

COVID-19 challenge

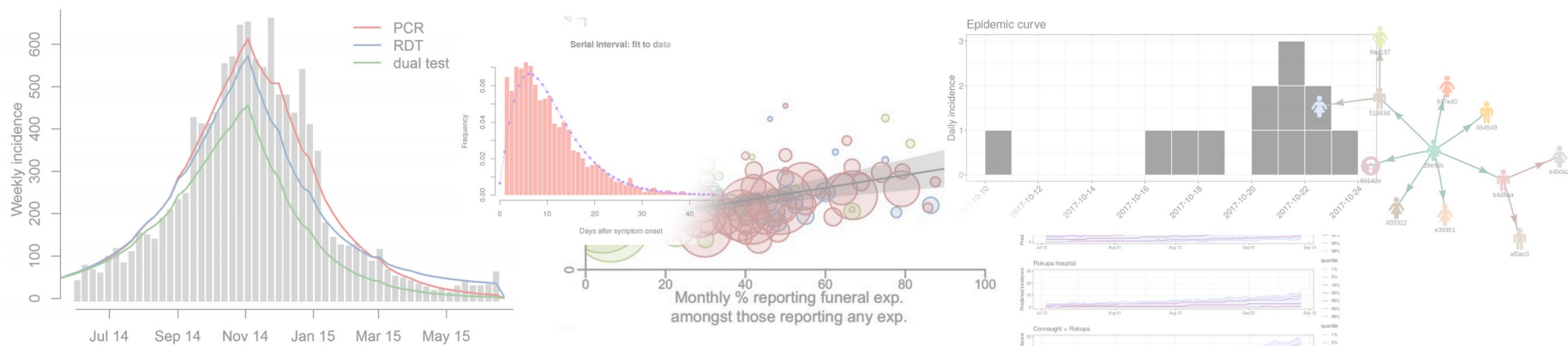
A collaborative platform to help the epidemic response using R

M. Rolland
mj.rolland@gmail.com

August 28, 2020

RECON

R Epidemics CONsortium



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)



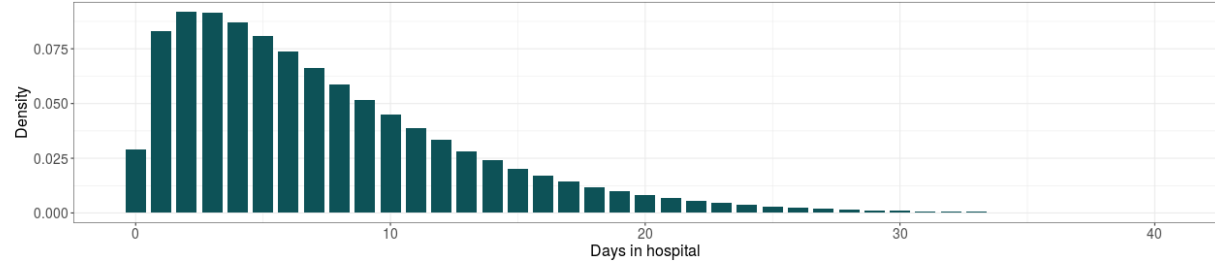
Admissions

Length of Stay

Epidemic Parameters

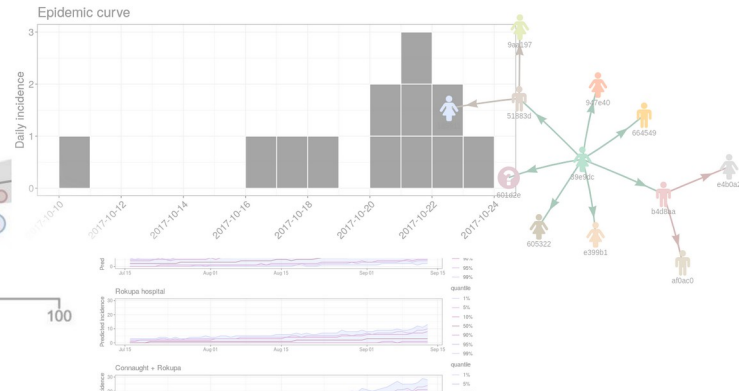
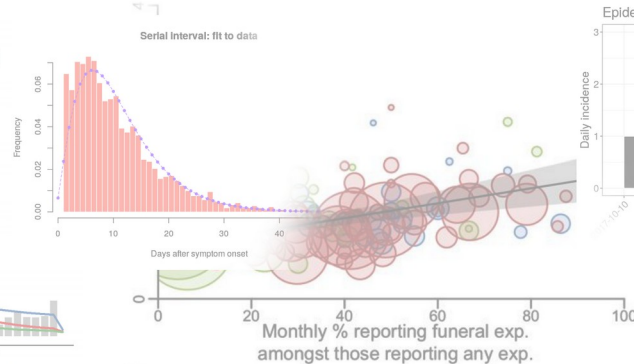
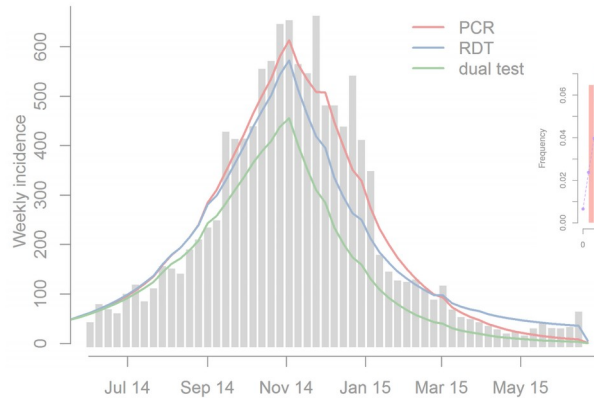
Main results

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



Hospital bed occupancy projections

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Length of hospital stay (LoS)

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☒ weibull

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LoS IQR (in days)



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](#)¹, 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):



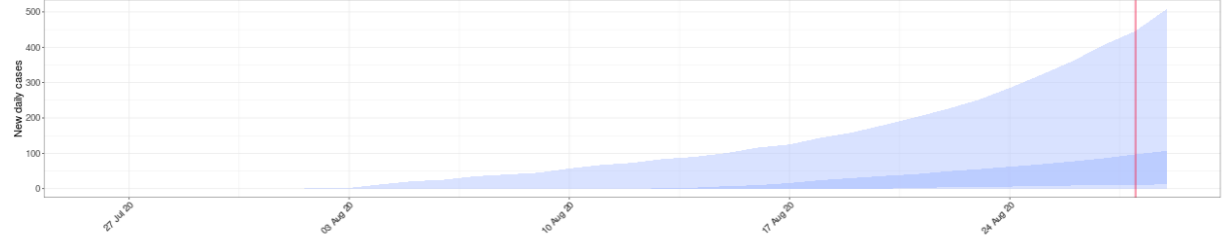
Number of simulation (50 trajectories per simulations):



Simulate

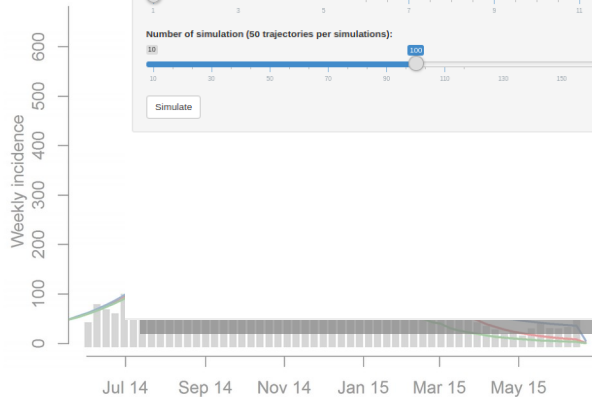
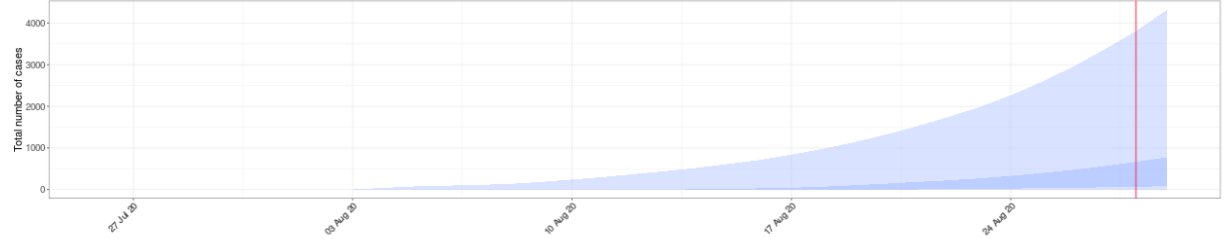
Simulation results: new cases per day

Cases Inferred from deaths: projections



Simulation results: cumulative cases

Cases Inferred from deaths: cumulative projections



Monthly % reporting funeral exp. amongst those reporting any exp.



