

# COVID-19 challenge

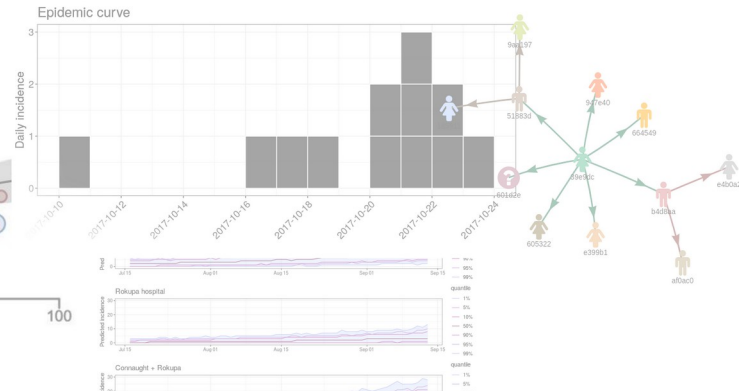
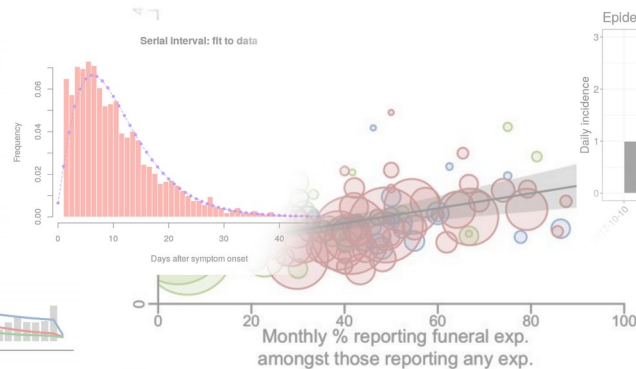
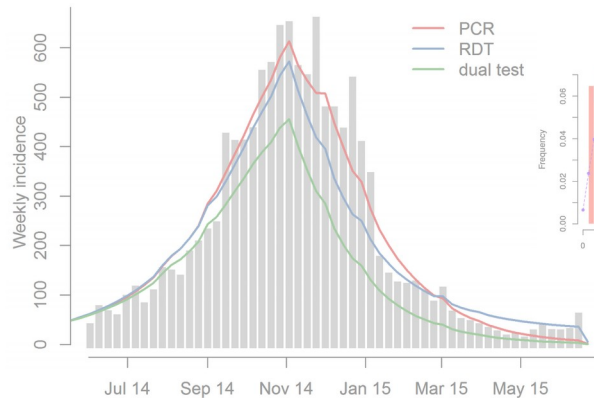
*A collaborative platform to help the epidemic response*

M. Rolland  
mj.rolland@gmail.com

August 28, 2020

# RECON

## R Epidemics CONSortium



RECON

**R** Epidemics **CON**sortium

[www.repidemicsconsortium.org](http://www.repidemicsconsortium.org)

## Hospital bed occupancy projections

### Description

Specifying the distribution of the length of hospital stay (LoS) for COVID-19 patients by the inter-quartile range (IQR, 25%-75% range). See the 'Inputs' tab for details on these distributions.

### Length of hospital stay (LoS) distribution

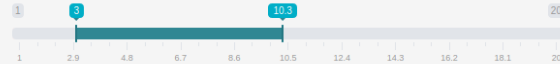
CMMID General (World)

### Distribution

☒ weibull

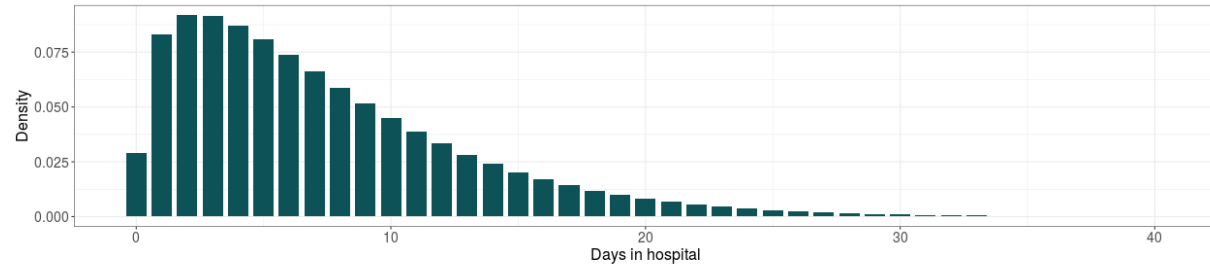
☐ gamma

### LoS IQR (in days)



Admissions Length of Stay Epidemic Parameters Main results

### Length of stay in hospital



Median LoS: 6.0 days  
95% interval: (0.4, 22.2) days  
Distribution:  $W(k=1.3, \lambda=8.0)$

# R Epidemics CONSortium

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# Hospital bed occupancy projections

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## Length of hospital stay

CMMID General (World)

### Distribution

☒ weibull

☐ gamma

### LoS IQR (in days)



centre for  
mathematical  
modelling of  
infectious  
diseases

CMMID Repository

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Covid-19

Apps

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Admissions

Length of Stay

Epidemic Parameters

Main results

## Length of stay in hospital



## Inferring COVID-19 cases from deaths of confirmed cases

Authors: Thibaut Jombart, Sam Abbott, Amy Gimma, Kevin Zandvoort, Sam Clifford, Christopher Jarvis, Timothy Russell, Sebastian Funk, Hamish Gibbs, Rosalind Eggo, Adam Kucharski, *CMMID COVID-19 Working Group*\*, John Edmunds

Disclaimer: This model is not peer-reviewed. The results generated here should not be interpreted to predict exact numbers of cases. Please read the [study summary](#) on the LSHTM CMMID website.

Explanations

Graphics

Summary table

### Data input

Dates of Death (Format 'yyyy-mm-dd', e.g. 2020-02-18, separated by spaces or new lines. The date range must be 7 days or less):

2020-08-28 ...

### Model input

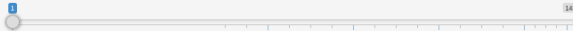
Reproduction number (R):



Case Fatality Ratio (CFR), in %:



Duration of simulations (days after last death):



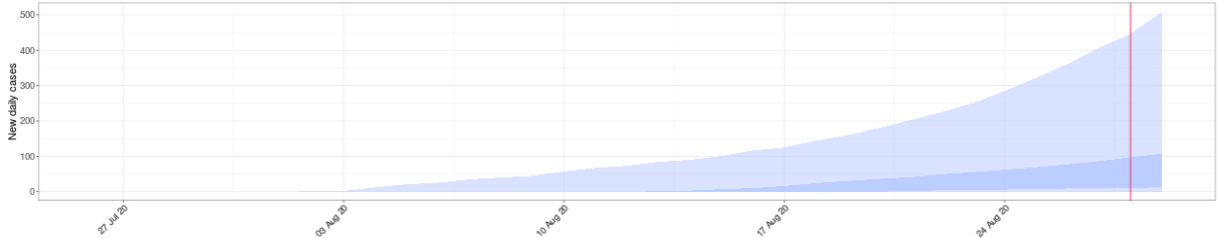
Number of simulation (50 trajectories per simulations):



Simulate

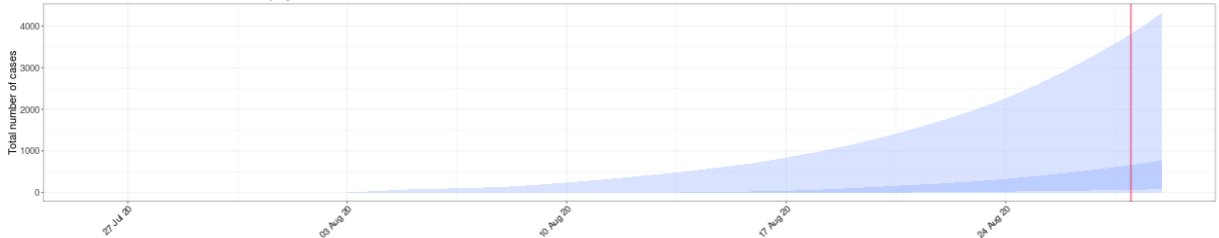
## Simulation results: new cases per day

