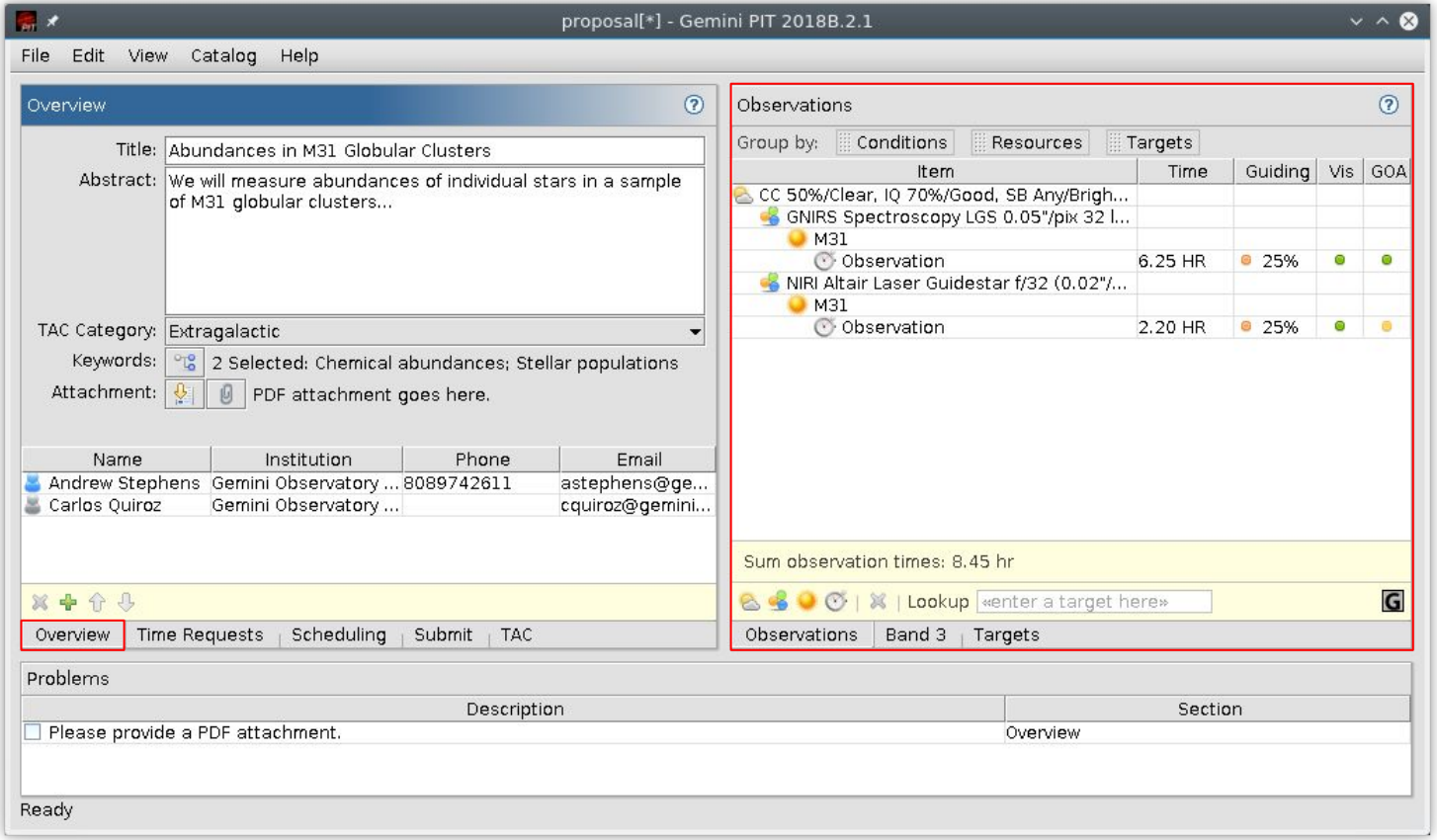
PIs attach PDF with the Scientific Justification, Experimental Design, Technical Description, etc. using LaTeX or Word templates



Current Proposal Submission System

PIs create pseudo-observations including the required conditions, instrument configuration, target information, and observation duration.

Checks the availability of guide stars, target visibility during the semester, and whether there are duplicate datasets in the Gemini Archive.