RECON

R Epidemics **CON**sortium

www.repidemicsconsortium.org

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COVID-19 challenge

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package

maintainers

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package
maintainers

Field
agents

COVID-19 challenge

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package
maintainers

Field
agents

R
Community

COVID-19 challenge

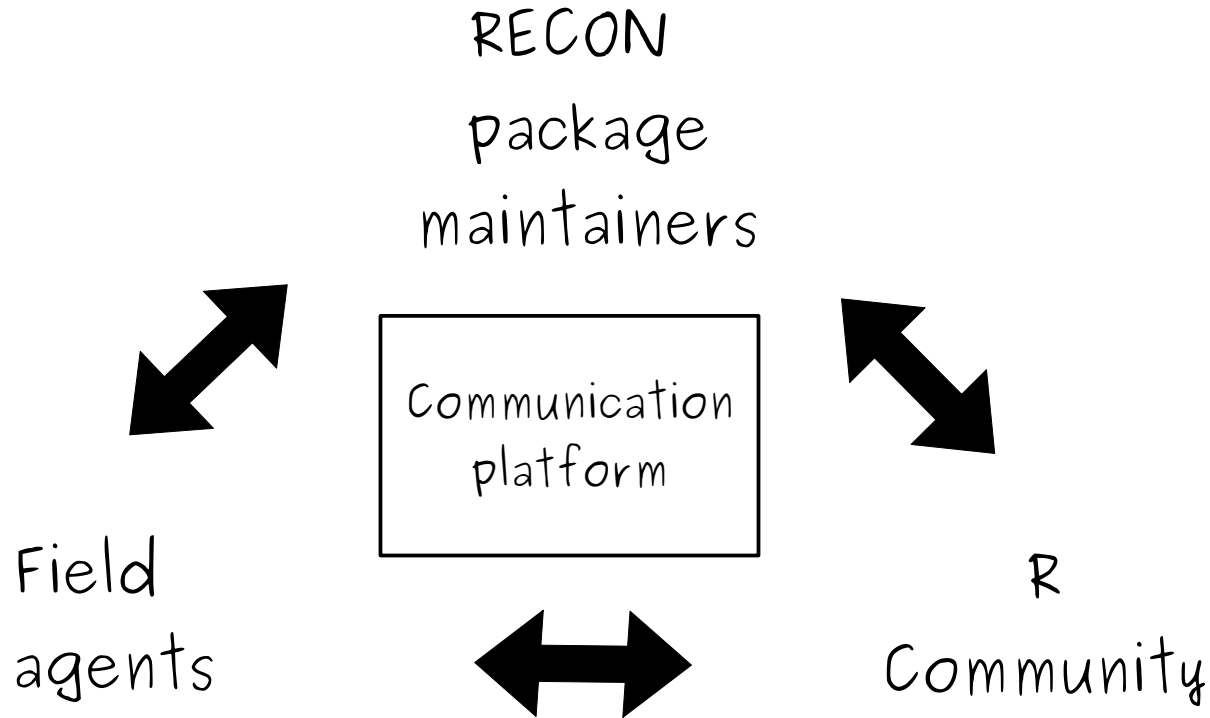
RECON
package
maintainers

Communication
platform

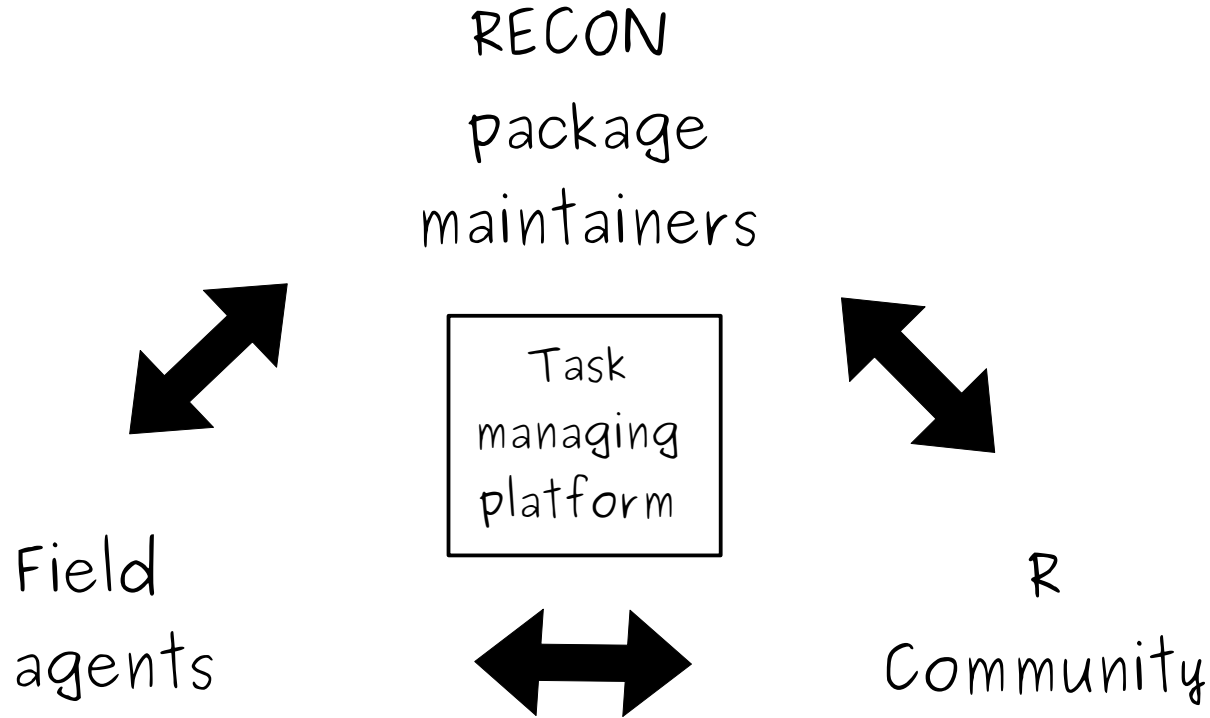
Field
agents

R
Community

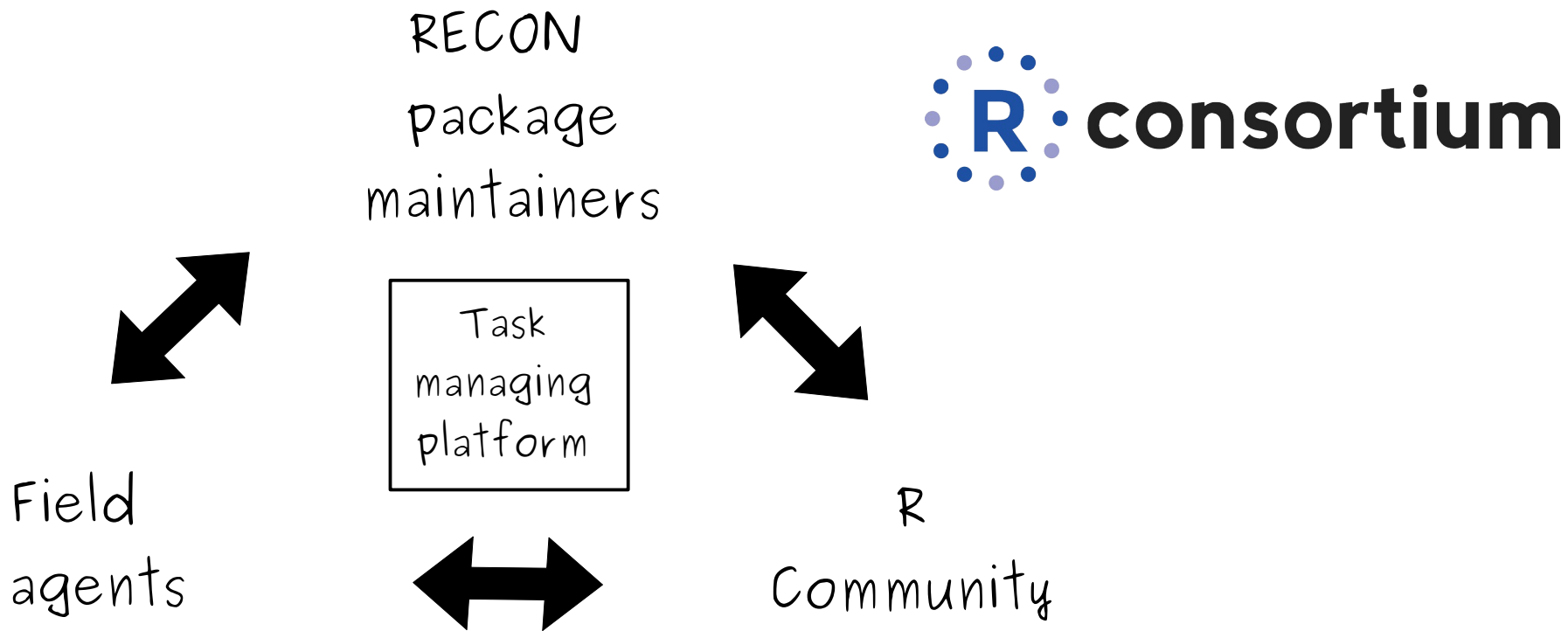
COVID-19 challenge



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

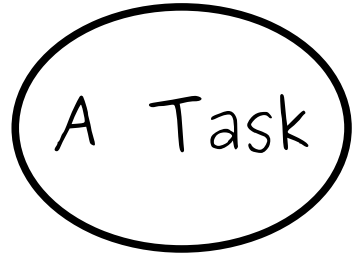


Request new function

Modify existing function