Cases inferred from deaths: projections



## Simulation results: cumulative cases

Cases inferred from deaths: cumulative projections



# COVID-19 challenge

# COVID-19 challenge

RECON

package

maintainers

# COVID-19 challenge

RECON  
package  
maintainers

Field  
agents



# COVID-19 challenge

RECON  
package  
maintainers

Field  
agents

R  
Community

# COVID-19 challenge

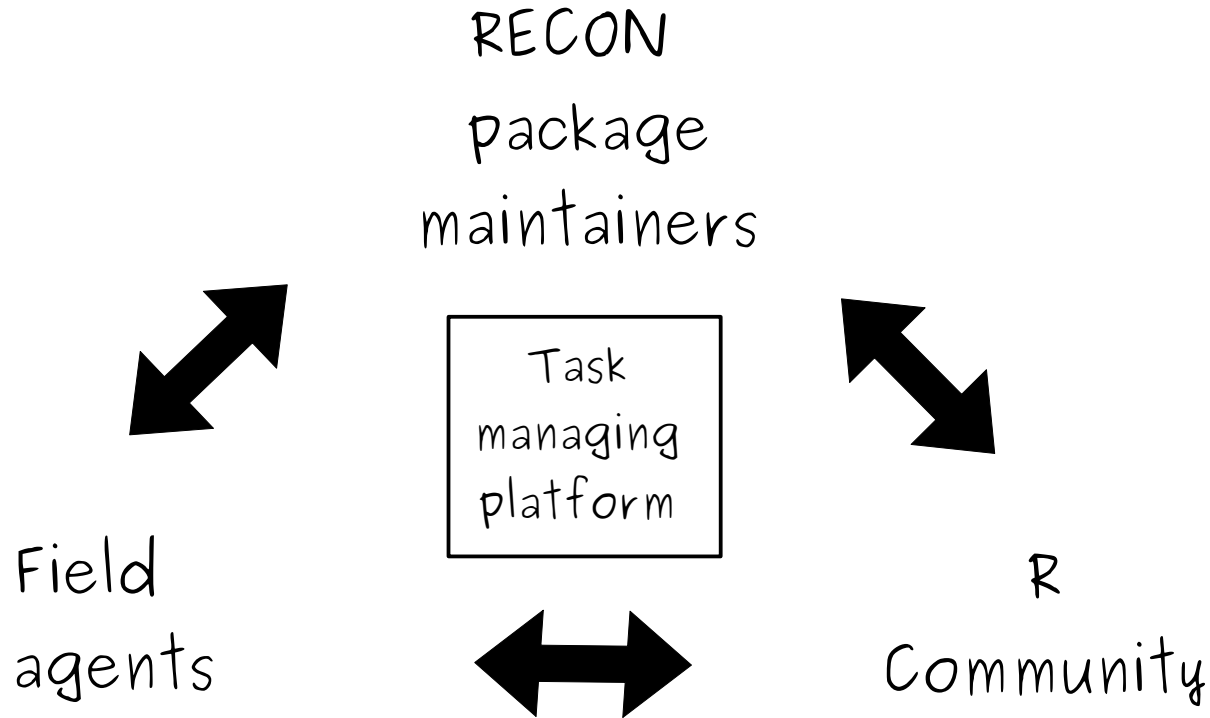
RECON  
package  
maintainers

Task  
managing  
platform