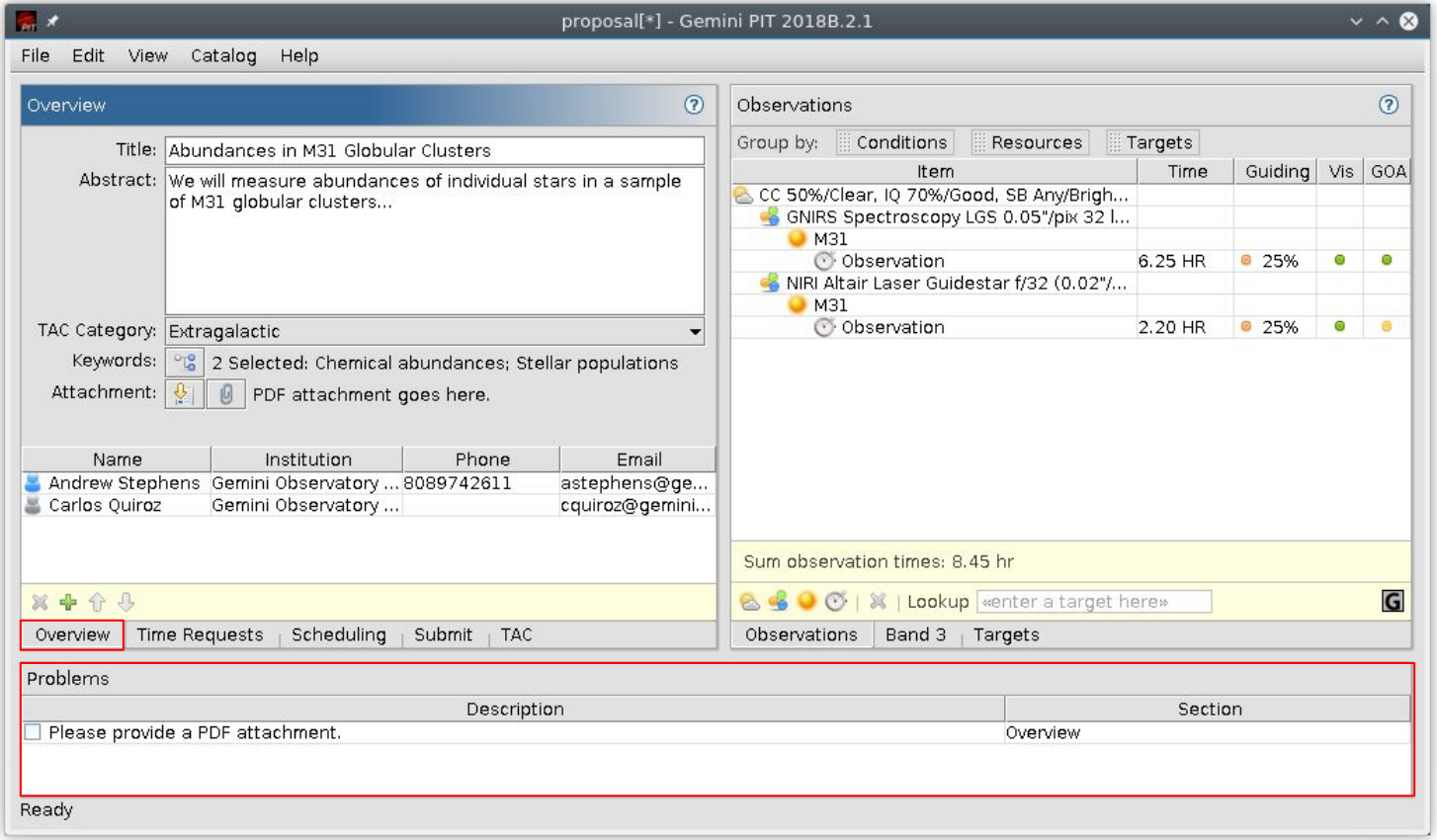


Current Proposal Submission System