Suggest new package



Request new function



Code review

Modify existing function



Suggest new package



Request new function

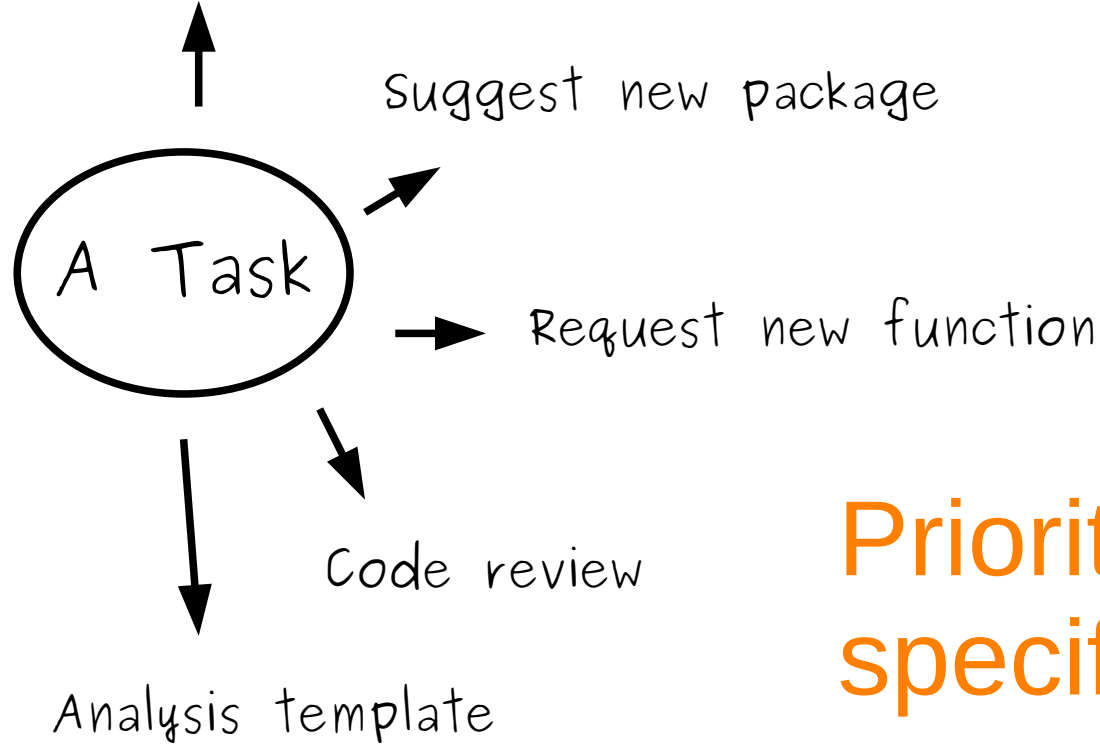


Code review



Analysis template

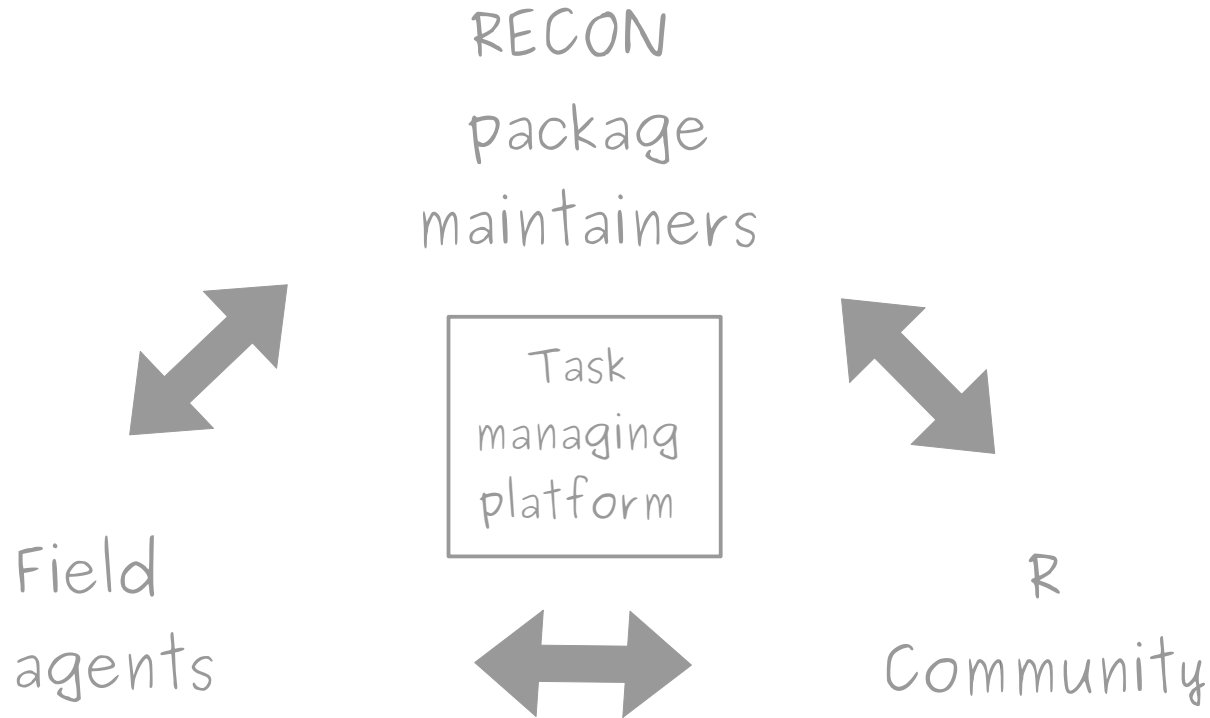
Modify existing function



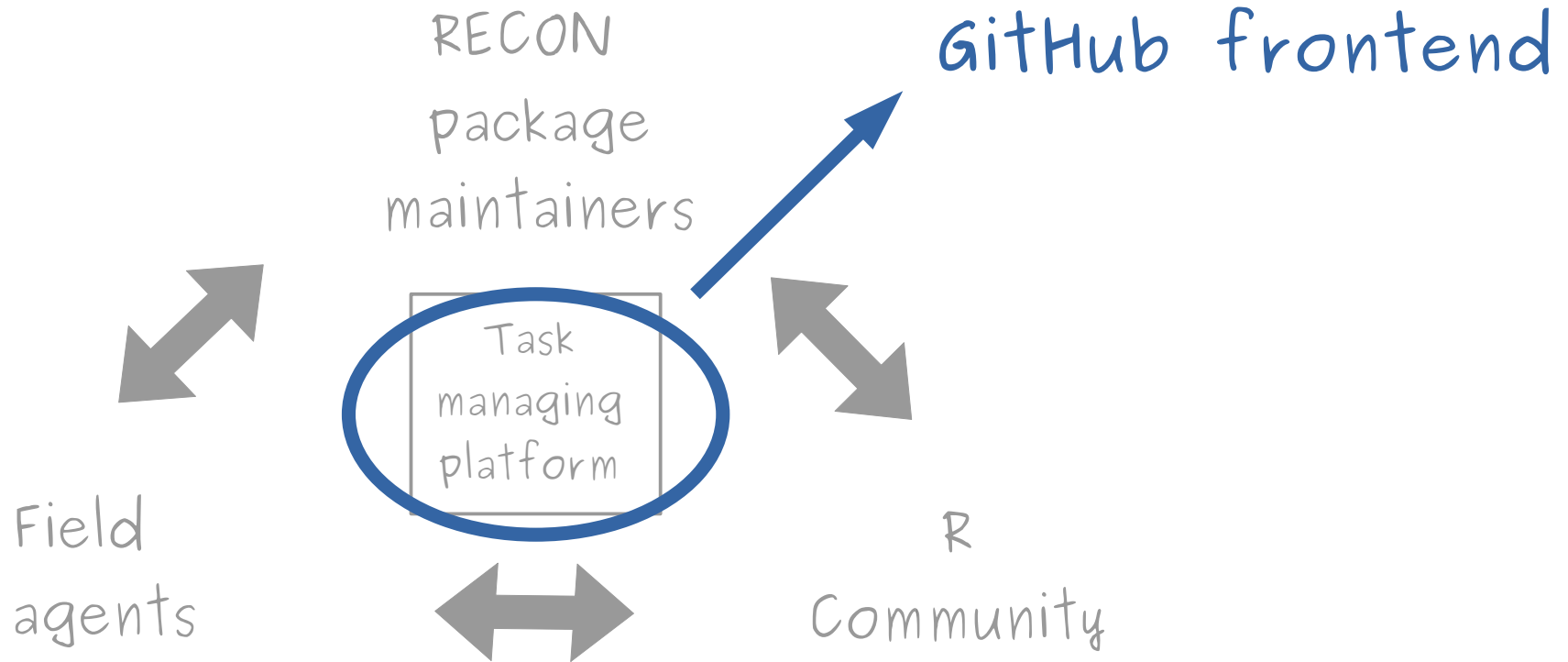
Priority to COVID-19
specific tasks

Platform specifications

