Web App for KAGRA Data Diagnostic

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Remote Detector Diagnostics

- KAGRA has onsite KAGRA members to work on fixes on the telescope
- We have remote KAGRA members checking telescope data
- Necessary for off-site kagra partners to be able to analyse data from the KAGRA telescope

Current Problem

- Creating account to log into kagra server and m31 server
  - Unless you are a kagra member and have an account, you cannot access
  - Other colaborators will not know how to utilize servers well and
  - It is difficult for collaborators to look into the status of the telescope
- Necessary to use nds2 to obtain information

- The idea is to create a web app for users to input time interval (in GPS/convert to GPS) and the web app will help analyse data and display plot graphs.
- Create an interface for everyone to use

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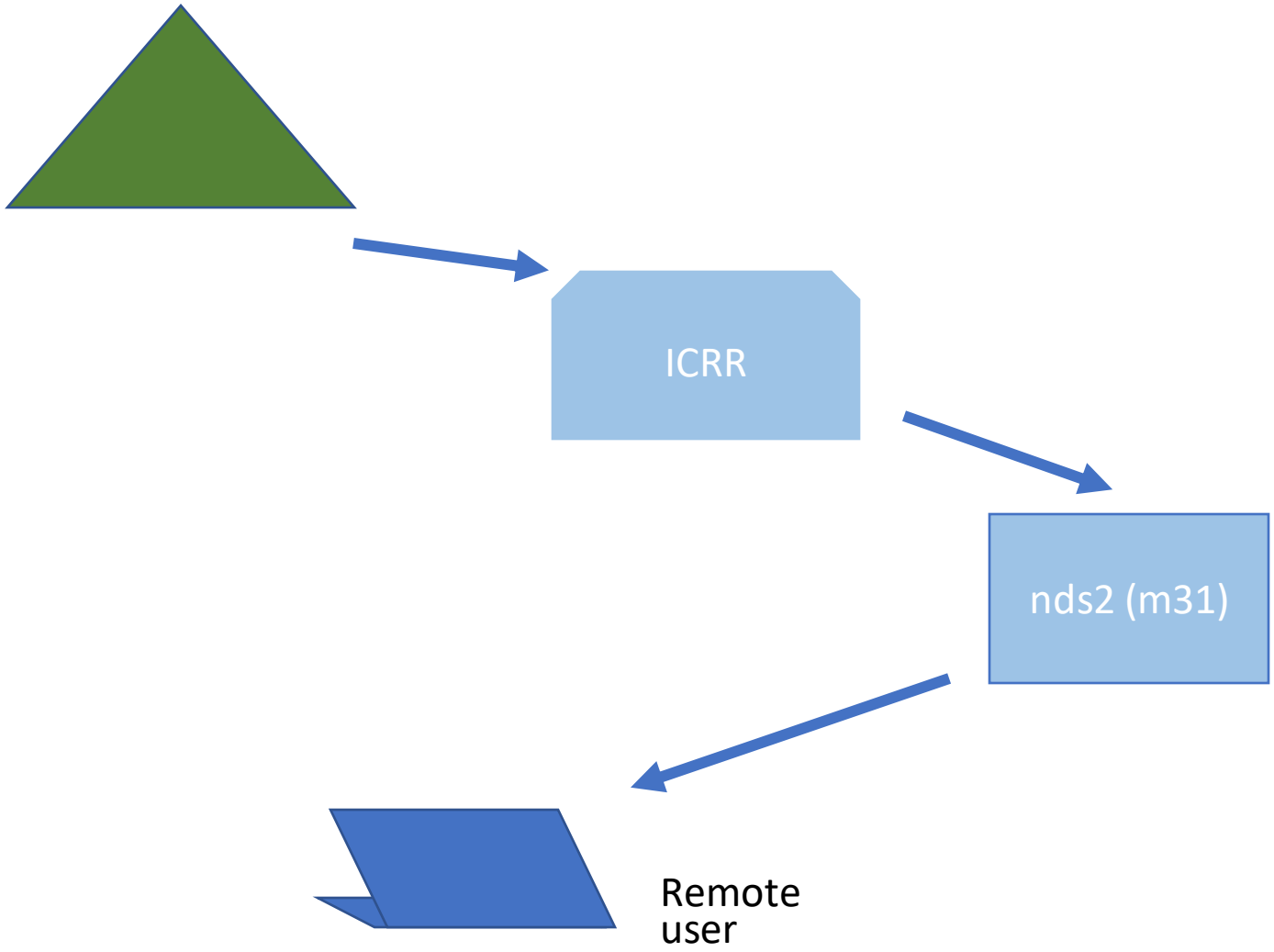
Current



