



DailyENews



universidade
de aveiro

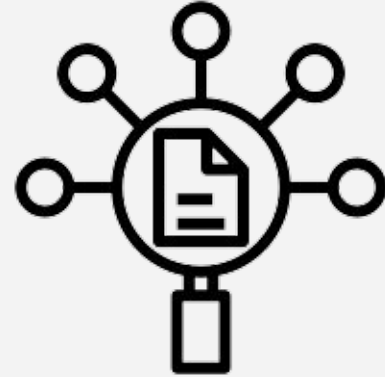
Pedro Amaral NMEC: 93283
Pedro Tavares NMEC:93103
Vasco Sousa NMEC:93049



The Product

DailyENews is a service that allows users to follow the news from several websites in a single platform.

It is based on JARR (Just Another RSS Reader).





Features

- Aggregate news from several sources;
- Allows the separation of news by category;
- Gives insights to the user without the need to search through every website;
- Simple and clean news reader;
- Save and show liked articles.

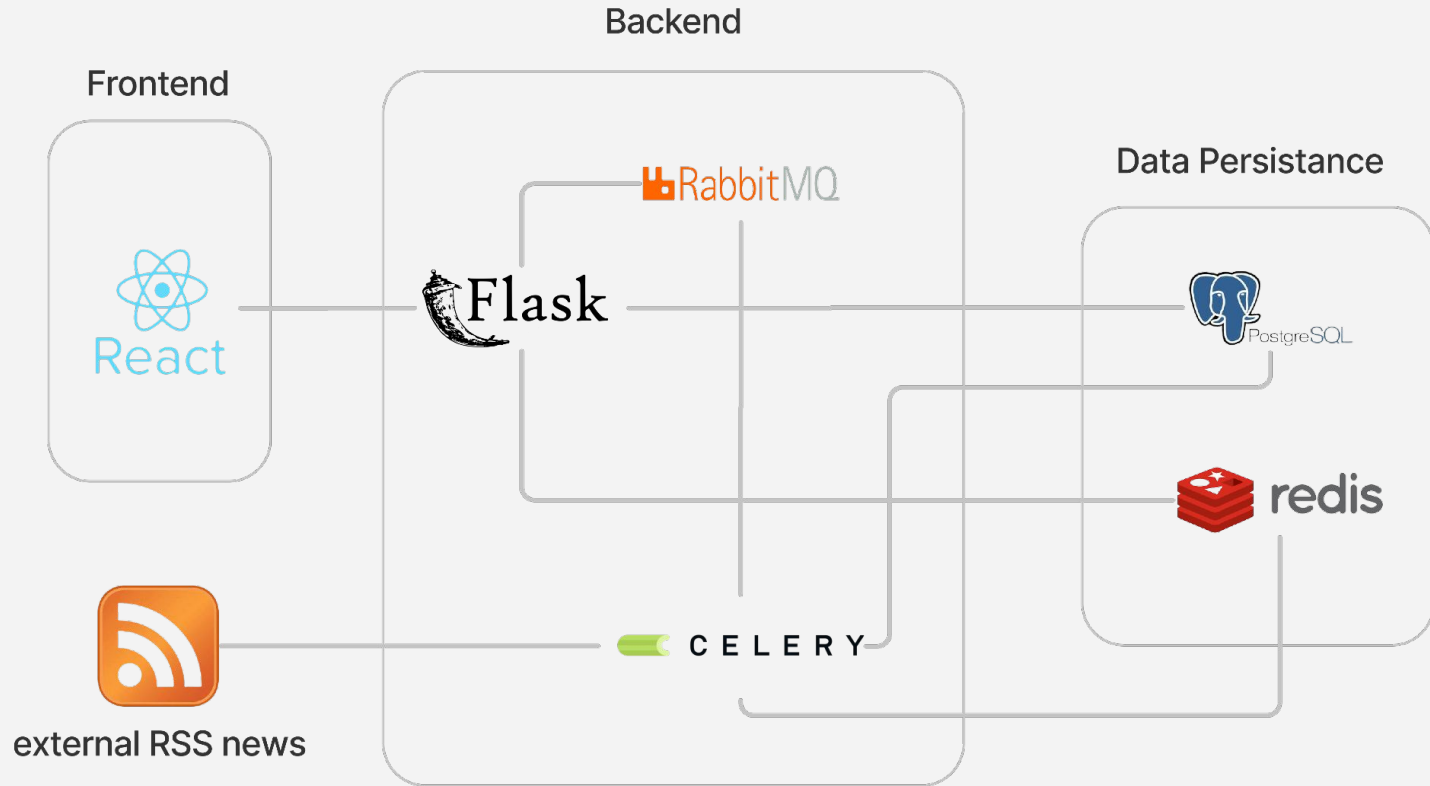


User influx

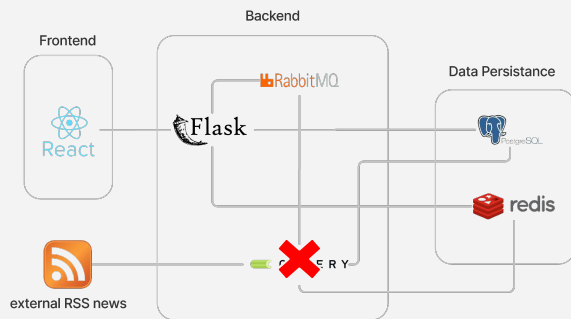
- Starting amount: 5000 registered users
- Value subject to change depending on the number of registered accounts;
- Rule of 100:10:1 proposed by IBM which would translate to: 5000-500-50