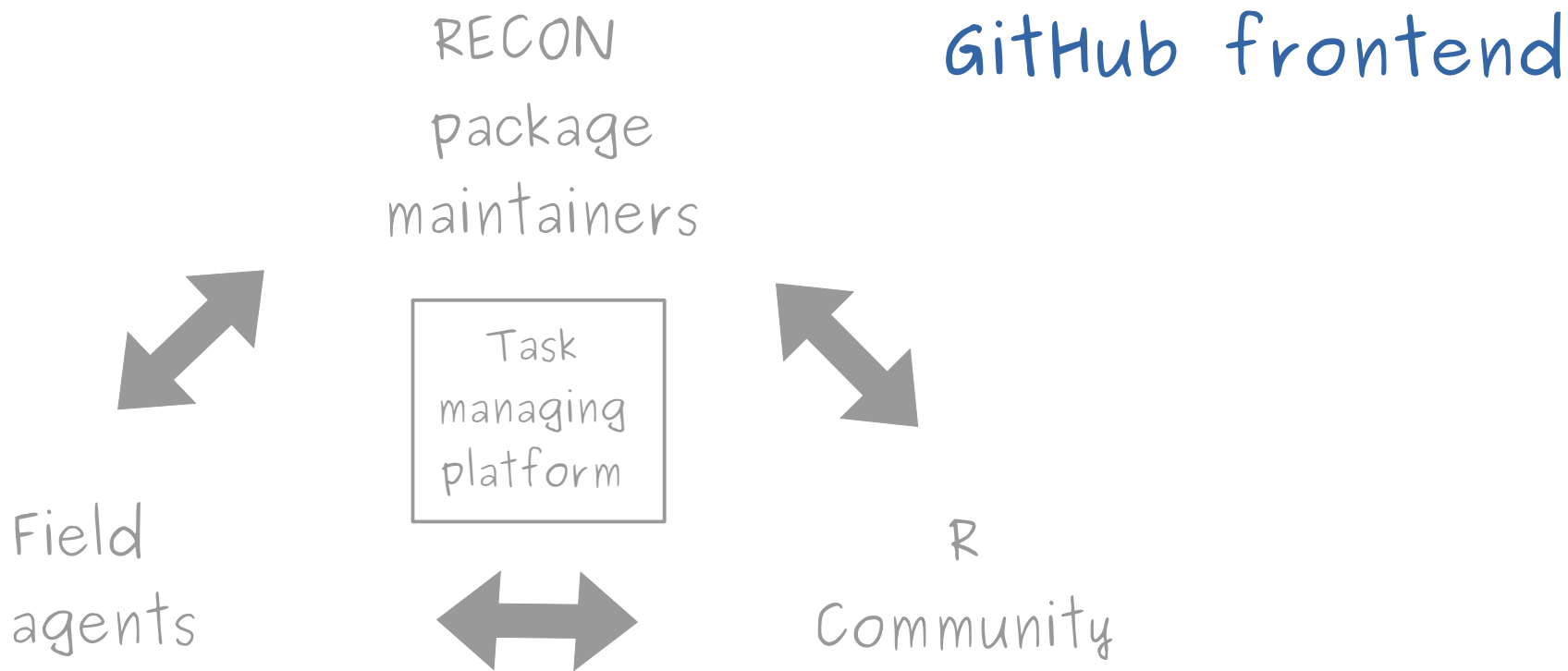
COVID-19 challenge



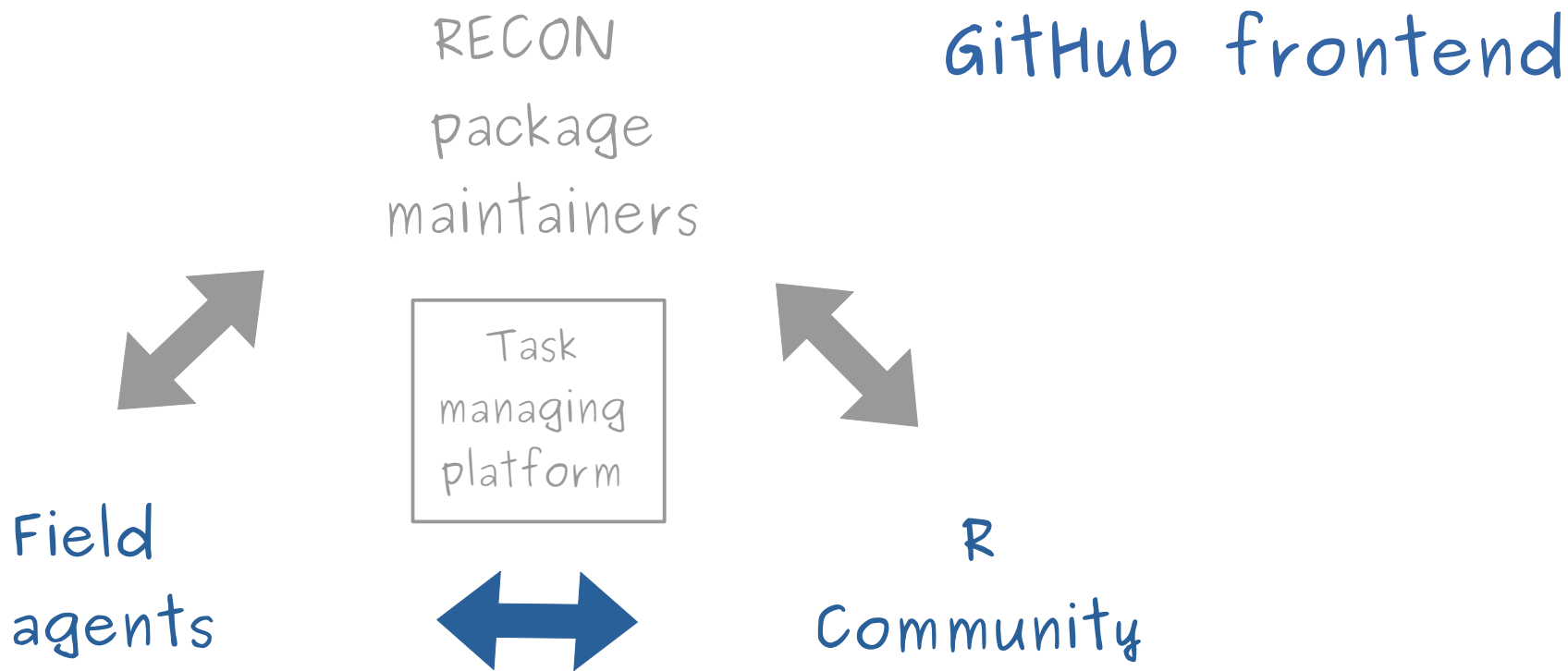
COVID-19 challenge



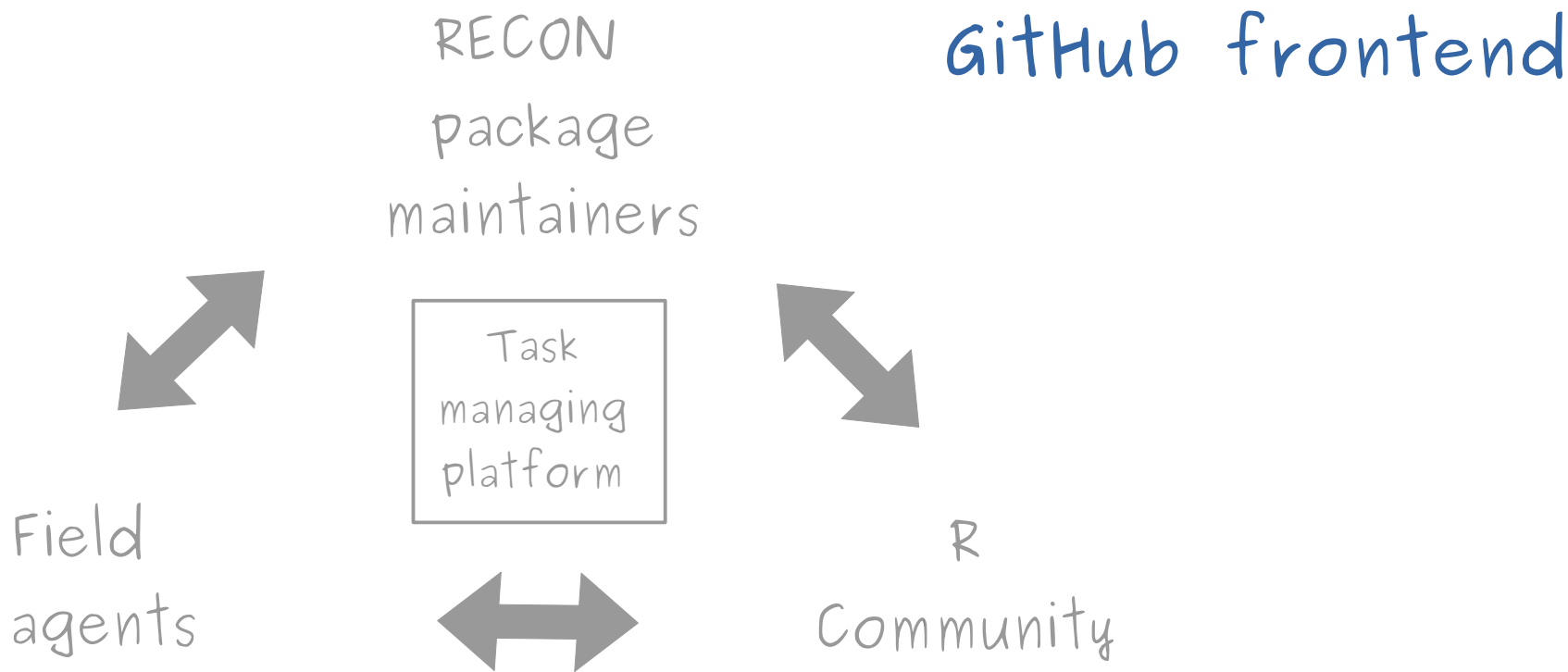
COVID-19 challenge



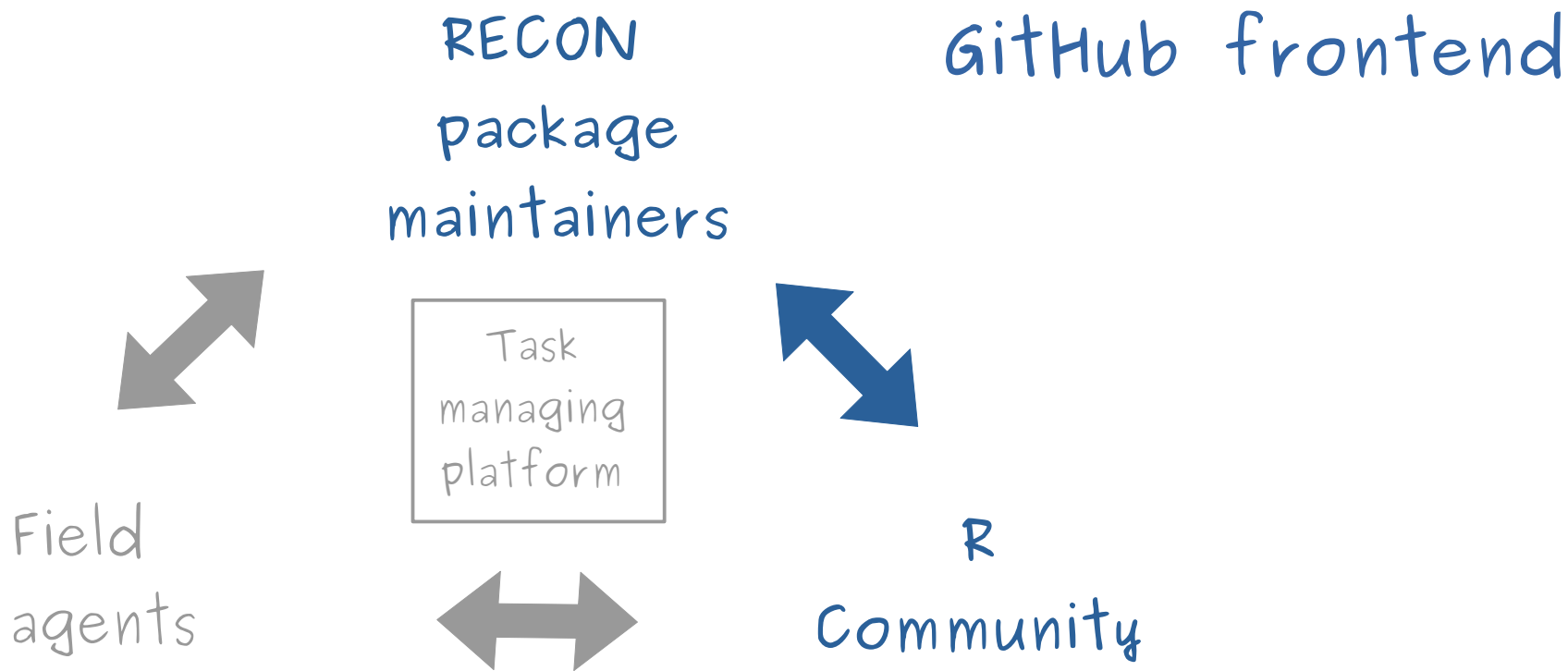
COVID-19 challenge



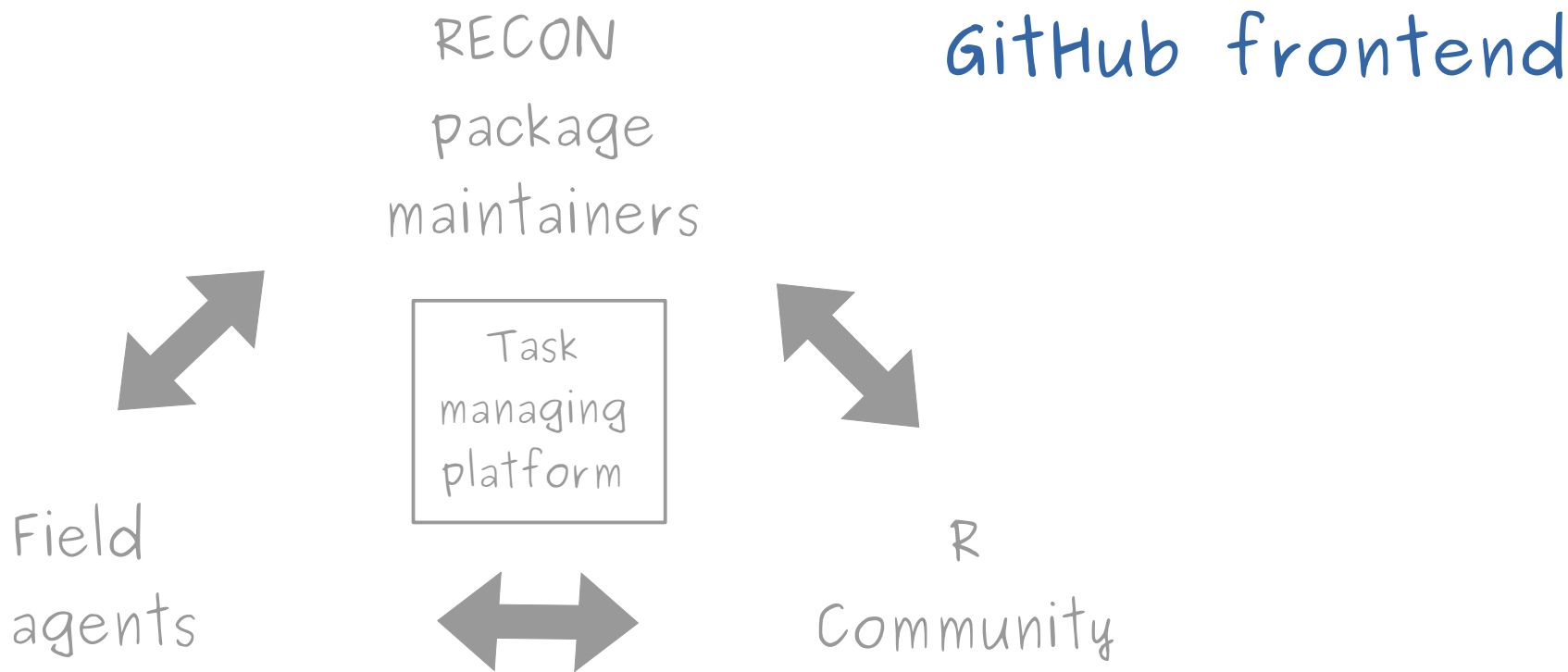
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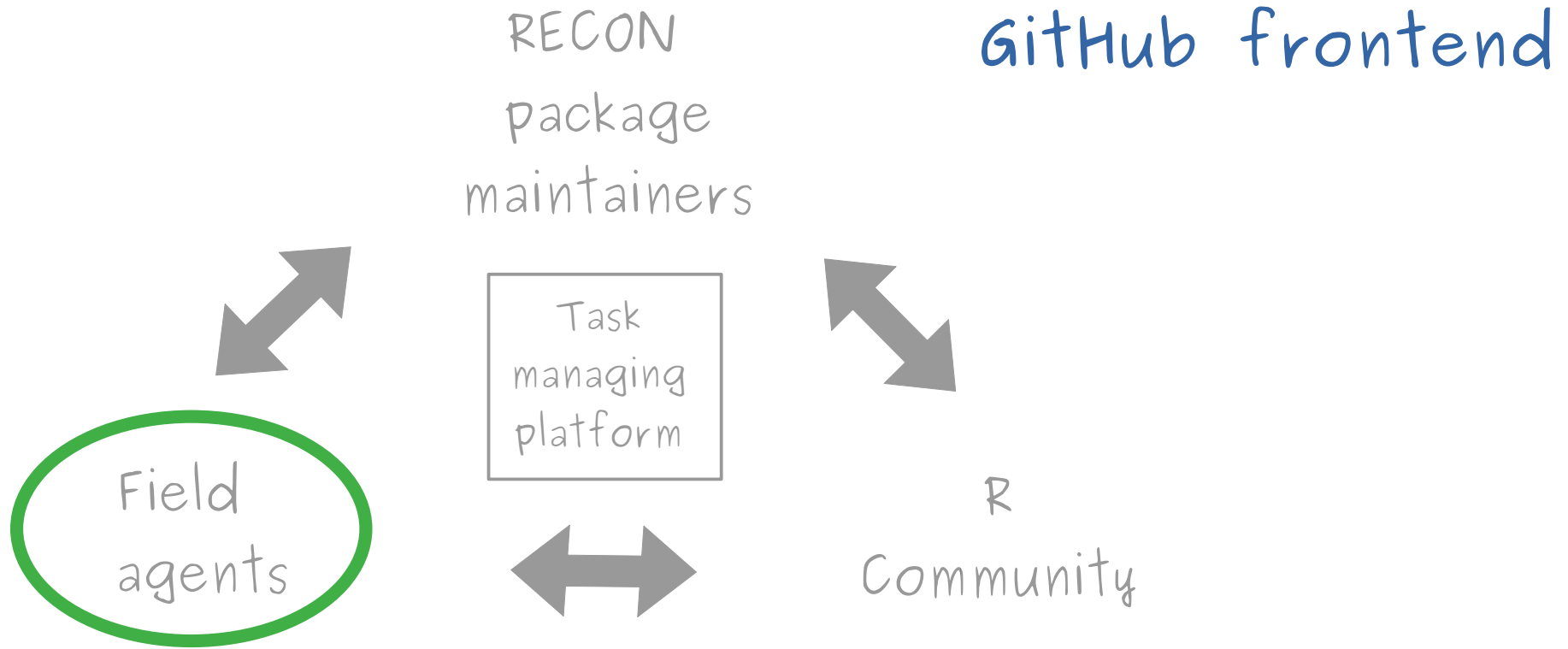
COVID-19 challenge