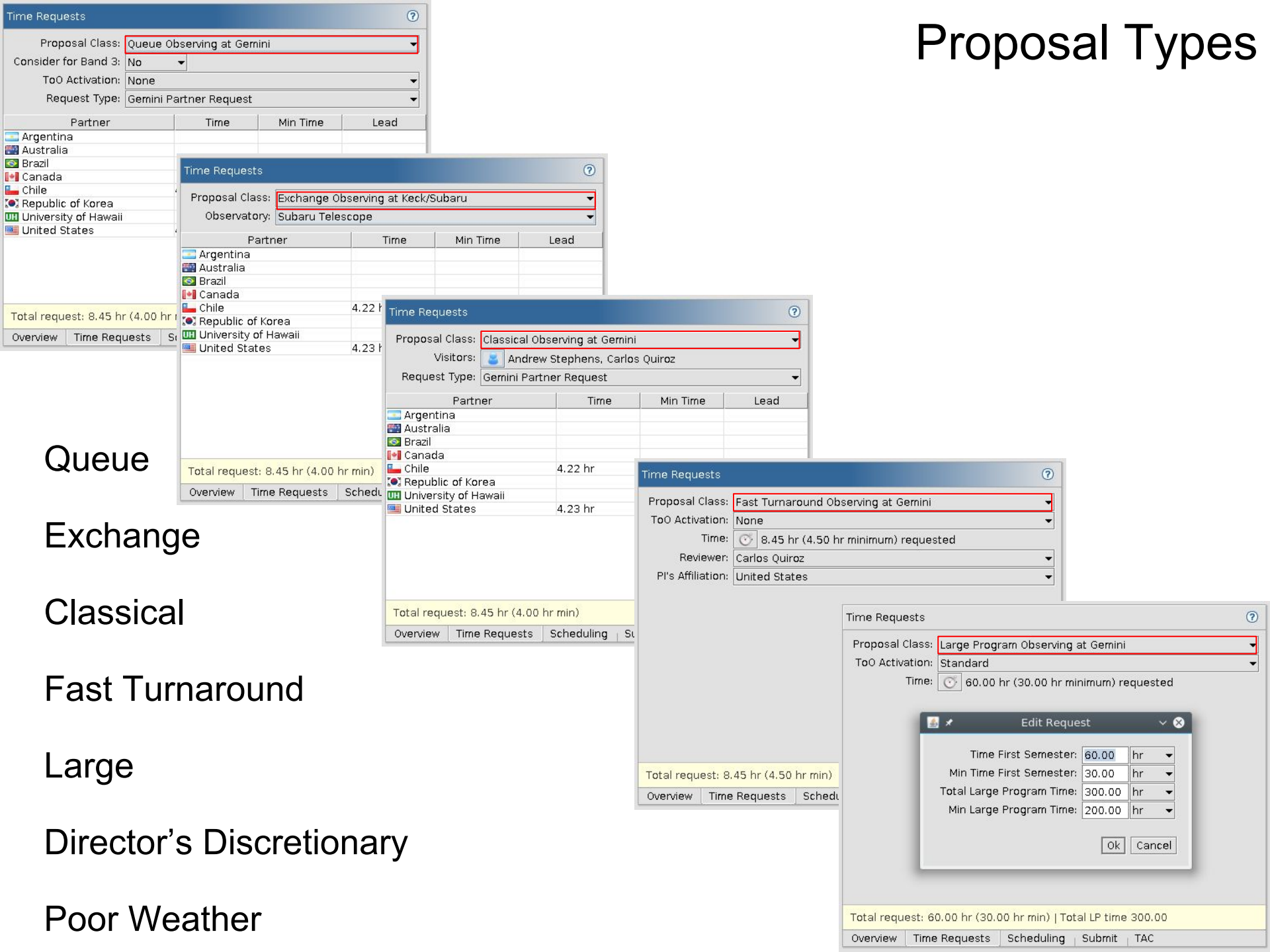
Problems section lists issues that must be resolved before submission