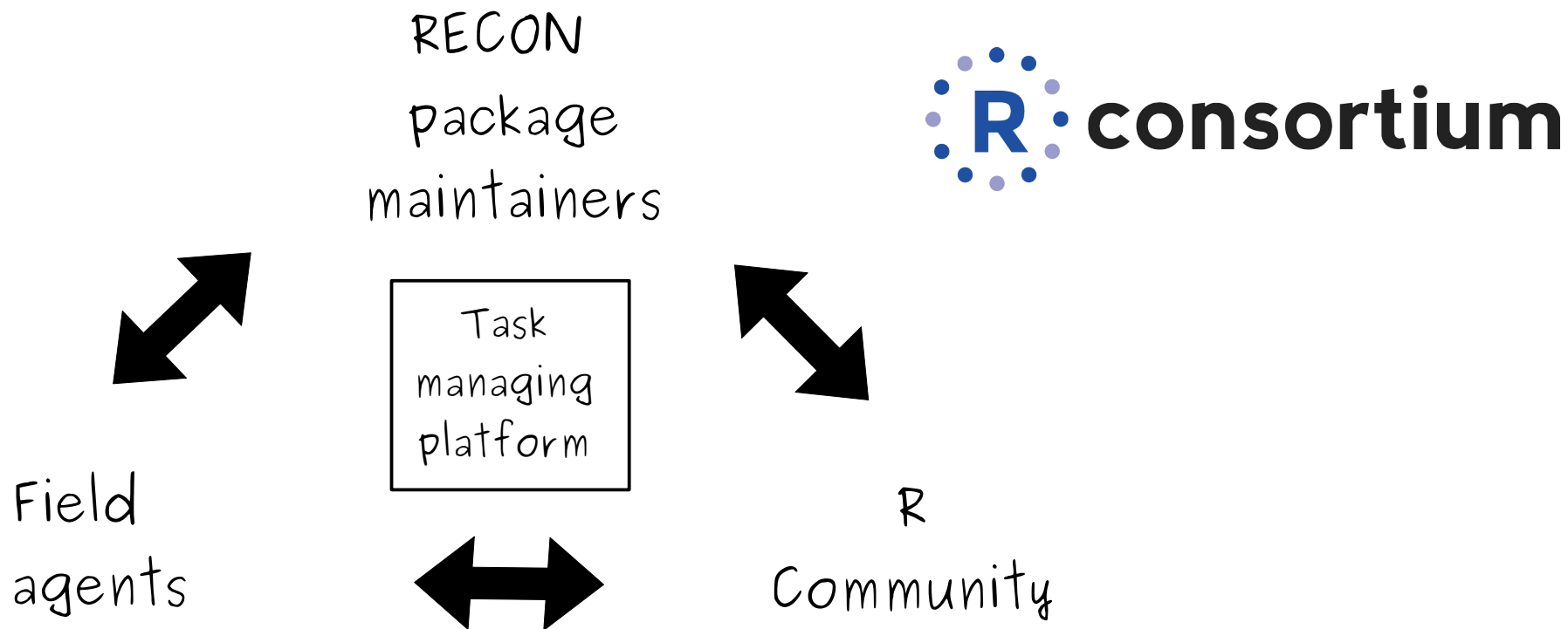
Field  
agents

R  
Community

# COVID-19 challenge



# COVID-19 challenge



# Task Definition



A Task

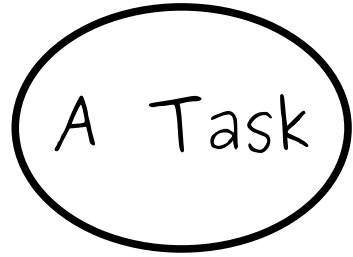
Modify existing function



Modify existing function



Suggest new package





Modify existing function



Suggest new package

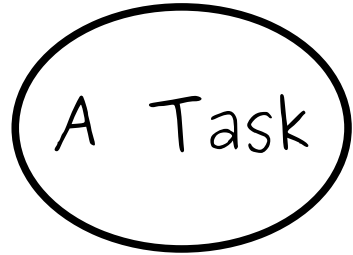


Request new function

Modify existing function



Suggest new package



Request new function

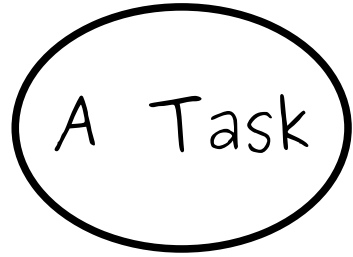