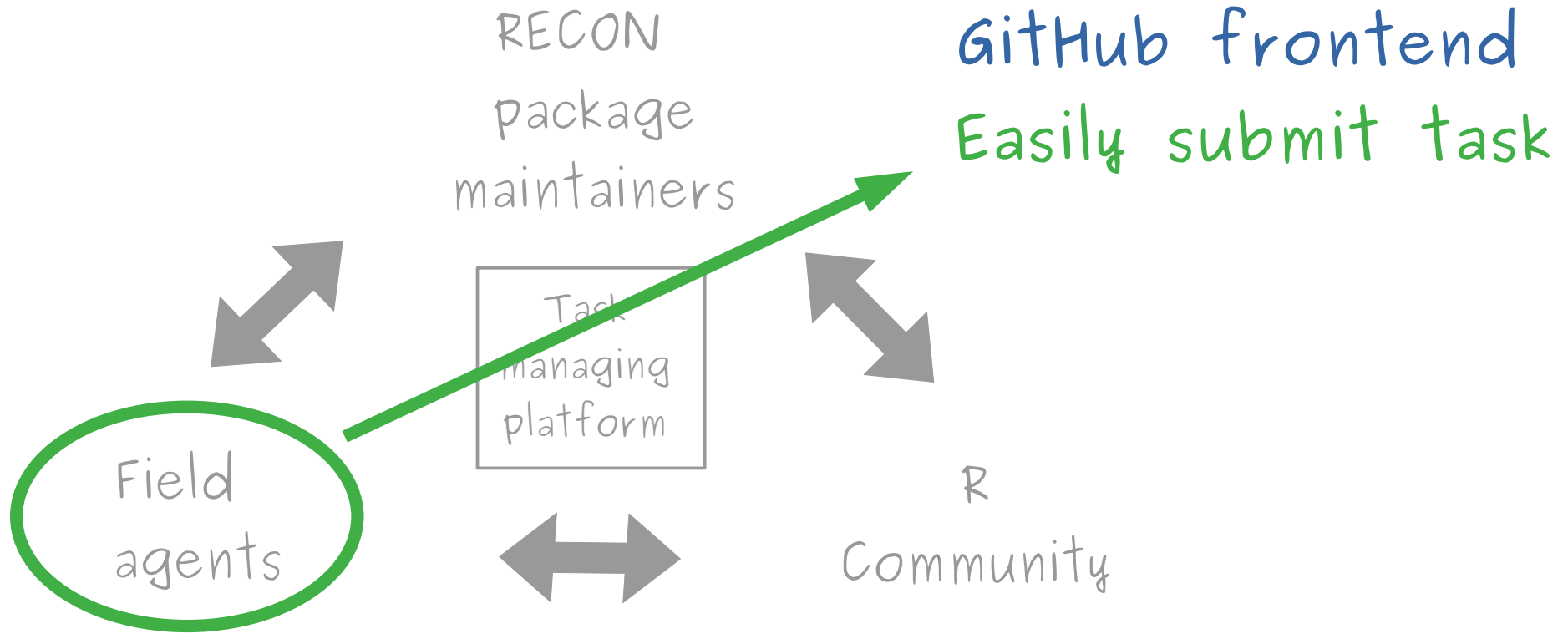
COVID-19 challenge



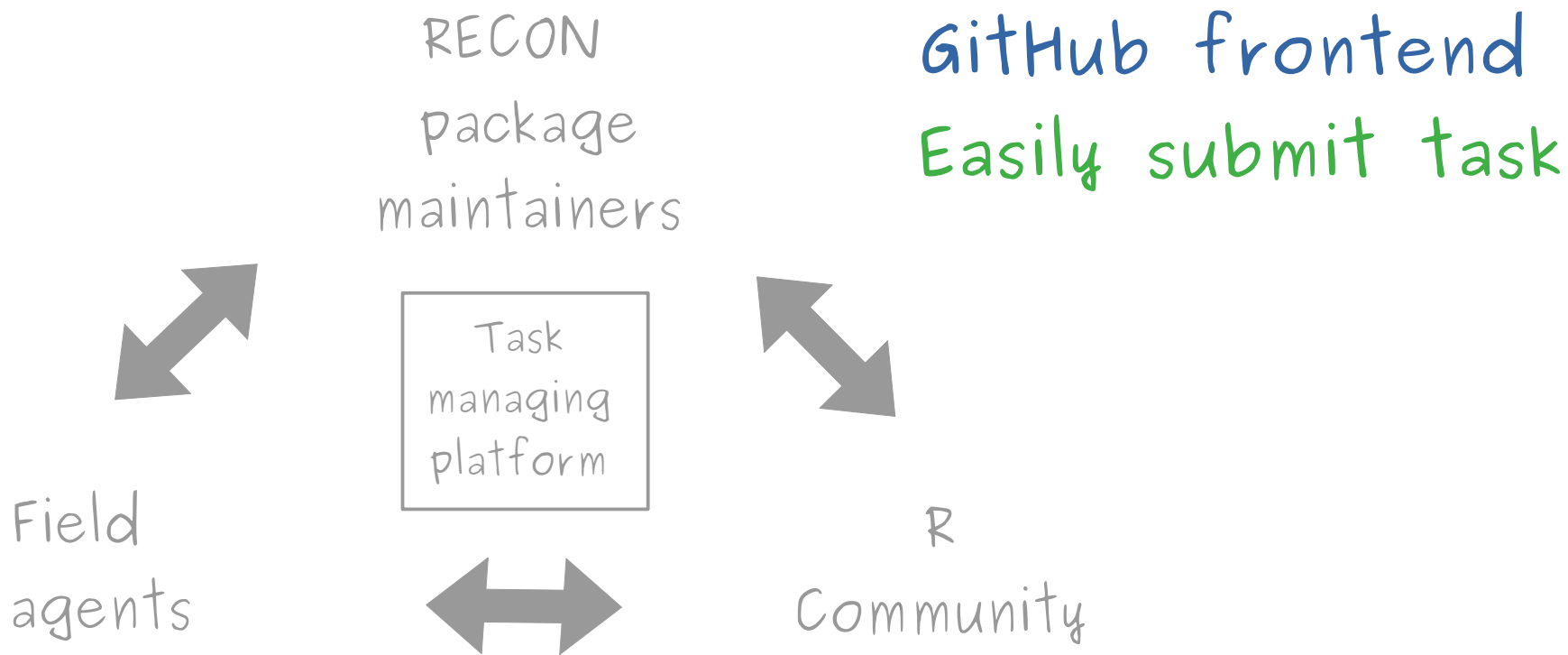
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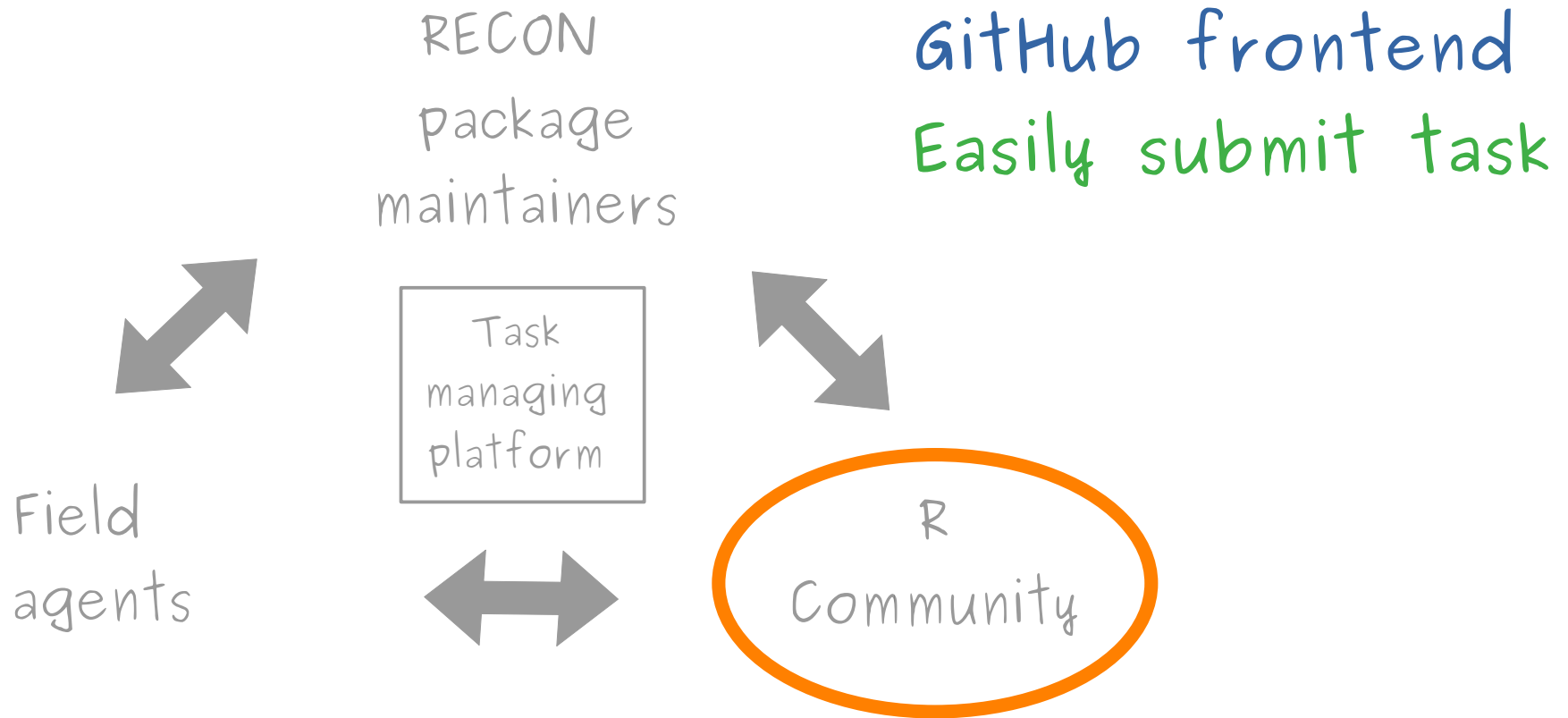
COVID-19 challenge