Clicking on a problem takes the user to the relevant section

Abstract is publicly available for successful programs



Proposal Types



Queue

Exchange

Classical

Fast Turnaround

Large

Director's Discretionary

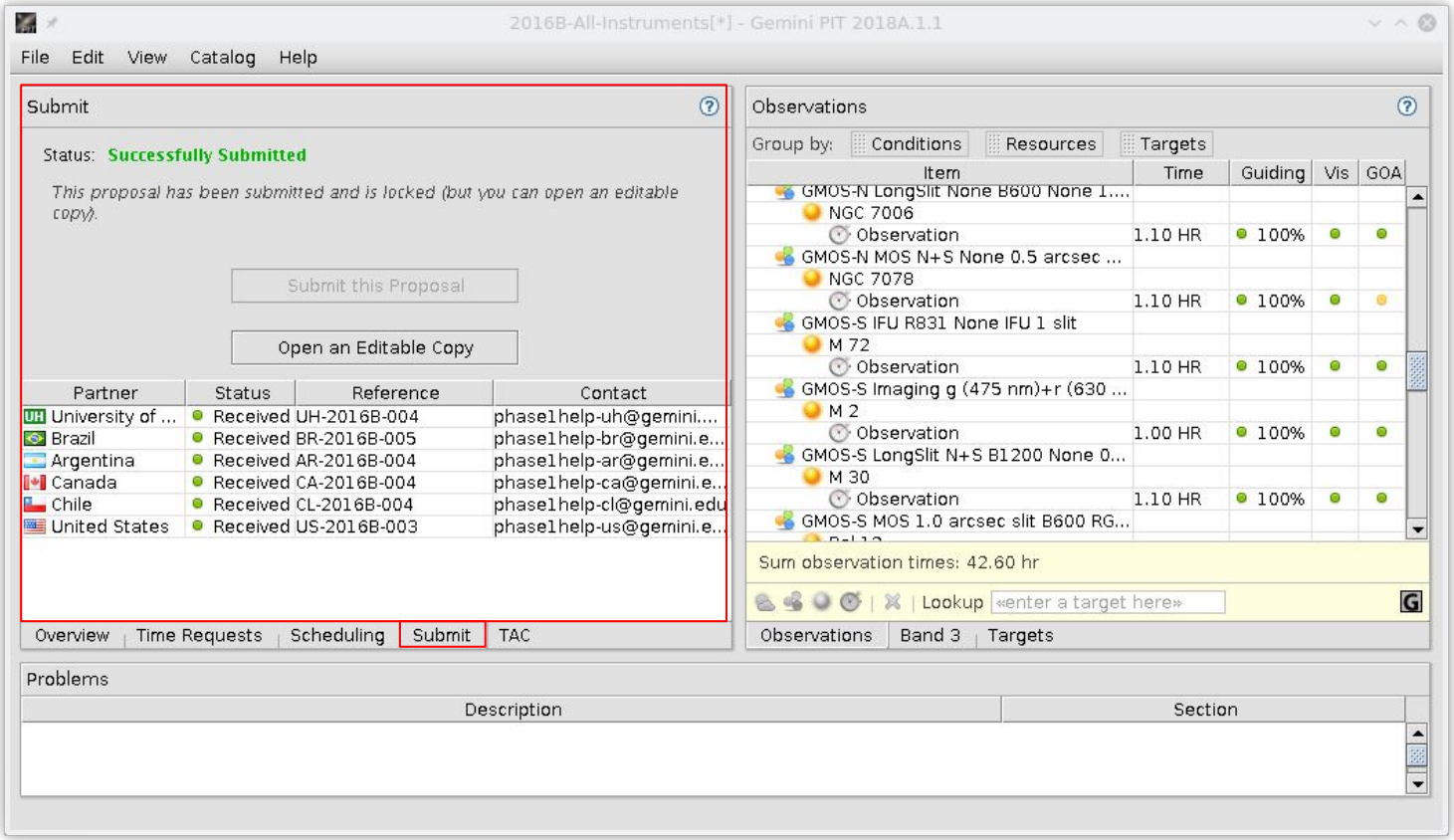
Poor Weather

Proposal Submission

"Joint" proposals are submitted to each partner's server (hosted at Gemini)

Display reference ID for each pertner

Submitted proposals become uneditable



Phase-1 Backends

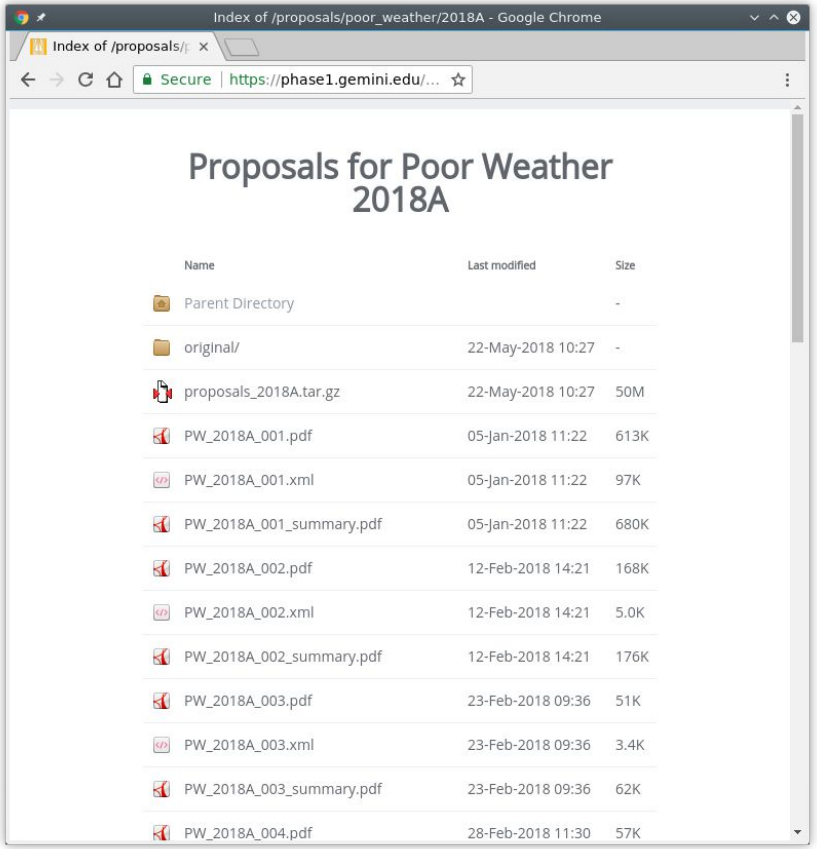
Separate backend for each partner

Backend does basic validation, assigns each proposal a unique id, and optionally sends an email to the Partner

