

SkyPortal


An Astronomical Data Platform

<https://skyportal.io>

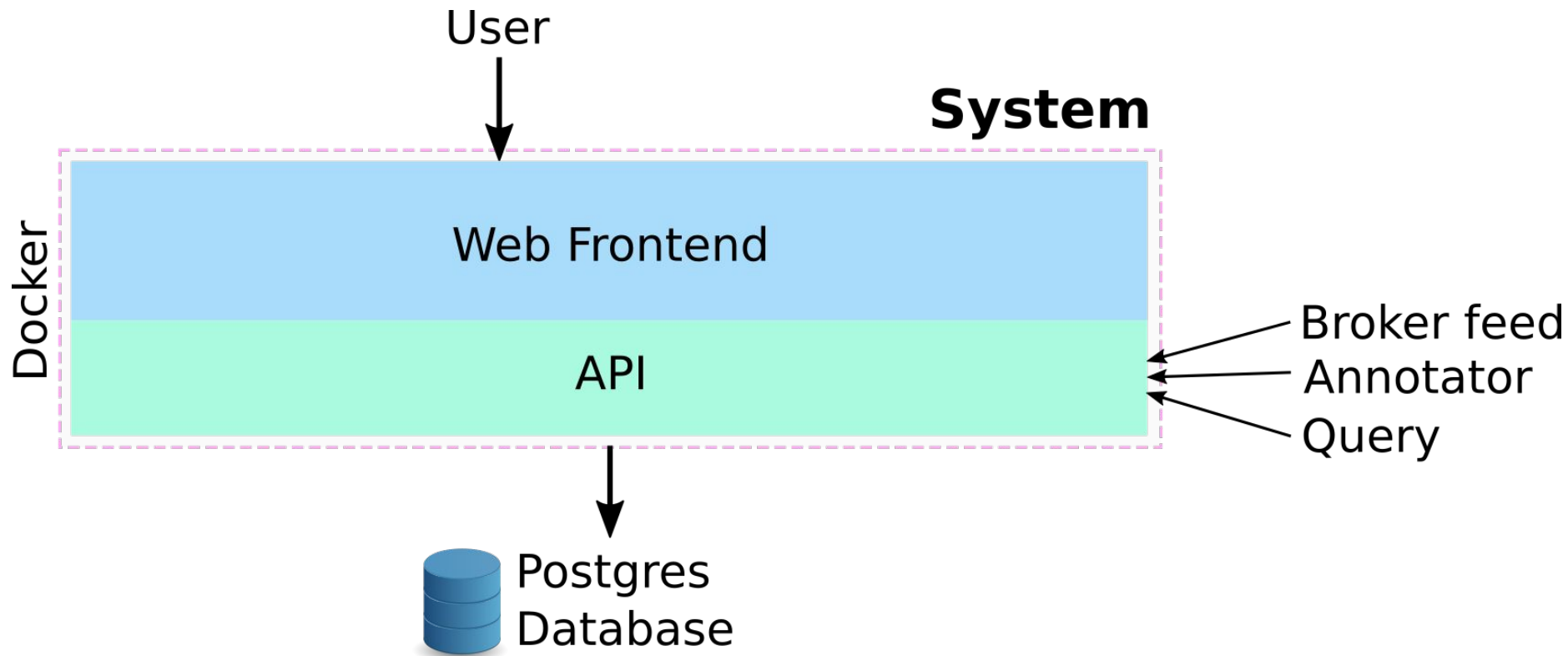
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DESC Broker Workshop, February 2019

SkyPortal vision: To build a **data portal**, inspired by the PTF marshal, that utilizes **modern web technologies**, **scales** effectively, and is highly **highly customizable** and extensible so that it can be applied to various astronomy problems related to ZTF, LSST, and other surveys.