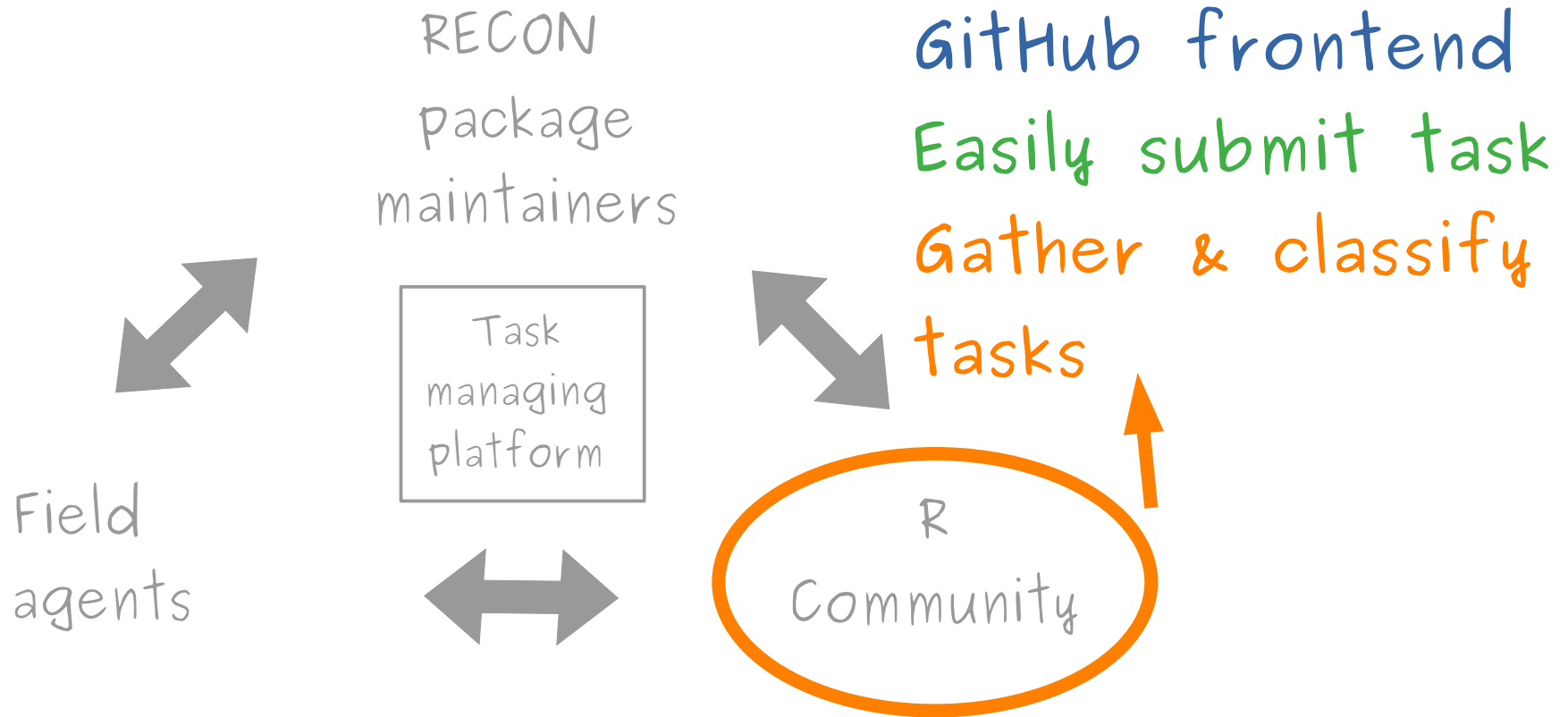
COVID-19 challenge



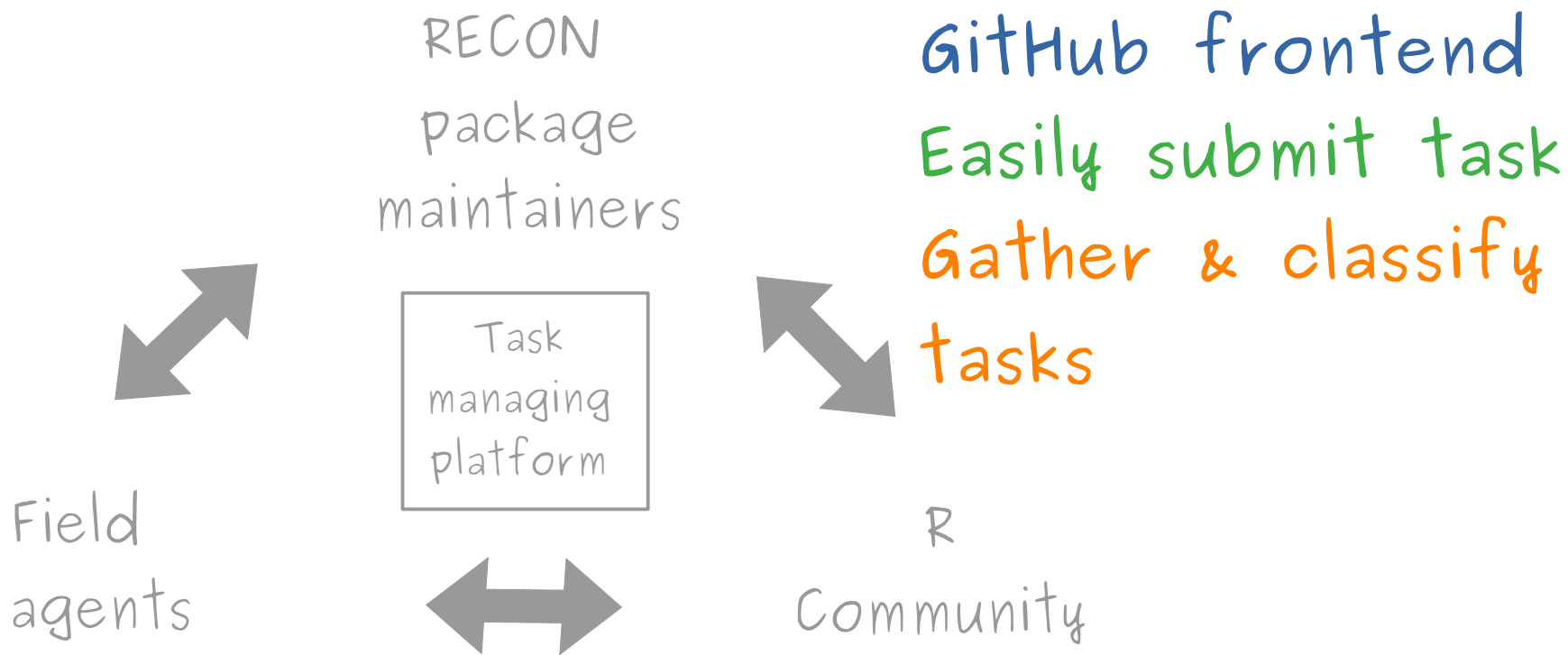
COVID-19 challenge



COVID-19 challenge



COVID-19 challenge



Task Lifecycle





ABOUT LEARN EXPLORE

LOG IN

Be part of the global response to COVID19

Join a community of field epidemiologists, infectious disease modellers and volunteer R programmers and contribute to develop free and open source R tools used in the response to the COVID19 epidemic.

Tools developed by the R epidemics consortium (RECON) are essential in helping professionals design outbreak analytics pipelines in response to COVID19.



The tasking manager is a direct communication channel between field agents actively working on the response to COVID19 and the R community.

Your R programming skills can help field agents around the world.



1 Field agent opens task



recon

https://infallible-meitner-feacd3.netlify.app/#/explore

90%

Boîte de réception (4...Zimbra: Réception (4)R in GrenobleOCSGitLabGooglePlayGitHubYour Projectsshared_docsRStudio ResourcesMOOC | RRRlogSlack | IAB-E12rr-mooc-gitlabSlack|Recon

Together against COVID19

rapidemiconsortium.org

ABOUT

LEARN

EXPLORE

MY TASKS

REVIEW

ADMIN DASHBOARD

LOG OUT

This is an explore page

Create a task

Use text content to describe the task. Short and clear descriptions are most likely to generate interest.

Task Title

Task Description

Impact

Timeline

Use available labels to reflect the nature of the task. In particular, for rating the complexity and the priority of the task.

Task Complexity

Task priority

Assigned Repo

Assignee to Help

Assign task to specific github user or repo

SUBMIT

CLOSE

Filter Complexity

None

Demo Title

Apple mobility reports

From netlify

NEW TASK

Priority: High

Complexity: Medium

Priority: High

Complexity: Medium

Priority: Low

Complexity: Low

SHOW DETAILS

SHOW DETAILS

SHOW DETAILS

Search 🔍

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

My Submitted Tasks


Search

Repo	Title	Description	Complexity	Priority	Status	Created	Notes	Updated
covid19hub	Demo task	just a demo	Complexity_Low	Priority_Low	pending	2020-08-26 20:29:05		2020-08-26 20:29:05
covid19hub	Demo task for DSCC19	Show DSCC attendees task creation template	Complexity_Low	Priority_Low	approved	2020-08-26 20:27:22	very interesting task	2020-08-26 20:30:46

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

1 Field agent opens task



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

This is a Review page



Search

Author	Title	Description	Complexity	Priority	Created	Updated	Notes	Actions
							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		👍👎

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