Creates a tarball of all proposals to facilitate download

Simple UI allows partners to monitor backend

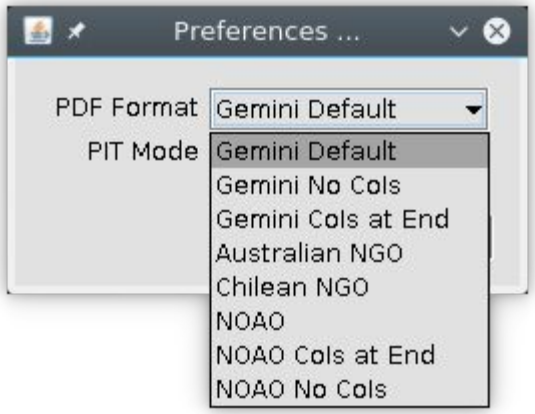
Use Apache's Basic Authentication to allow each partner to access their backend



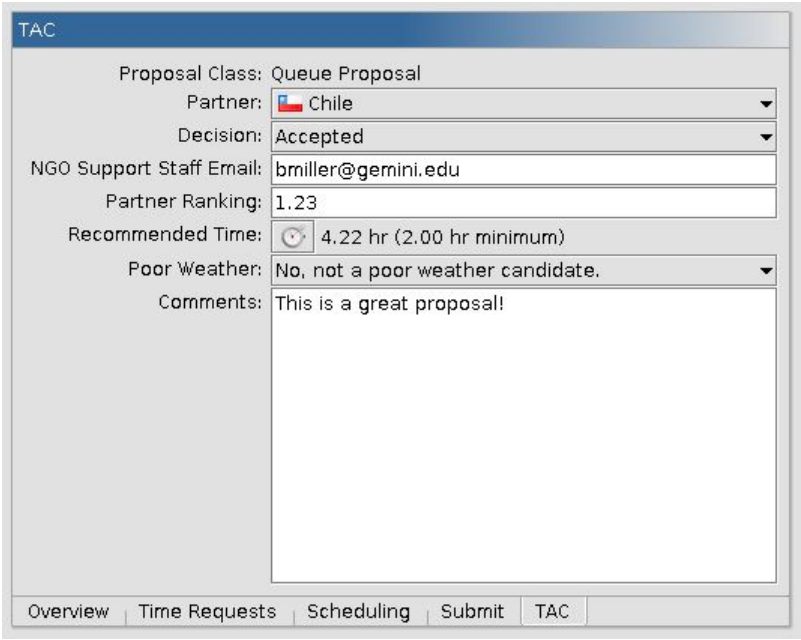
PDF Generation & TAC Feedback

Generate PDF summaries for TACs

Partners choose PDF format



TACs enter raking, time award, and feedback for PIs



Fast Turnaround

FT allows rapid conversion of ideas into data

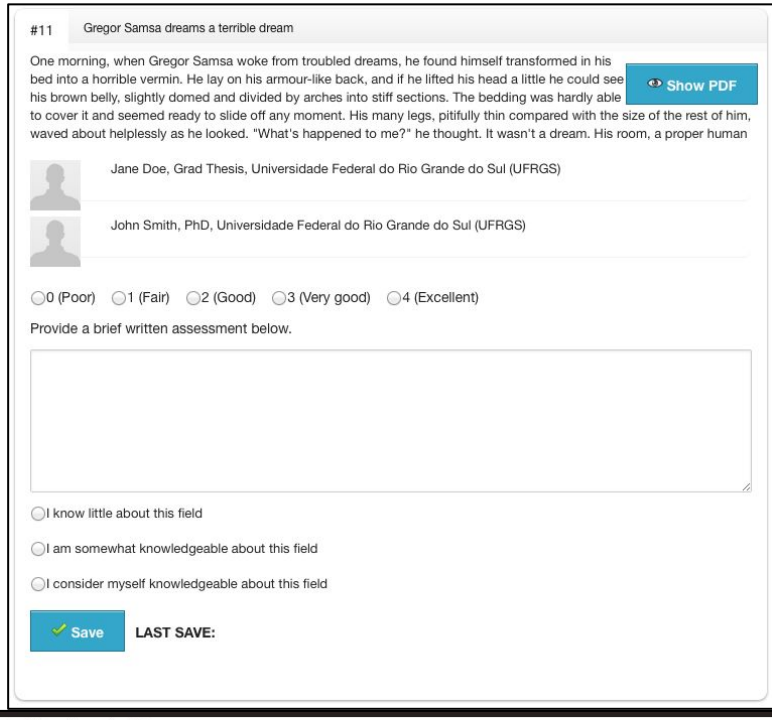
Monthly deadline

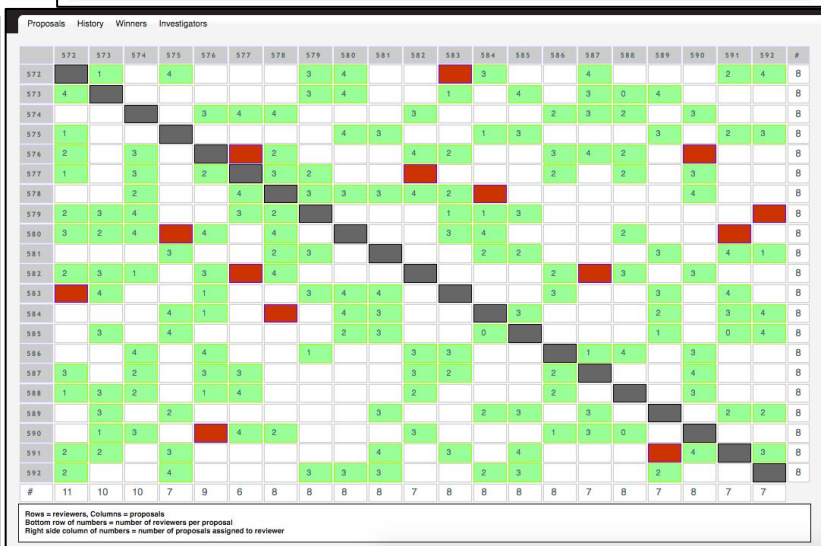
Data in 1-4 months after proposal deadline