Code review

Modify existing function



Suggest new package



Request new function

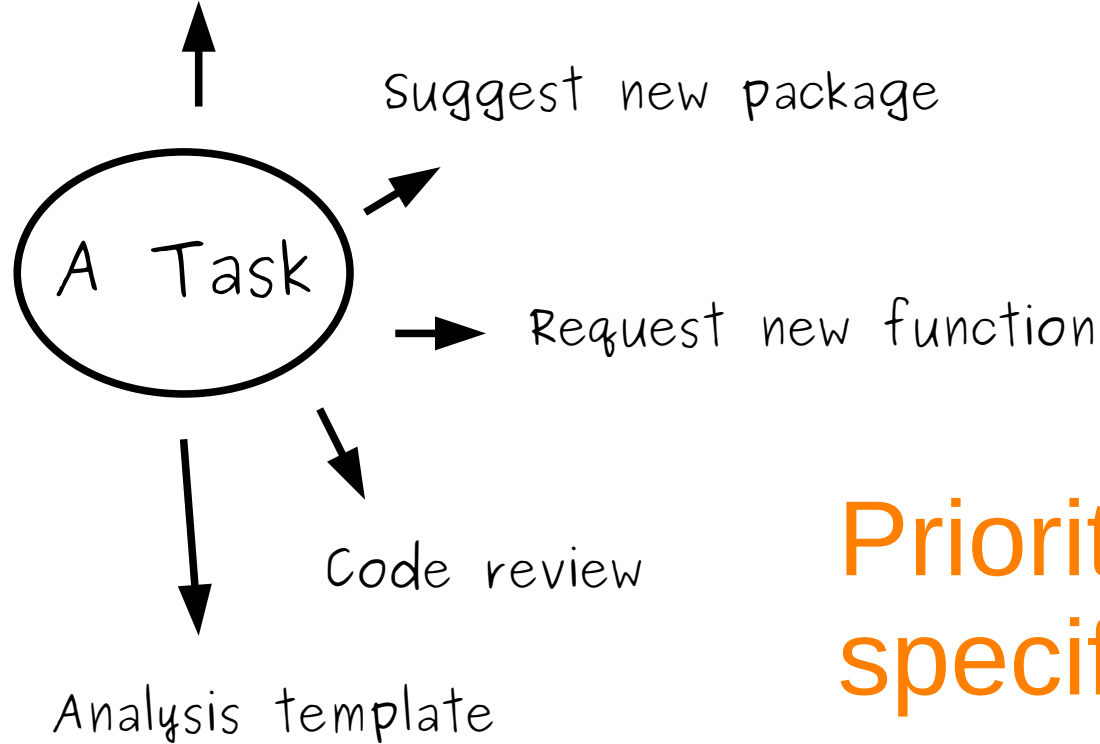


Code review



Analysis template

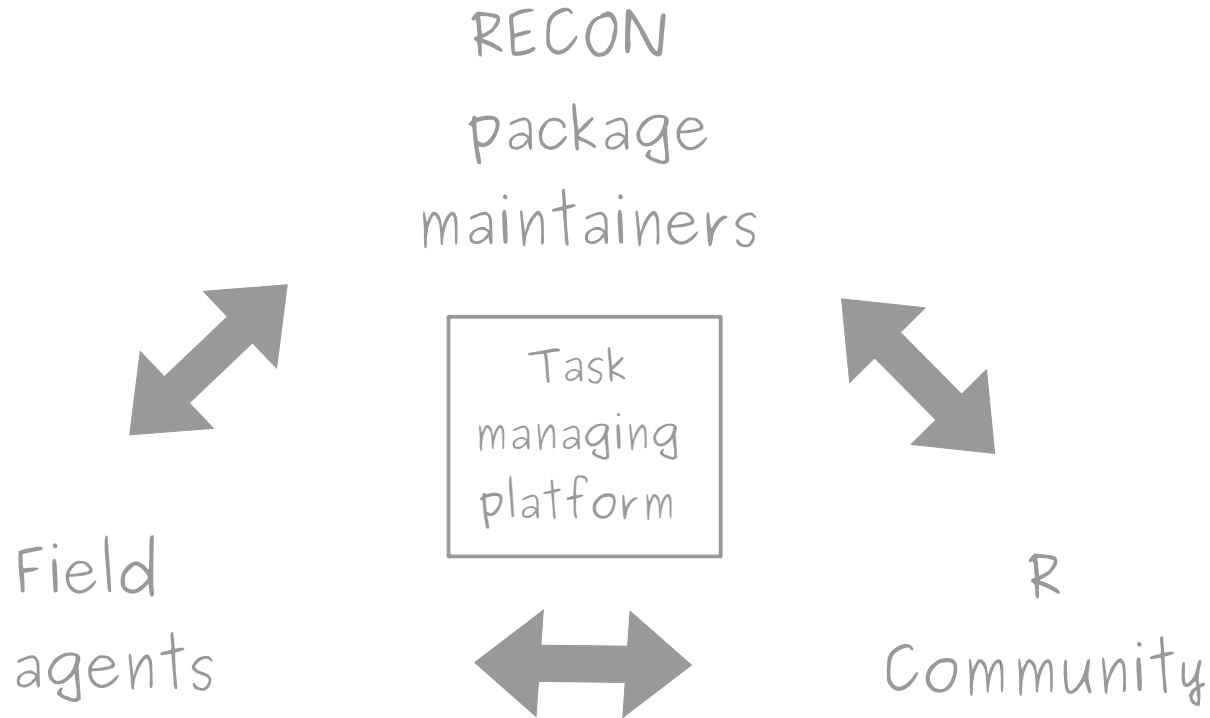
Modify existing function



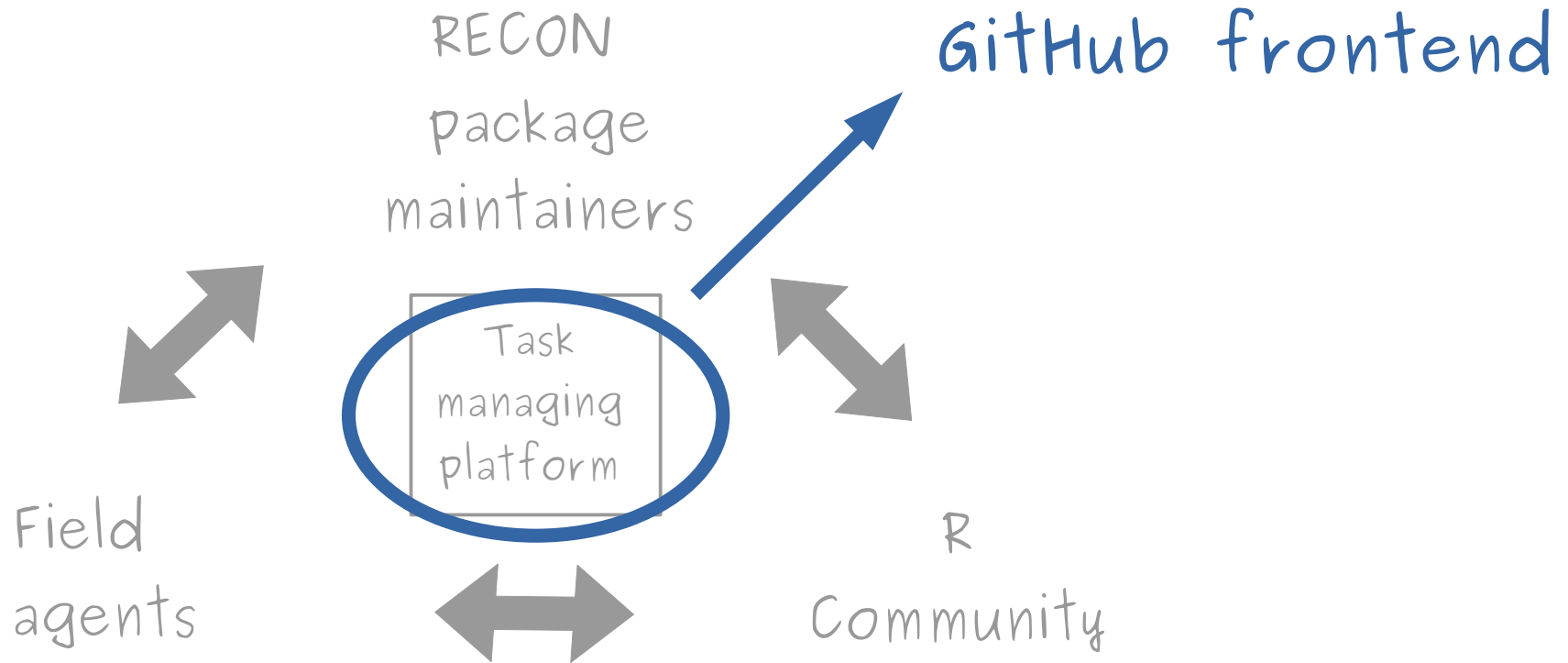
Priority to COVID-19  
specific tasks

# Platform specifications

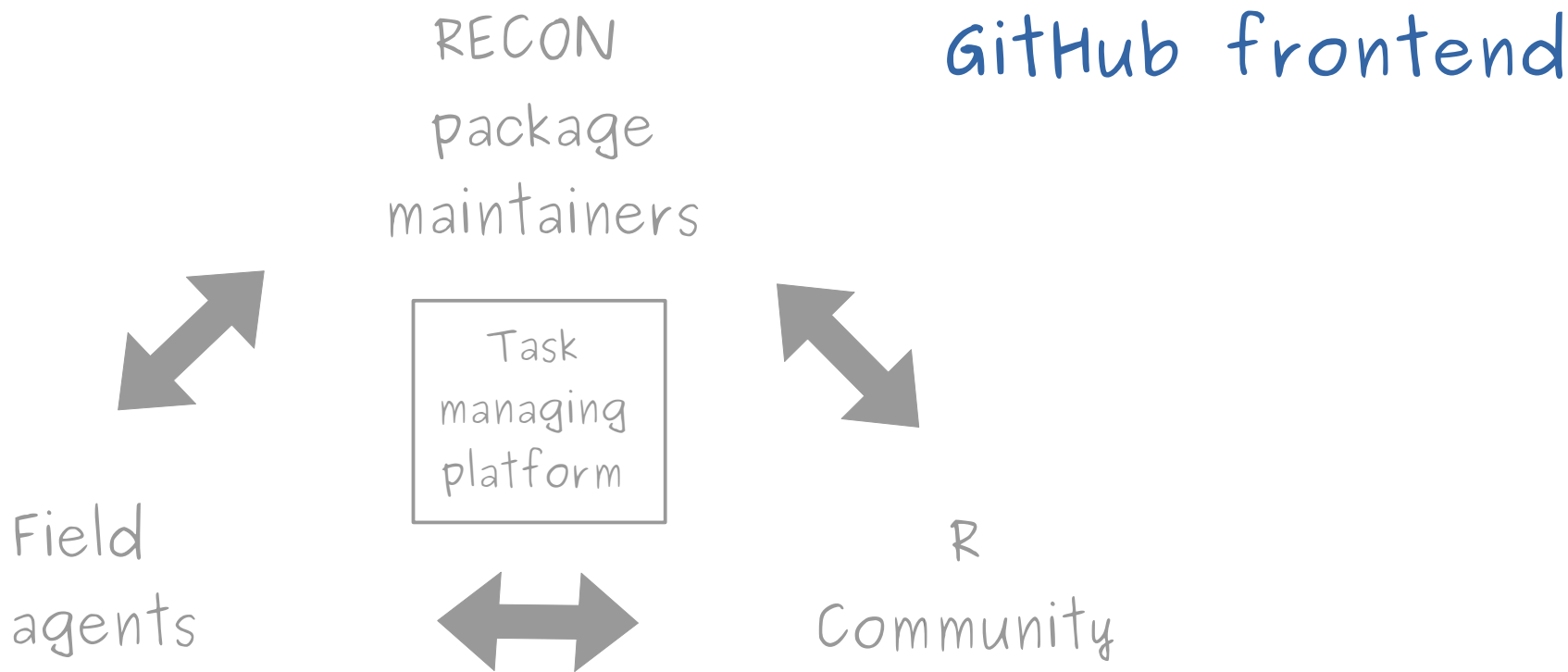
# COVID-19 challenge



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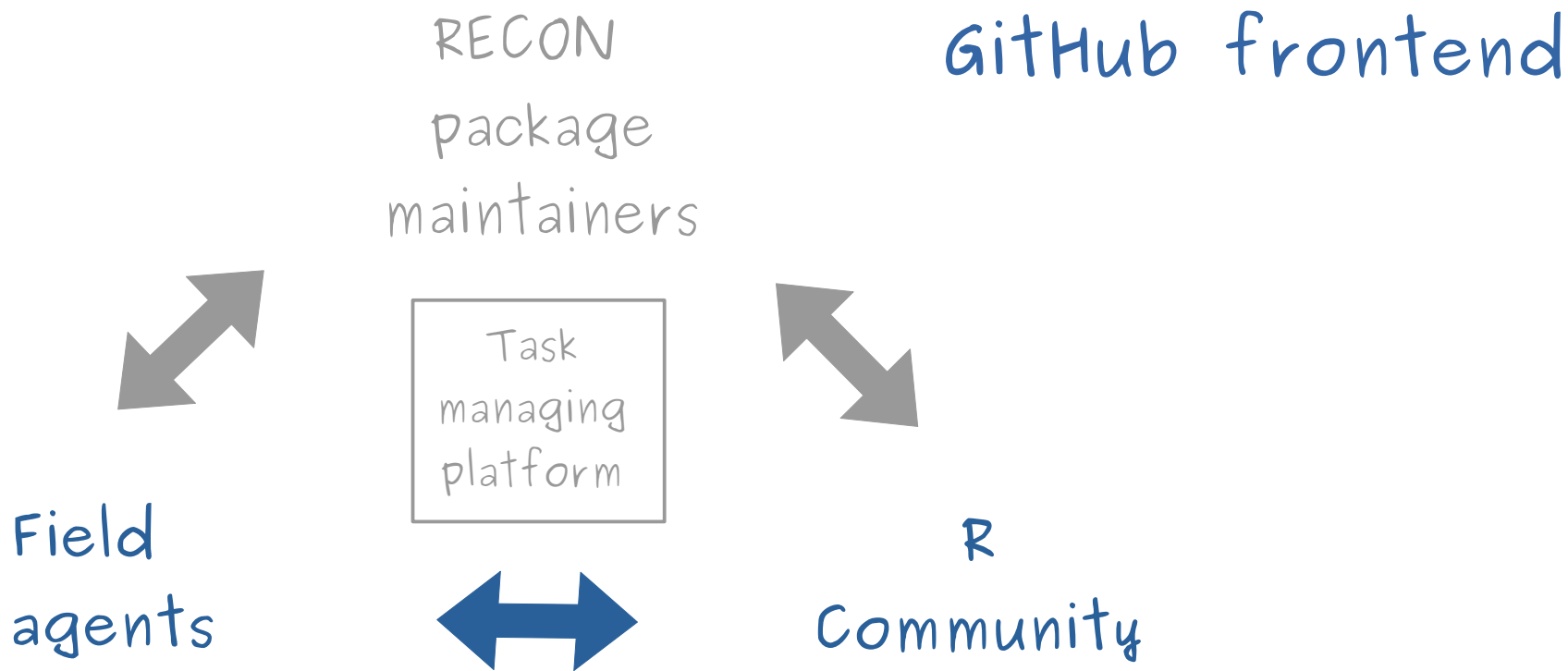