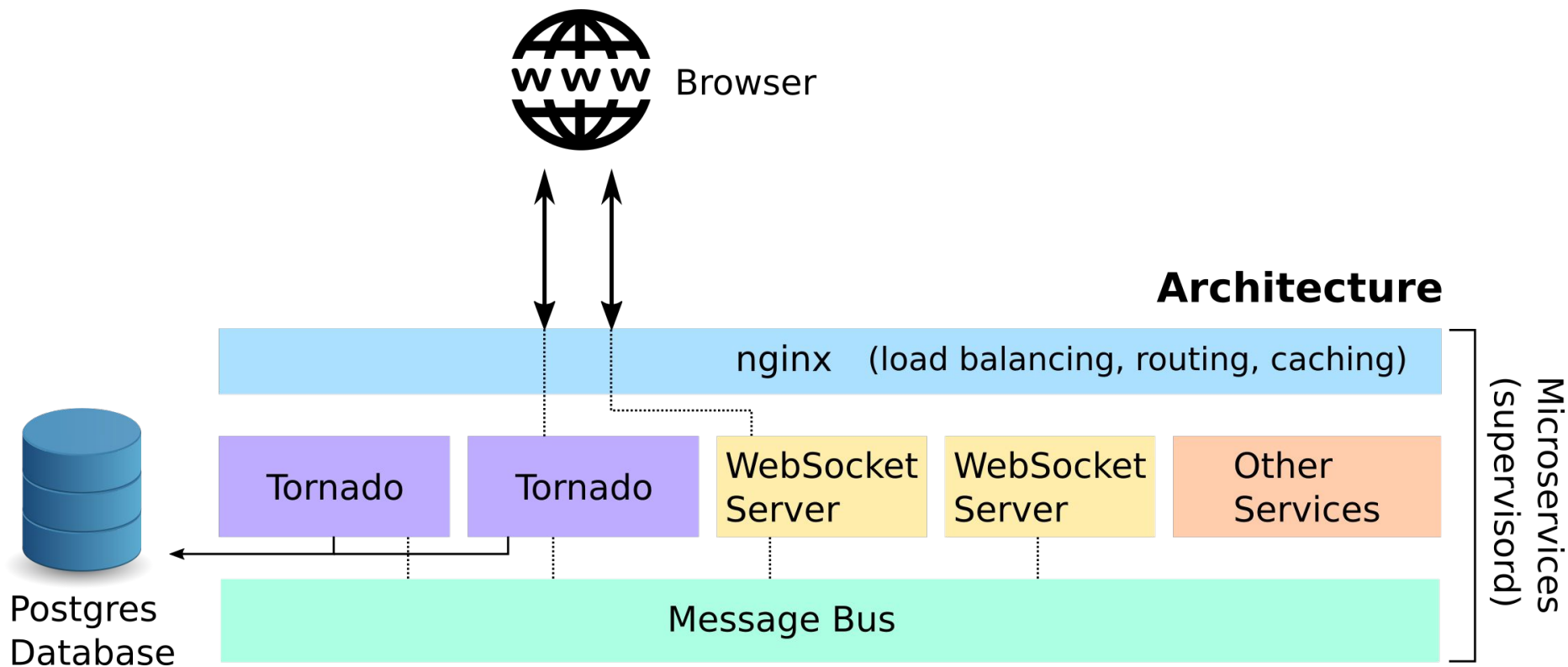
Features:

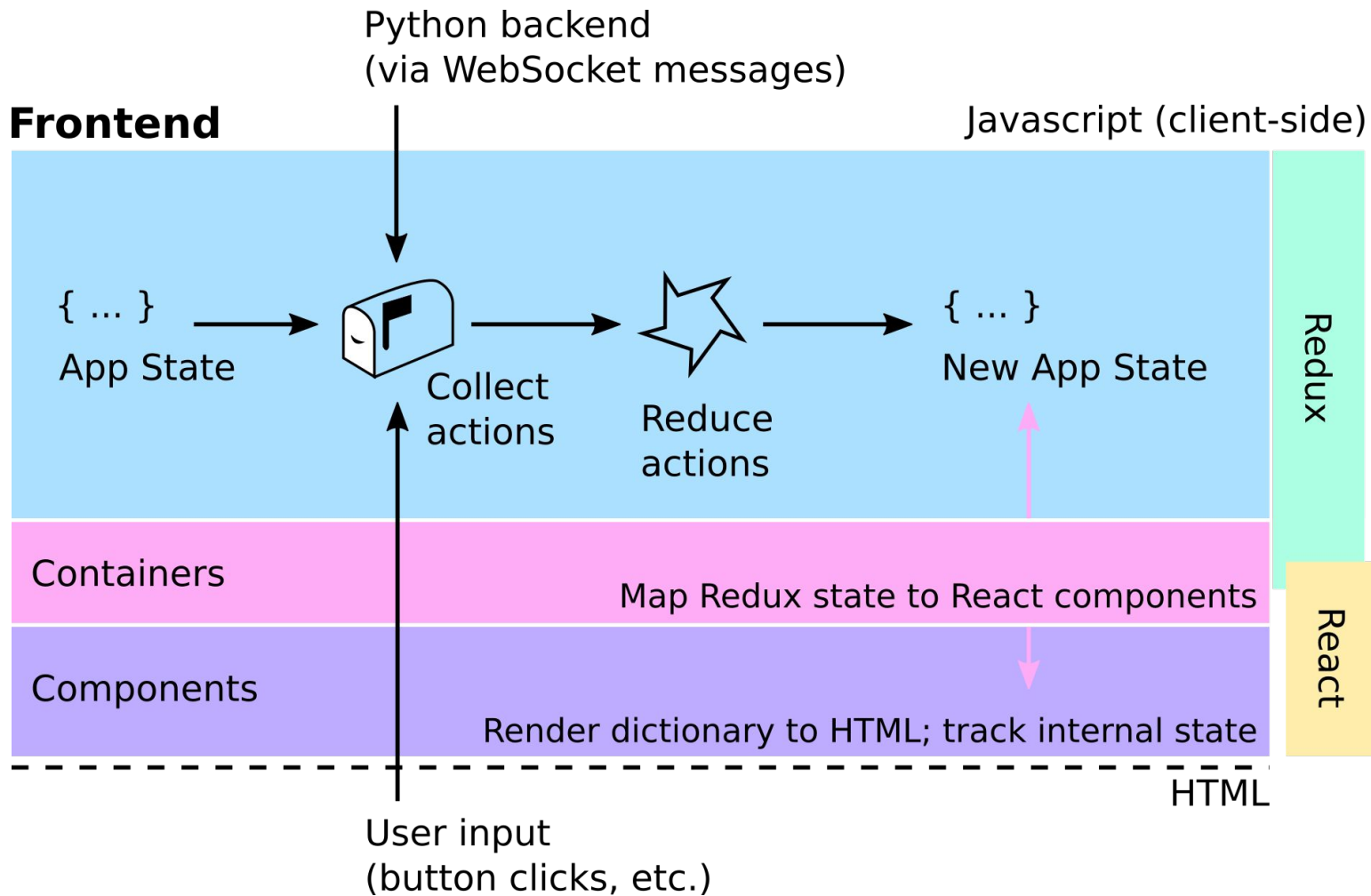
- BSD license
- Extendible & scalable design: a [Tornado/Python](#) backend with [React](#) & [Redux](#) frontend
- API for machine usage
- Fine-grained access control
- Authentication via Google
- Real-time Slack-like messaging
- Visualization using [Bokeh](#)
- Distributed computation via [Dask](#)
-  **JOSS Under Review**
- Has already been customized and deployed by Danny Goldstein for solving one particular science problem
- Deployment: Laptop, private server, or cloud infrastructure (Kubernetes).

Architecture



Deployment: Laptop, private server, or cloud infrastructure (Kubernetes).