Reviewed online by other proposers

Failure to review results in proposal removal

~15% of Gemini proposals are FT



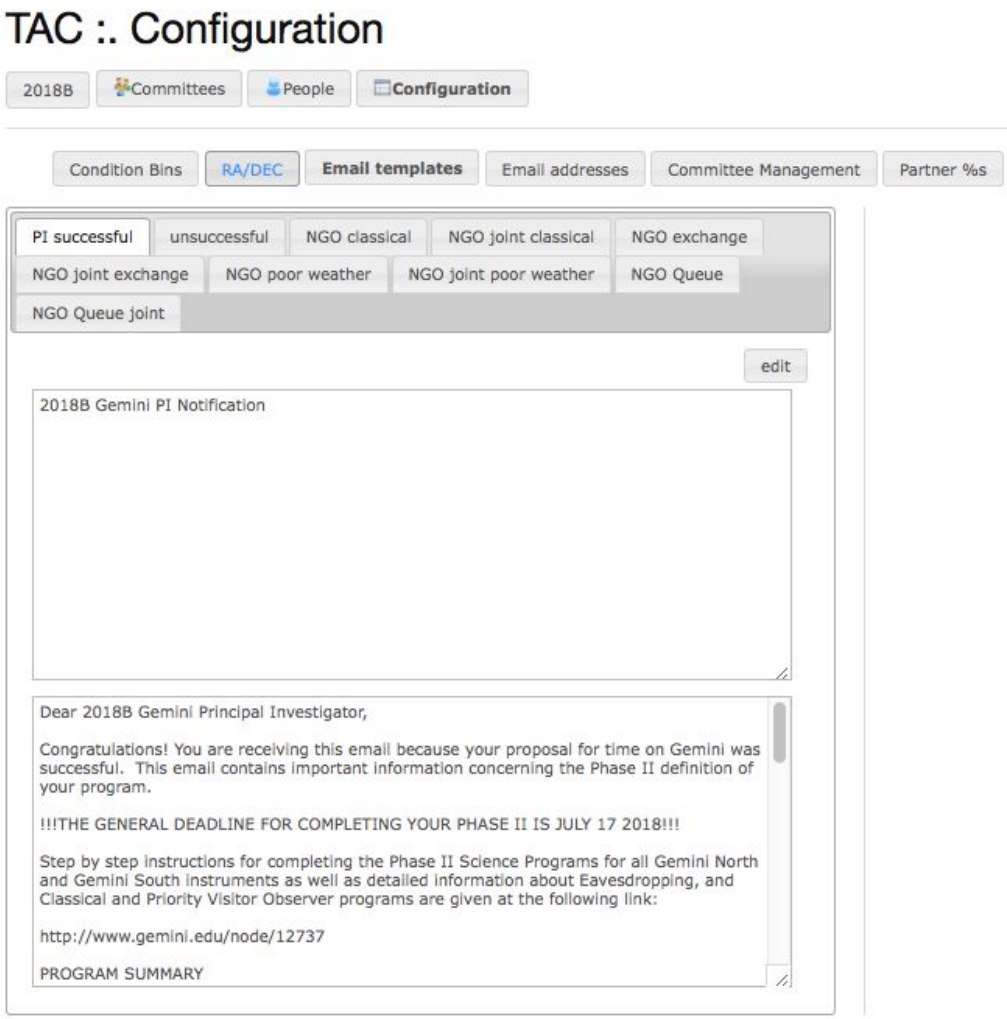


ITAC

Proposals are reviewed by partner TACs and then merged by the ITAC

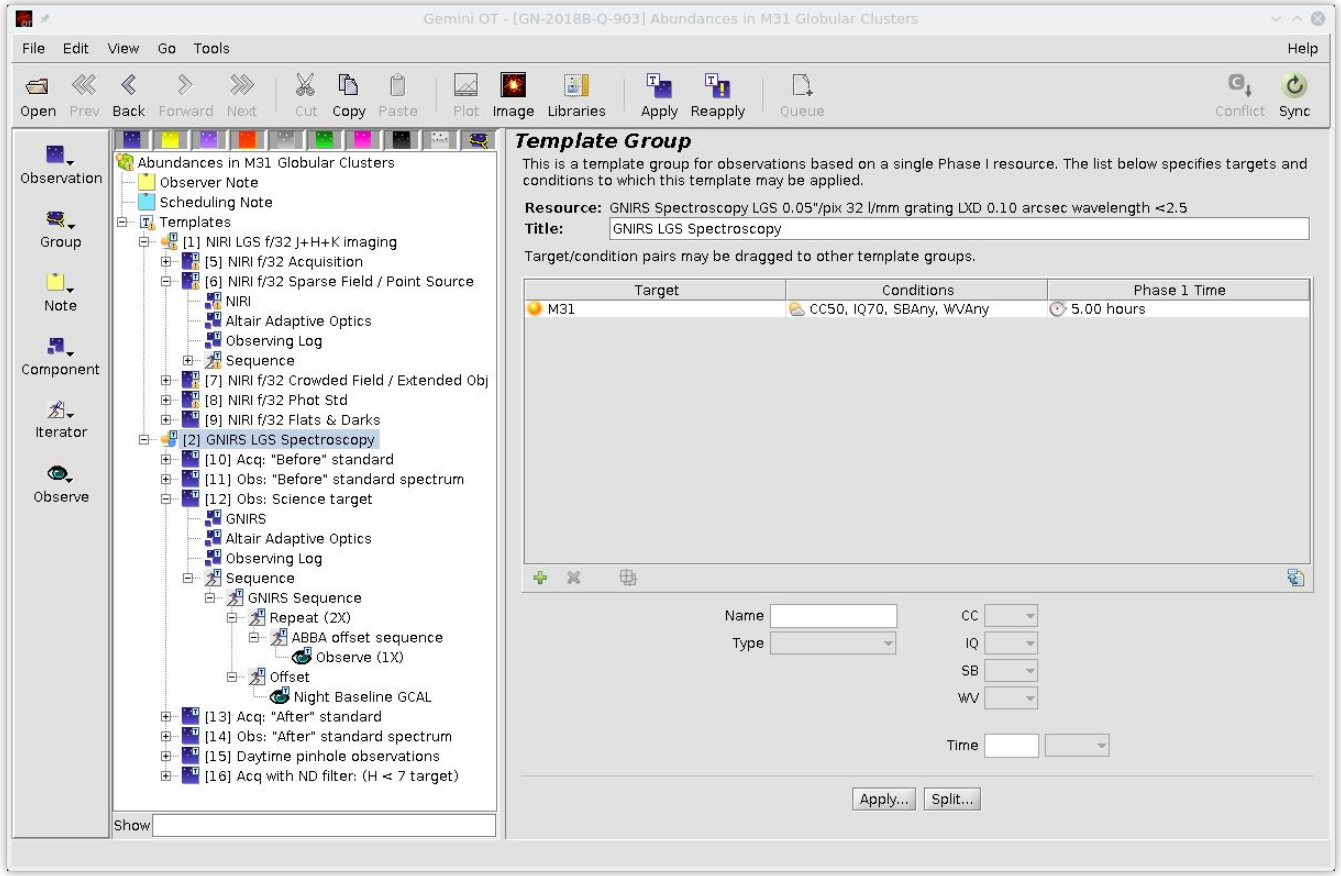
ITAC SW stores all proposals on a postgres db

ITAC engine builds the optimal queue based on partner ranking of each proposal, total time available to each partner, time available in each observing constraint bin, and the time available in each RA bin



Programs get template observations based on Phase I details

PIs may customize the templates and apply them to their approved target list to generate executable observations



Problems & Issues

PIs must download a new PIT every semester

PI confusion about which PIT version to use for out-of-cycle proposals

No observation visualization (some PIs use the Phase II tool)

No way to modify a submitted proposal (leads to duplicate submissions)

No confirmation emails (which PIs have grown to expect)

Future Plans: General

Gemini has started a project to rewrite / reimagine our proposal and observation preparation tools.