# COVID-19 challenge

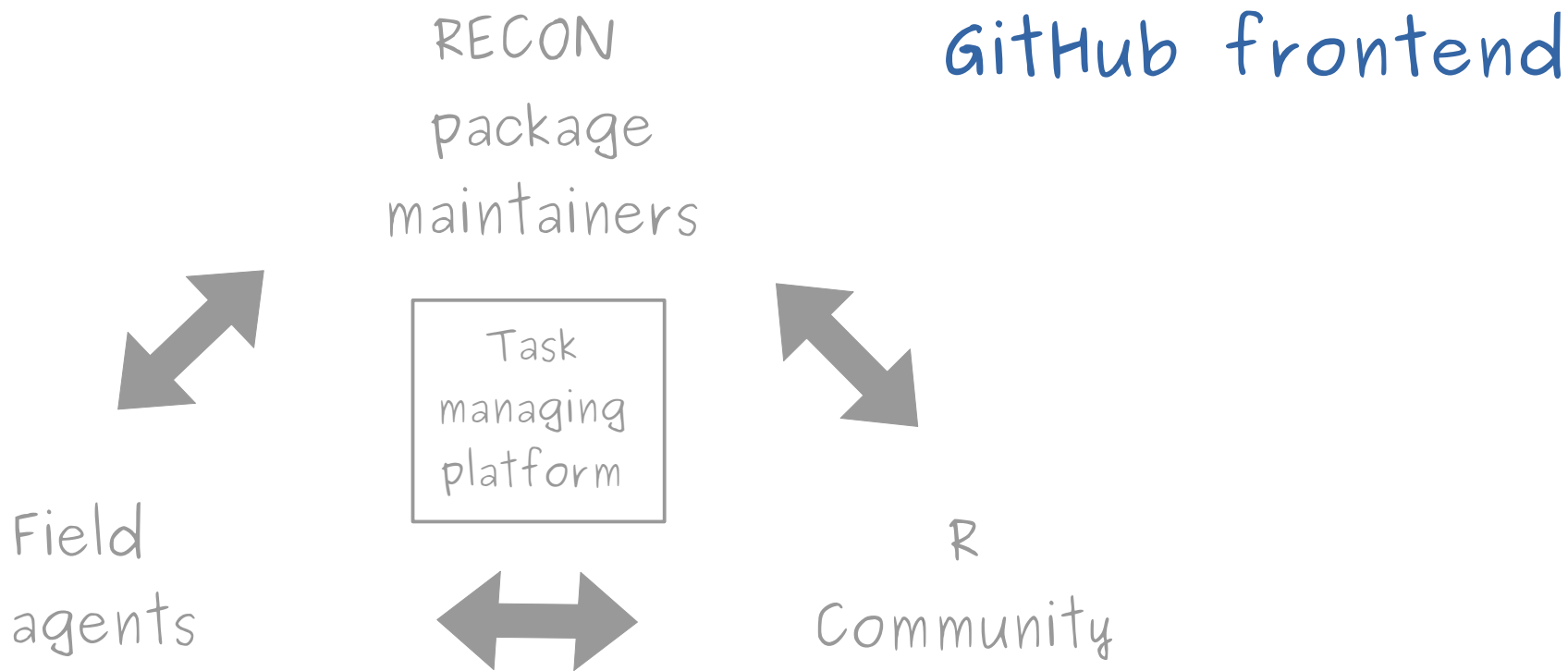




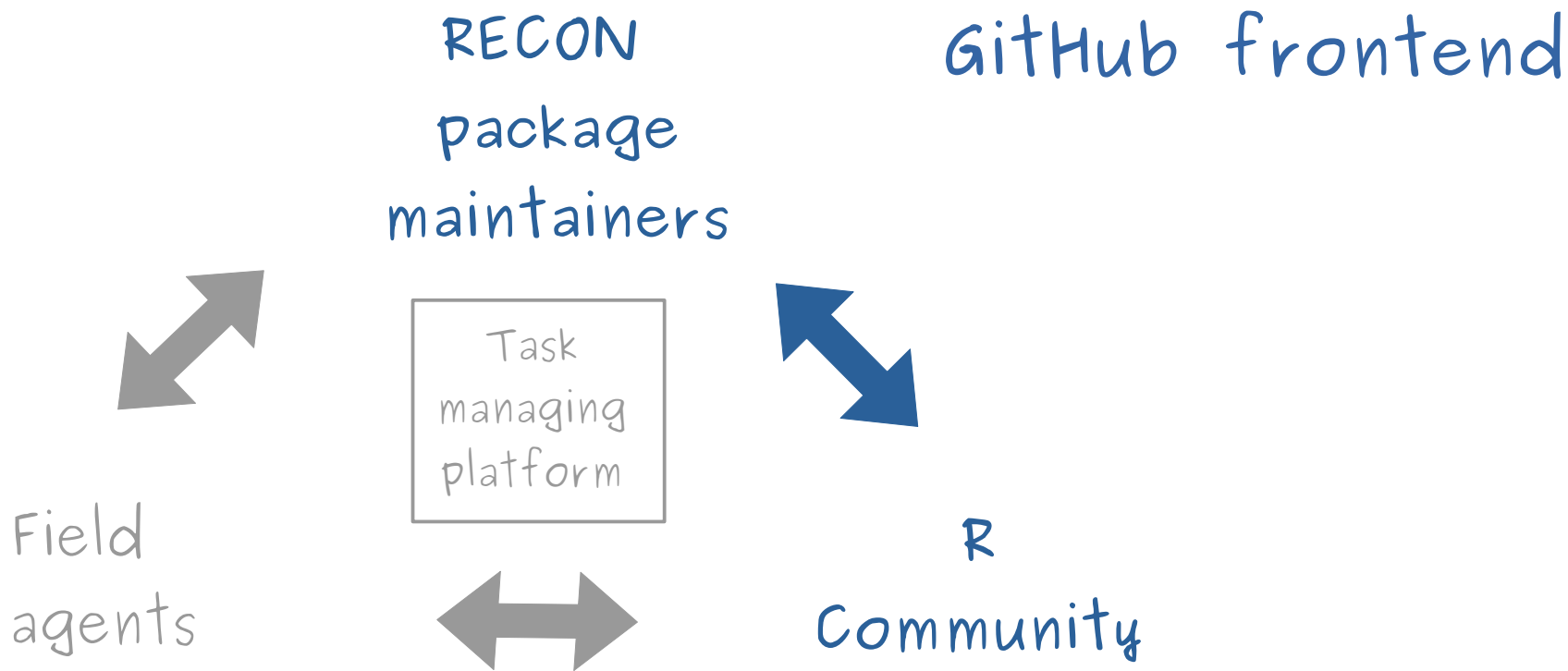
# COVID-19 challenge



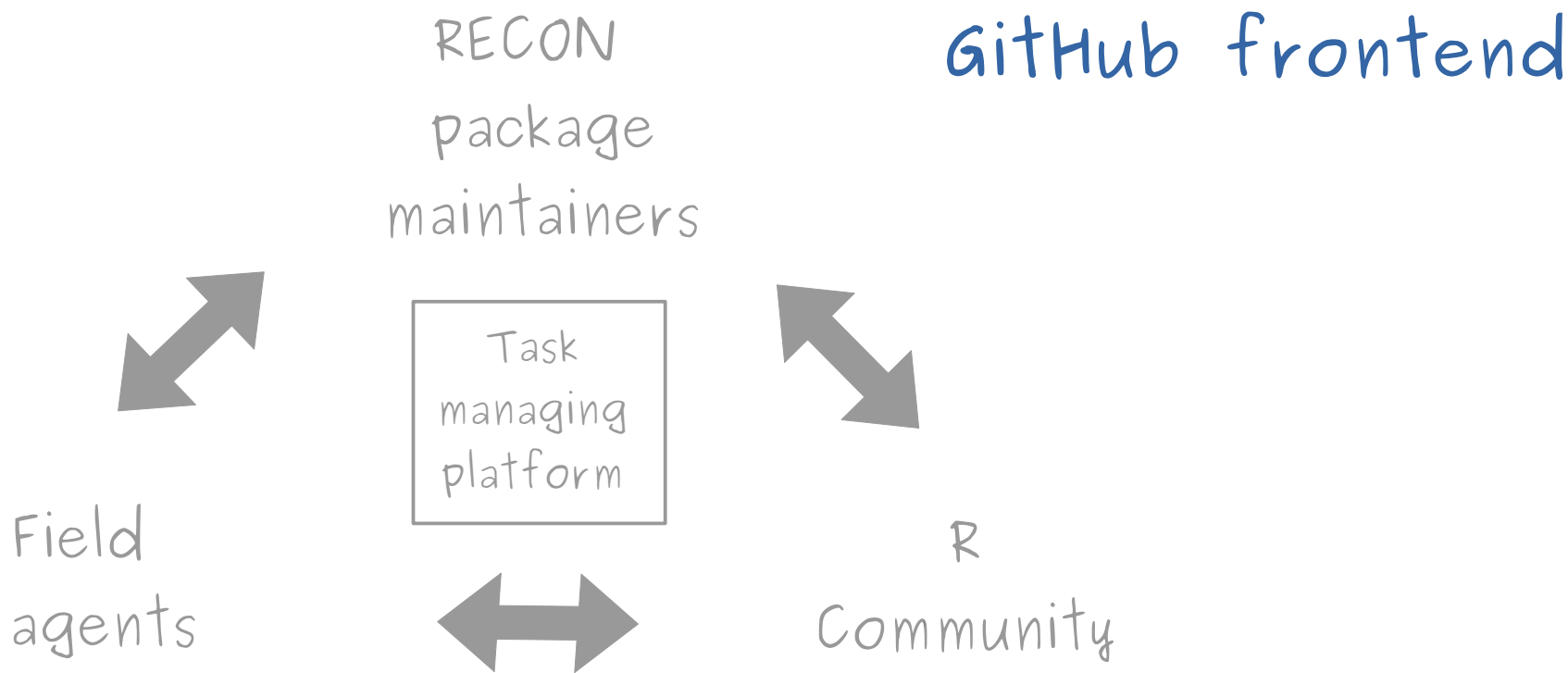