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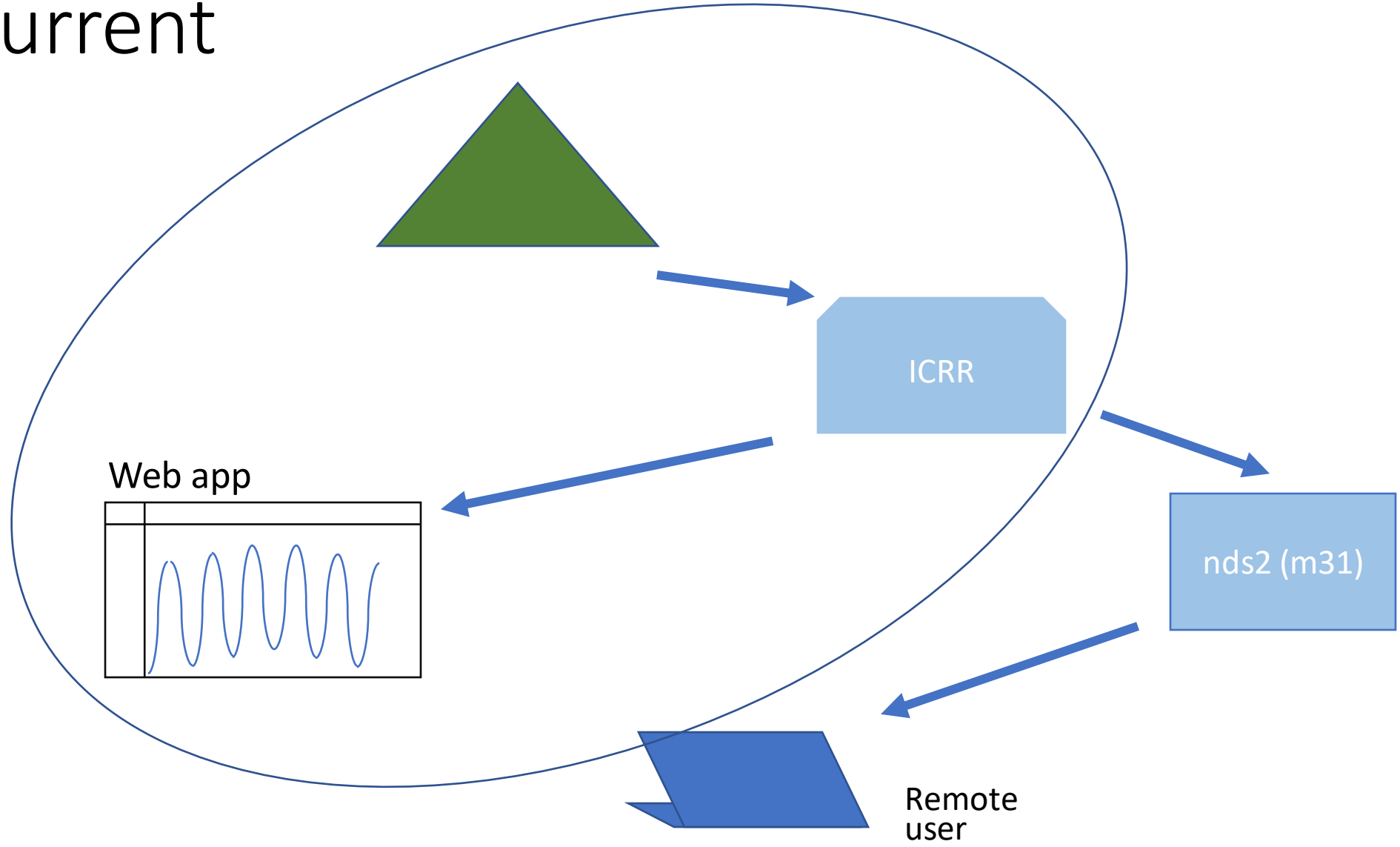
Current