Rethink the purpose and UI from first principles

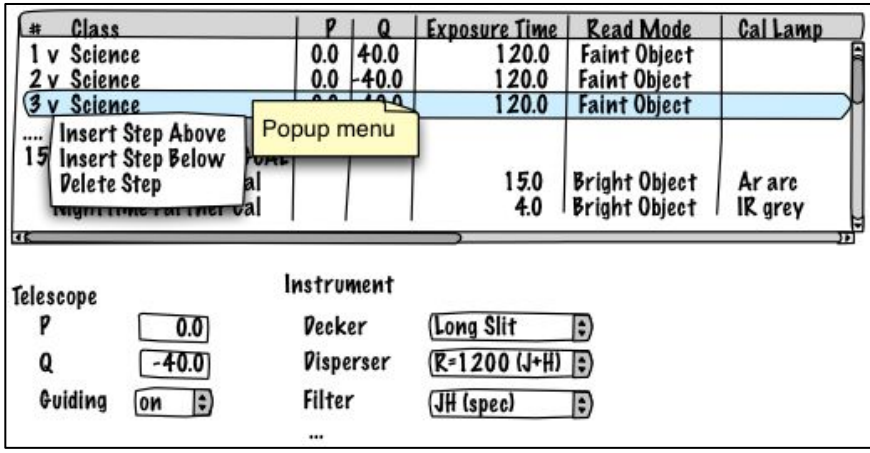
Make code more scalable and maintainable

Common software models and UI elements

Postgres database

APIs to access database and services

Web-based applications



UI mockup of new sequence model editor

Future Plans: Proposal Tool

Improve Phase I → II transition, propagating all Phase I information to the Phase II observations

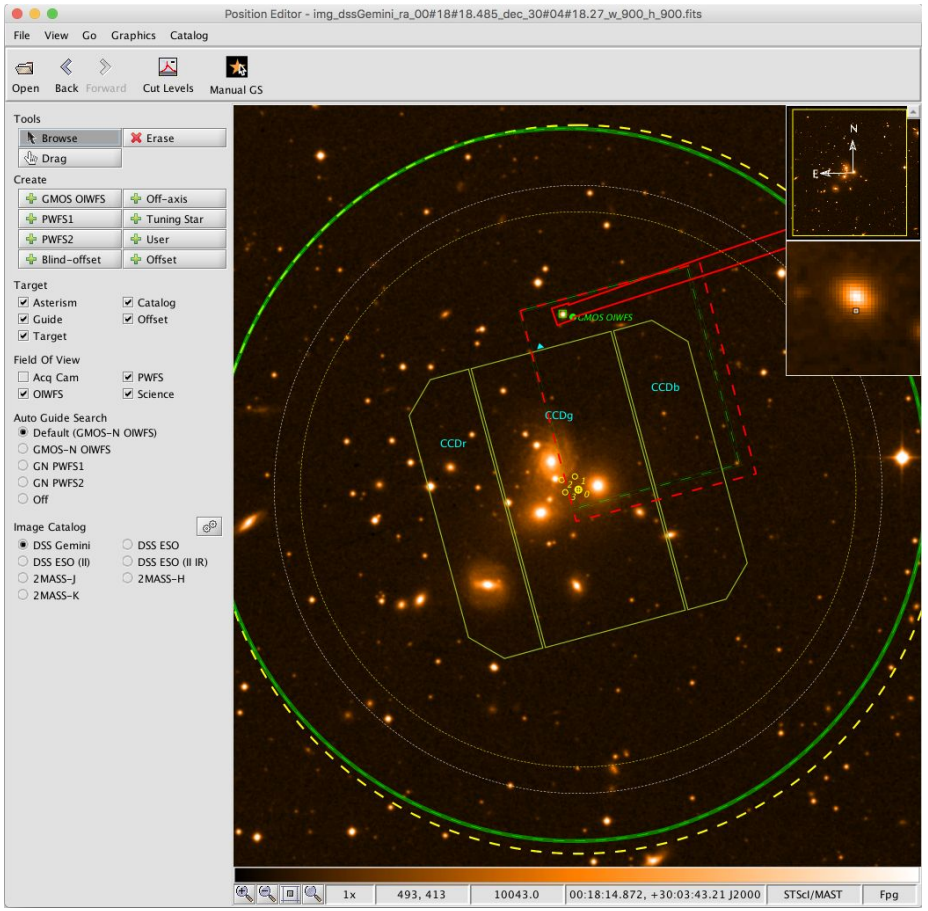
Visualize observations using survey images

Incorporate Integration Time Calculators

Allow Partners to control when proposals are accepted

Allow PIs to modify and re-submit proposals

PI email confirmations



NCOA

Gemini Observatory will be joining with the National Optical Astronomy Observatory (NOAO) and the Large Synoptic Survey Telescope (LSST) to form a single administrative organization called the National Center for Optical-Infrared Astronomy (NCOA). We are in the process of evaluating our common software needs.