API Documentation

🔍 Search...

Authentication

GET Retrieve a source

PUT Update a source

DEL Delete a source

GET Retrieve all sources

POST Upload a source

GET Retrieve user profile

Documentation Powered by ReDoc

Retrieve a source

Retrieve a source

PATH PARAMETERS

→ source_id integer
required

Responses

^ 200

RESPONSE SCHEMA: application/json

One of **SingleSource** Error

→ status string
required Value: "success"
→ message string
→ data > object (Source)

GET /api/sources/source_id

Response samples

200

application/json

SingleSource Error

Copy Expand all Collapse all

```
{
  "status": "success",
  "message": "string",
  "data": {
    "comments": "string",
    "spectra": "string",
    "photometry": "string",
    "red_shift": 0,
    "ra": 0,
    "id": "string",
    "thumbnails": "string",
    "created_at": "2019-02-17T00:00:00",
    "groups": "string",
    "dec": 0,
    "users": "string"
  }
}
```


Responses

^ 200

RESPONSE SCHEMA: application/json

One of **SingleSource** Error

status	string
required	Value: "success"
message	string
data	object (Source)

Detailed API Documentation

comments	string
spectra	string
photometry	string
red_shift	number <float> Nullable
ra	number <float> Nullable
id	string
required	
thumbnails	string
created_at	string <date-time>
groups	string

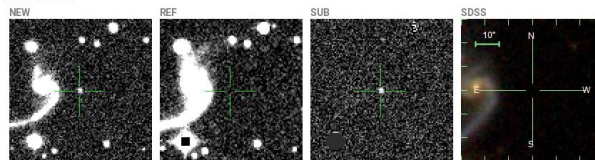
Future:

- Implement Kafka client (**consume** from brokers/marshal, **publish streams** as broker)
- Allow in-browser **customization of views** & layout
- Goal: have multiple, **decentralized instances** of SkyPortal, each with own purpose & user set
- Even easier, **automated deployment**, based on existing Kubernetes work

Live Demo

LSSTacswjsb

Position (J2000): 352.1443, 34.512 ($\alpha, \delta = 23^h 28^m 34.63^s, +34^{\circ} 30' 43.20''$)
Redshift: 0.063



▼ Comments

Henrietta Last Friday at 2:26 PM

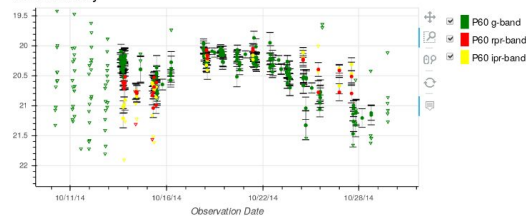
No source at transient location to R>26 in LRIS imaging

Fritz Last Friday at 1:22 PM

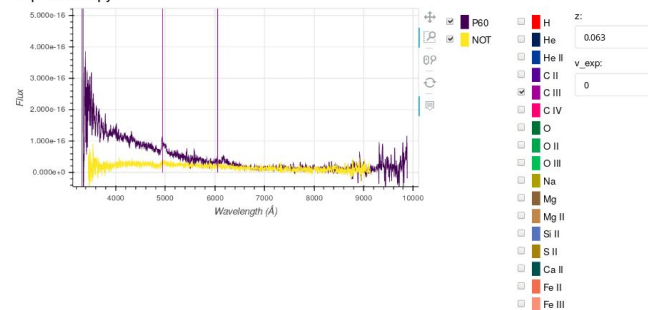
Strong calcium lines have emerged.

Attachment No file selected.

▼ Photometry



▼ Spectroscopy



▼ Surveys

Gaia DR2 NED TNS SNEX SIMBAD Vizier HEASARC DECam SkyView PyMP MPChecker Extinction CFHT IPAC DSS WISE
Subaru VLT FIRST CRTS Variable Marshal (Search) ADS

END