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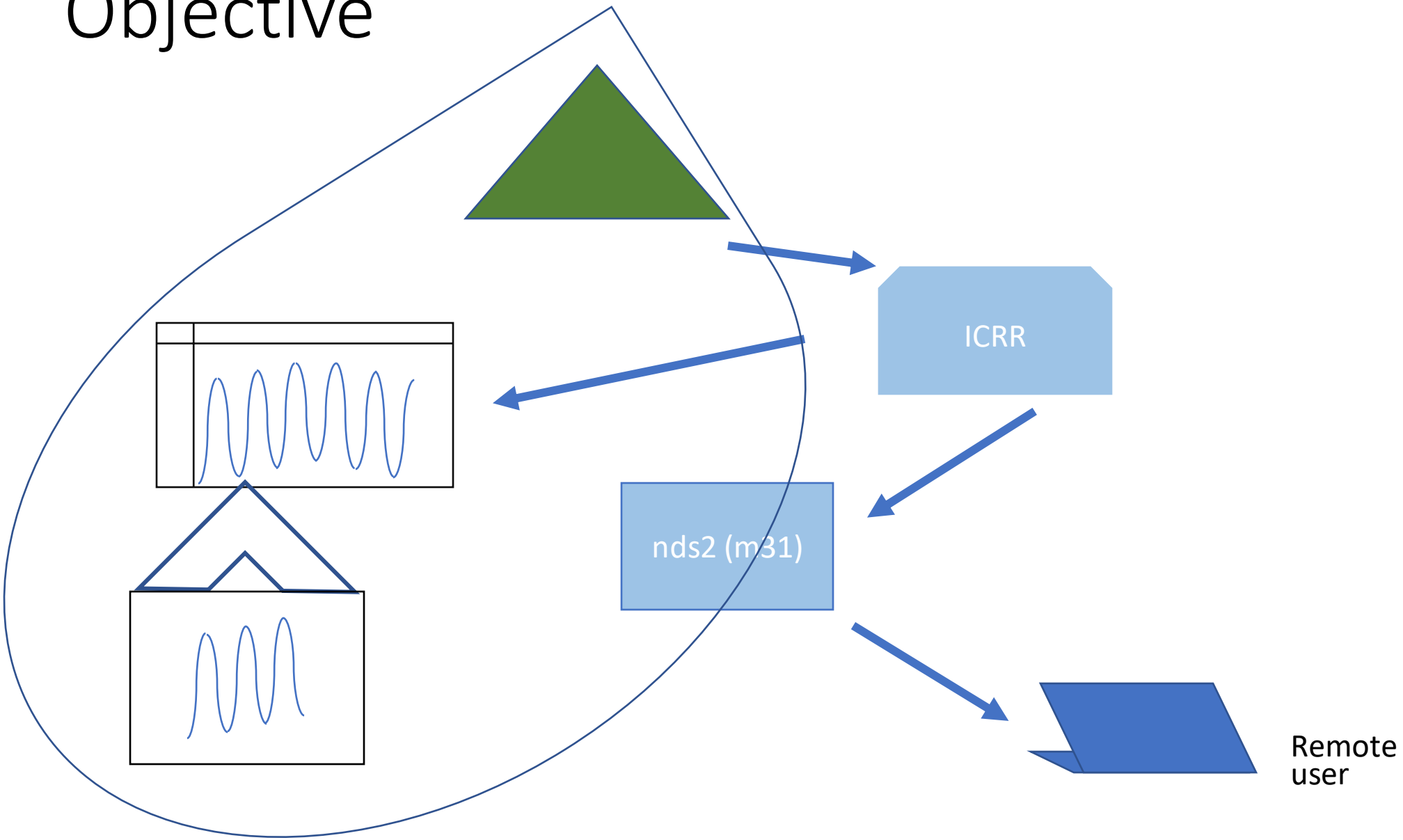
Objective



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What we need

- Dynamic Web App developing capabilities
  - access data after user input
- Graphing and analyzing data after user input of time interval
- Easy to use and access site for collaborators
  - It will not be necessary for users to download additional software/libraries

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Django

- Django is used for creating web applications.
- Django has libraries that creates forms as HTML, validates user-submitted data, and converting data to Python types
  - Meaning Django helps develop web apps with the purpose of gaining user input and using functions coded in Python.
- Django provides a way to generate forms from existing models
  - Meaning Django can utilize templates i.e. Bootstrap

docs.djangoprojects 仲村

Bootstrap

- Bootstrap is a collection of website templates and simple to edit in backend.
- Clean designs and easy to navigate.
- Compatible with Django

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Why Django

- Highly secure approach to develop web applications
  - Does not rely on third-party security
  - Information sourced from Django site and two second-party websites focused on making programming and web developing accessable
- Includes classes to update View for dynamic web app creation.

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Data Diagnostics Tool : Graphing and Analyzing Data

- Observing gravitational wave data
- Python
- Libraries utilizing
  - Gwpy
  - Nds2
  - Scipy
  - Numpy
- Currently
  - Program for Static Graphing
  - Basic layout of web app

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Goals

- Python program for data diagnostics: analyzing and graphing.
- Website that accepts user input and sends values with python program.
- Creating data into csv formatted file for downloading.

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