# COVID-19 challenge



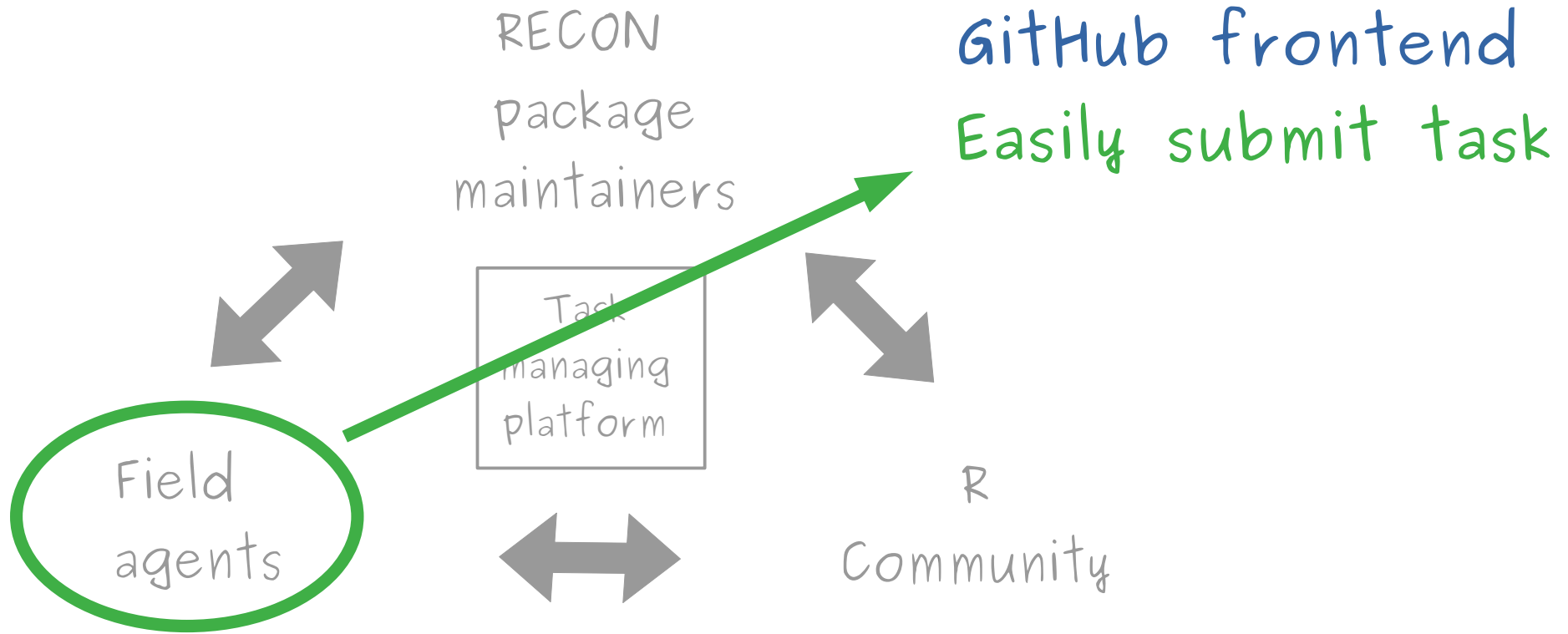
# COVID-19 challenge



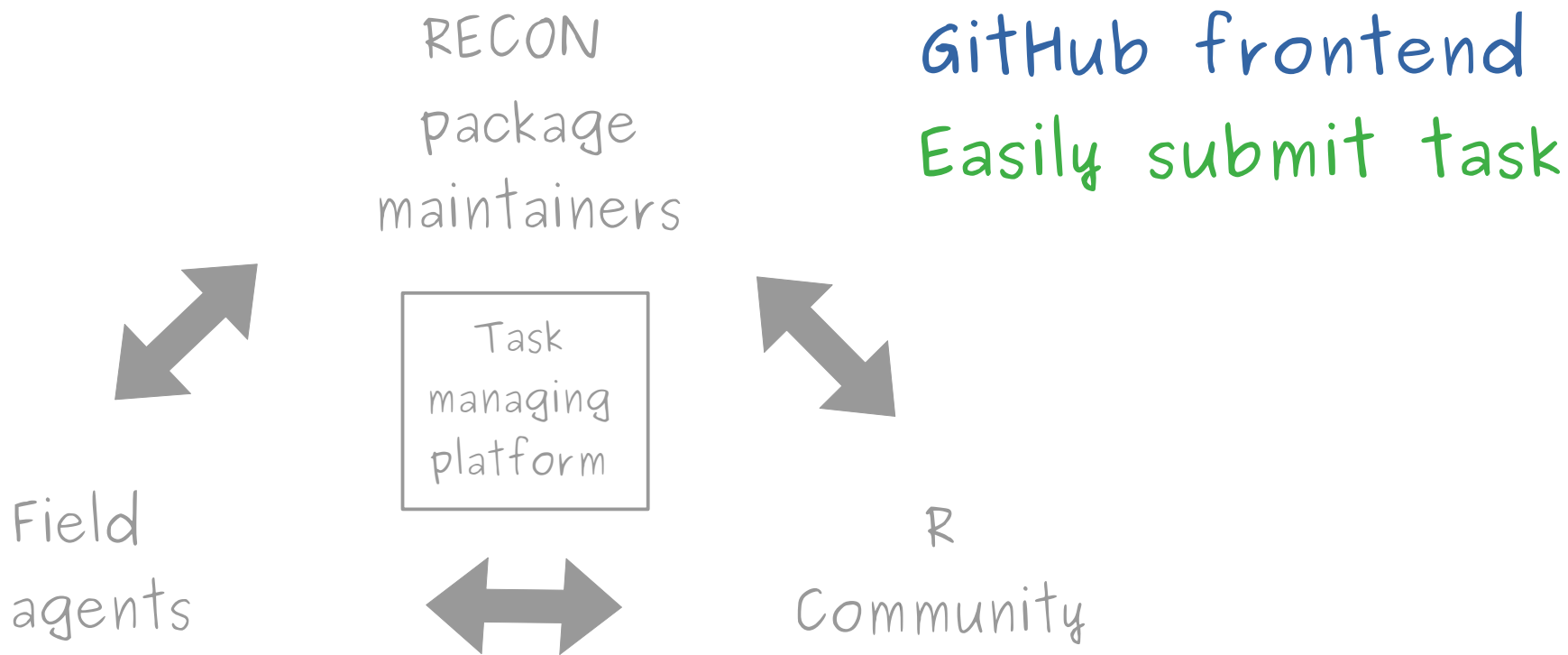
# COVID-19 challenge



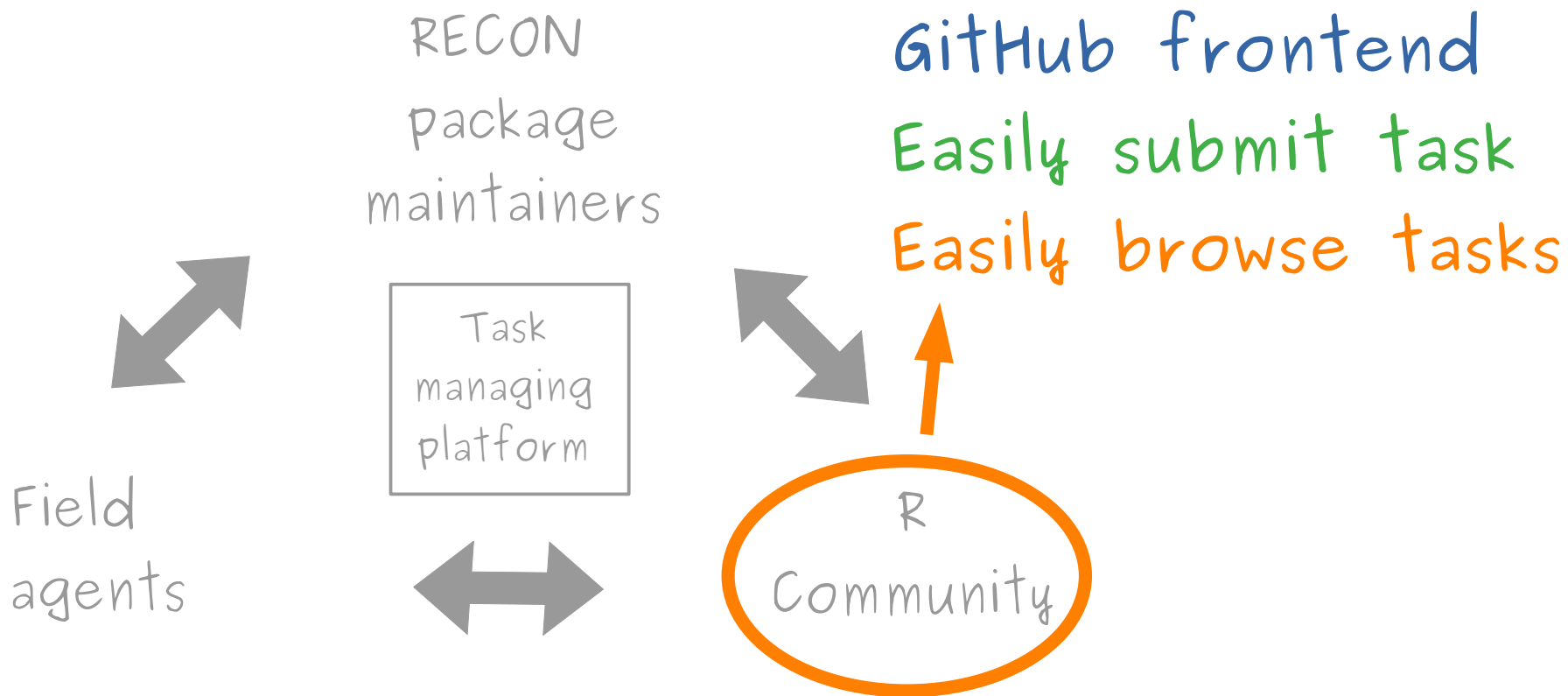