This is a Review page

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

Search 🔍

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

This is an explore page

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

complexity Filter Priority None

[Demo task](#)

Priority: Low
Complexity: Low

Additional Tags:

SHOW DETAILS

[Demo task for DSCC19](#)

Priority: Low
Complexity: Low

Additional Tags:

SHOW DETAILS

[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

[medium complex medium priority](#)

Priority: Medium
Complexity: High

[medium complex high priority](#)

Priority: High
Complexity: Medium

[From netlify](#)


Priority: Low
Complexity: Low


This is an explore page

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complexity Filter Priority None

Demo task <div>Priority: Low Complexity: Low</div> <div>Additional Tags:</div> <div>SHOW DETAILS</div>	Demo task for DSCC19 <div>Priority: Low Complexity: Low</div> <div>Additional Tags:</div> <div>SHOW DETAILS</div>	Demo Title <div>Priority: Low Complexity: Low</div> <div>Additional Tags:</div> <div>SHOW DETAILS</div>
Package: fit discretised distributions to match expected distributional properties <div>Priority: Medium Complexity: Medium</div> <div>Additional Tags:</div> <div>SHOW DETAILS</div>	Functions to import reported daily sub-national new cases and deaths from LMIC <div>Priority: High Complexity: Medium</div> <div>Additional Tags:</div> <div>SHOW DETAILS</div>	Apple mobility reports <div>Priority: Medium Complexity: Low</div> <div>Additional Tags:</div> <div>SHOW DETAILS</div>
Complex medium priority <div>Priority: Medium Complexity: High</div> <div>Additional Tags:</div> <div>SHOW DETAILS</div>	medium complex high priority <div>Priority: High Complexity: Medium</div> <div>Additional Tags:</div> <div>SHOW DETAILS</div>	From netlify <div>Priority: Low Complexity: Low</div> <div>Additional Tags:</div> <div>SHOW DETAILS</div>

- 
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 - 3 R programmer browses tasks

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

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 - 4 R programmer assigns him/herself task

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 - 5 Field agent + R programmer solve task

Apple mobility reports #7

New issue

🕒 Open **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

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- 
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PLATFORM

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PLATFORM

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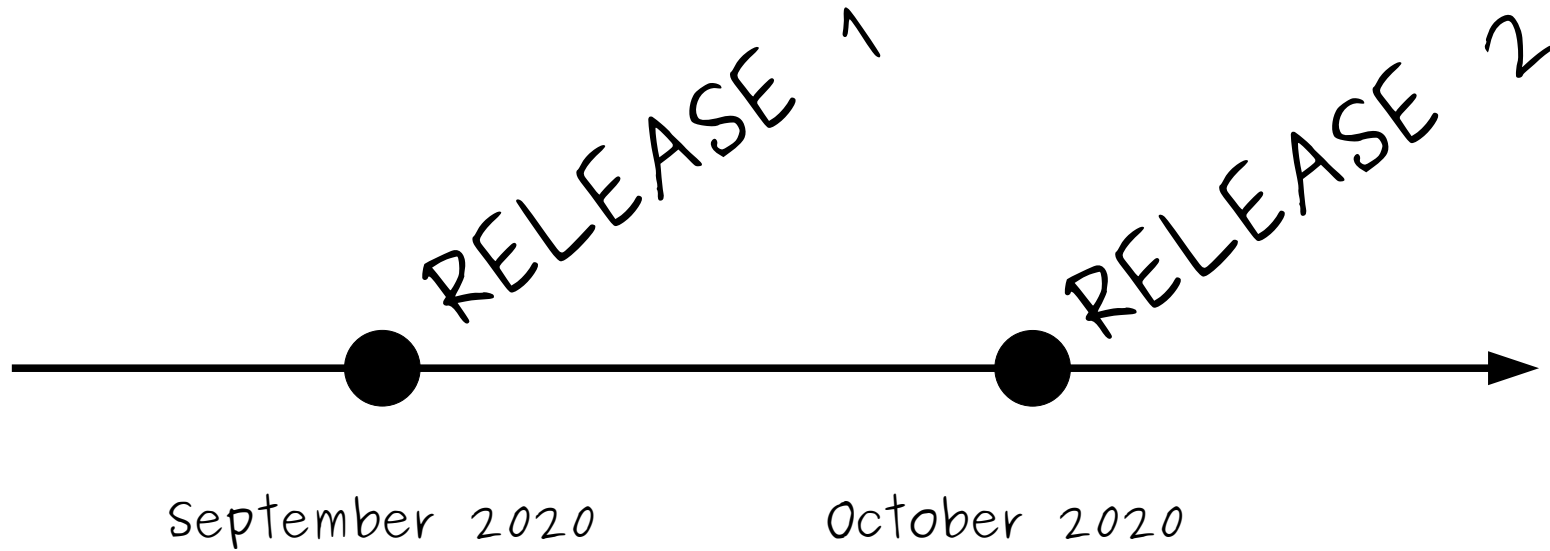
GITHUB

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() ?