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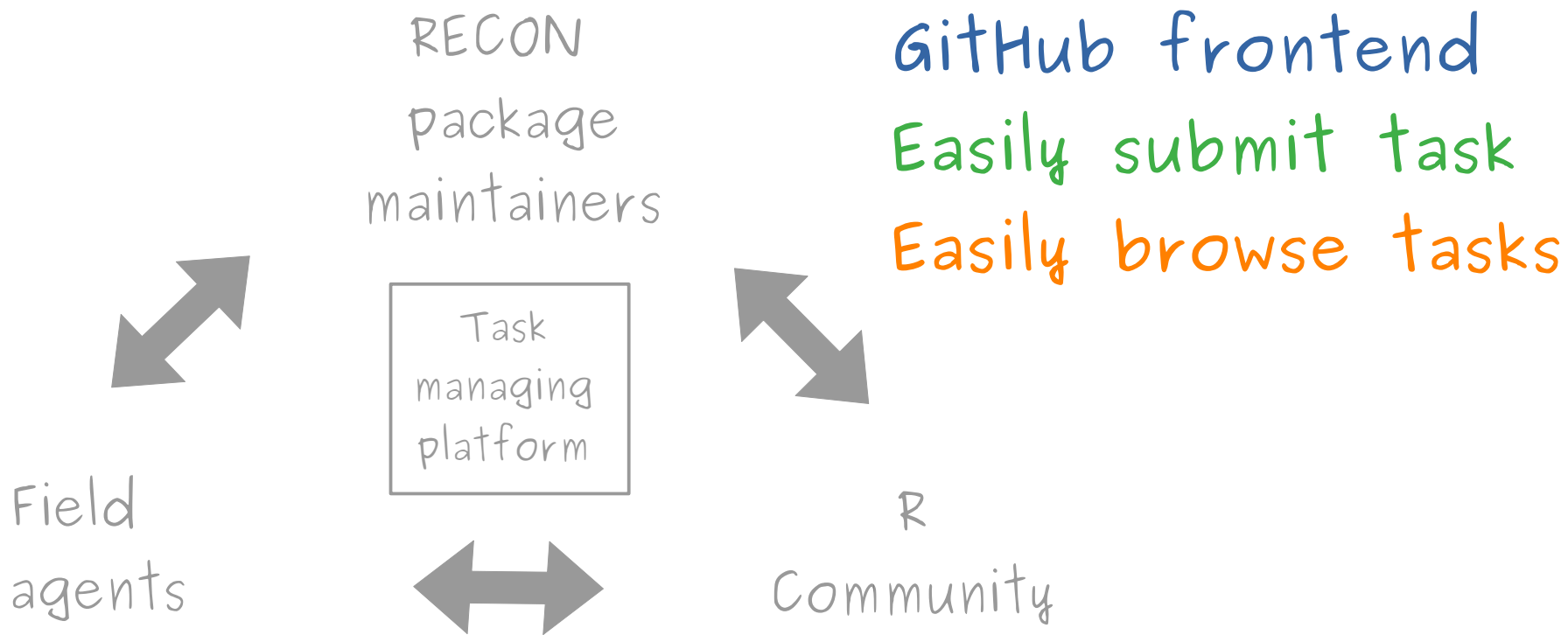
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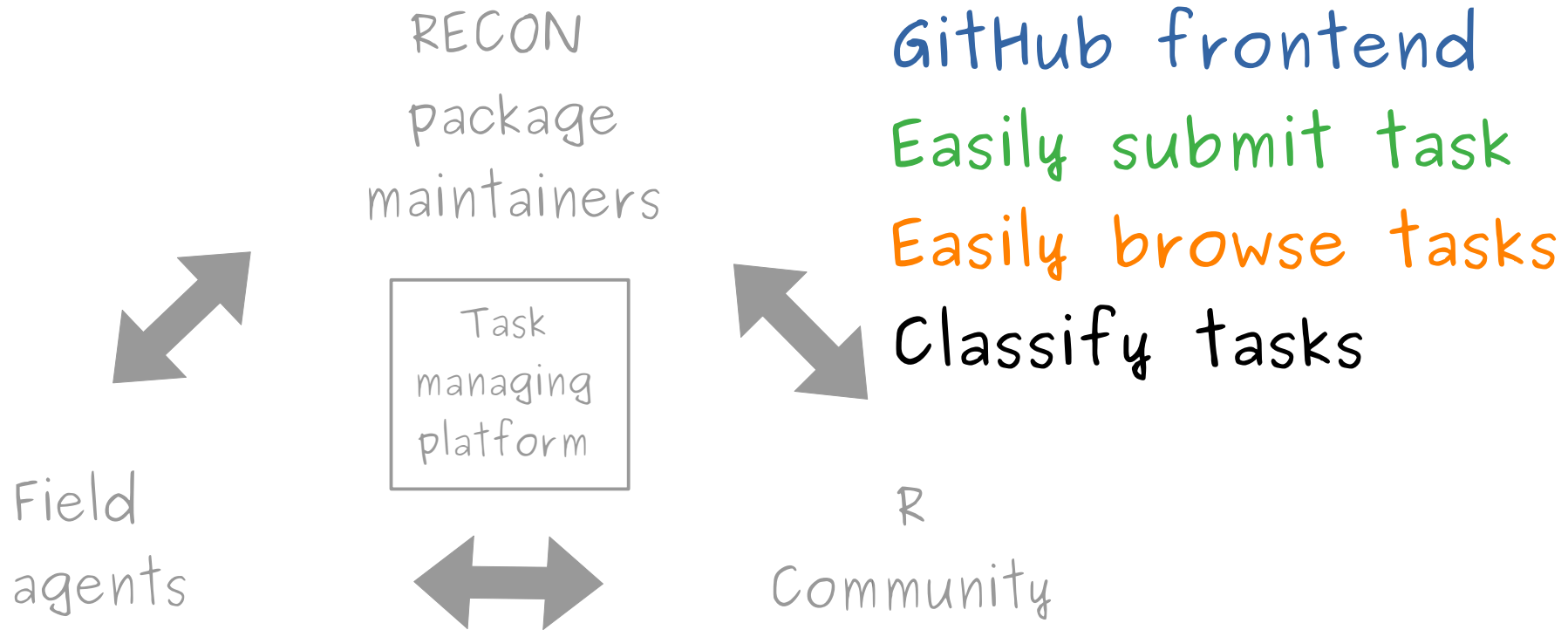


# COVID-19 challenge





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# Task Lifecycle





1 Field agent opens task




- 
- 1 Field agent opens task
  - 2 Project board validates task


- 
- 1 Field agent opens task
  - 2 Project board validates task
  - 3 R programmer browses tasks


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PLATFORM

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PLATFORM

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GITHUB



# This is an explore page

Here is a list of all the proposed and pending tasks submitted to RECON.

Filter Complexity  
None

Filter Priority  
None

CREATE NEW TASK

[Demo Title](#)

Priority: Low  
Complexity: Low

Additional Tags:

SHOW DETAILS

[Package: fit discretised distributions to match expected distributional properties](#)

Priority: Medium  
Complexity: Medium

Additional Tags:

SHOW DETAILS

[Functions to import reported daily sub-national new cases and deaths from LMIC](#)

Priority: High  
Complexity: Medium

Additional Tags:

SHOW DETAILS

[Apple mobility reports](#)

Priority: Medium  
Complexity: Low

Additional Tags:

SHOW DETAILS

[high complex medium priority](#)

Priority: Medium  
Complexity: High

Additional Tags:

SHOW DETAILS

[medium complex high priority](#)

Priority: High  
Complexity: Medium

Additional Tags:

SHOW DETAILS

[From netlify](#)

Priority: Low  
Complexity: Low

[NEw Attempt](#)

Priority: Low  
Complexity: Low

[myTitle](#)

Priority: Low  
Complexity: Low

Search							
Author	Title	Description	Complexity	Priority	Created	Updated	Notes
							very interesting task
mjrolland	Demo task for DSCC19	Show DSCC attendees task creation template	Complexity_Low	Priority_Low	2020-08-26 20:27:22	2020-08-26 20:27:22	
mjrolland	Demo task	just a demo	Complexity_Low	Priority_Low	2020-08-26 20:29:05	2020-08-26 20:29:05	

Search 🔍

Rows per page: 10 1-2 of 2 < >



# Apple mobility reports #7

New issue



ffinger opened this issue on 15 Apr · 2 comments



ffinger commented on 15 Apr • edited ▾

Collaborator



Make apple mobility data available from R.

<https://www.apple.com/covid19/mobility>

It's already a CSV, so very easy to wrap it.

Want to include this in your package @nacnudus?

Or in NCoVUtils @seabbs?



nacnudus commented on 15 Apr



@ffinger thanks, but my package is only for the Google data.



thibautjombart commented on 20 Apr

Contributor



Yes may for NCoVUtils @seabbs?

@ffinger maybe add labels to make the issue more visible?



ffinger added **enhancement** **low\_complexity** **medium\_priority** **new\_package** labels on 20 Apr

## Assignees

No one assigned

## Labels

**enhancement**

**low\_complexity**

**medium\_priority**

**new\_package**

## Projects

None yet

## Milestone

No milestone

## Linked pull requests

Successfully merging a pull request may close this issue.

None yet

## Notifications

Customize



Subscribe

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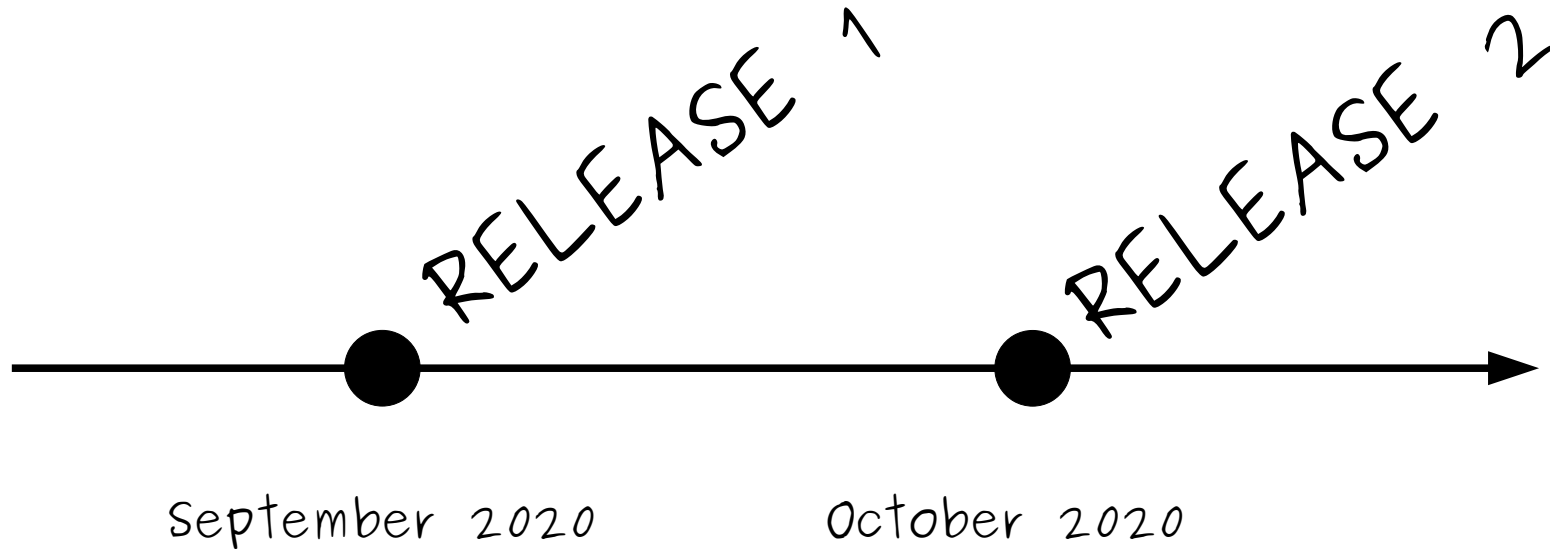


# Milestones

# Milestones



# Milestones



Join the response against  
COVID19!

# Join the response against COVID19!



@RECONEPI



repidemicsconsortium@gmail.com



www.repidemicsconsortium.org



github.com/reconhub/

Thank you :)



Thank you :) %>%

Thank you :) %>%

questions() ?