Infrastructure

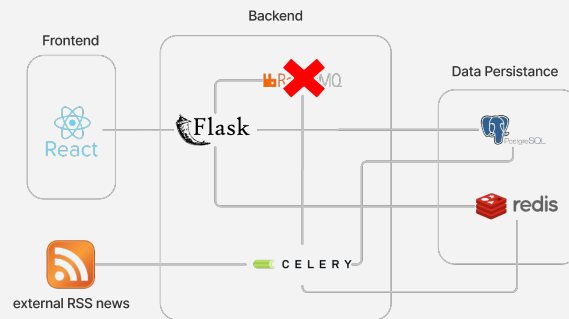


Failure Modes



Celery Worker Failed:

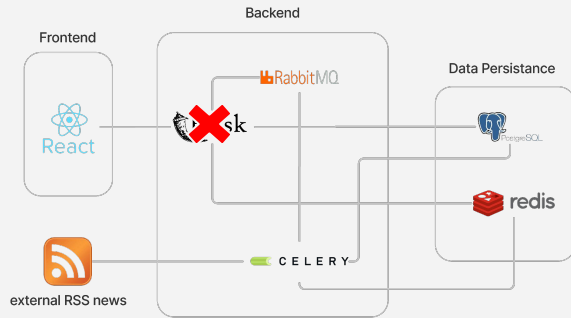
- Most features available;
- Cannot fetch new news.



RabbitMQ Failed:

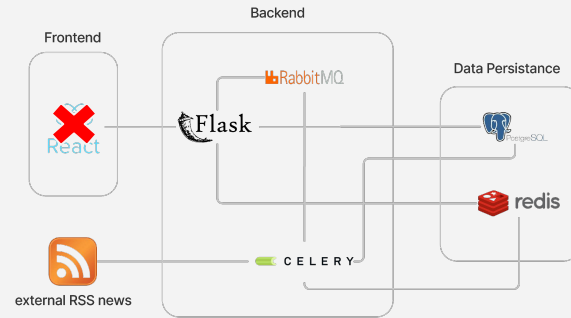
- Most features available;
- Cannot fetch new news.

Failure Modes



Flask Server Failed:

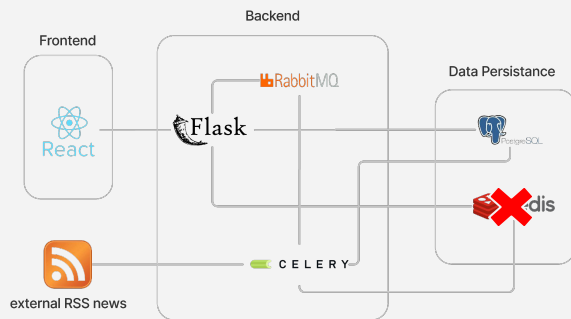
- Most features unavailable;
- Worker will keep fetching previously requested news.



React Web App Failed:

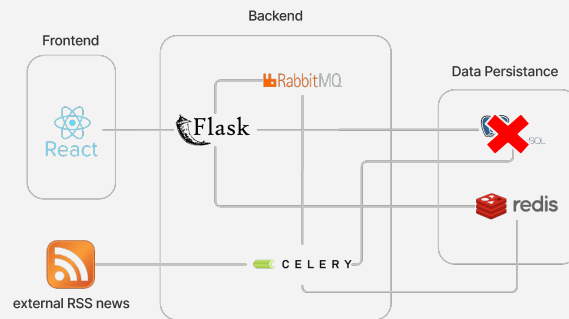
- Users cannot access web page;
- All features available through the server API.

Failure Modes



Redis Failed:

- Most features available;
- Cannot renew nor start a session.



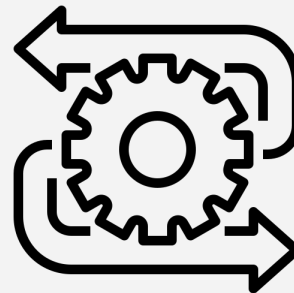
PostgreSQL Failed:

- Cannot access the news feed;
- Cannot store any new data.



Recovery Strategies

- In order to recover from a failure a container must restart as soon as possible;
- Currently, with the docker deployment, the containers are configured to restart always;
- Kubernetes will also be configured in the same way as mentioned in the previous point;
- Logs must exist in order to know what caused the failure;
- Databases must have recurrent backups.





Deployment Technologies

- Each component corresponds to a docker image;
- The deployment of the docker images will be orchestrated and managed by kubernetes;
- Kubernetes allows for multiple instances of one component;
- Data is stored using volumes.



Deployment Strategy

- The Celery worker component uses the most resources, especially when a new feed is added, so it needs the most amount of instances;
- The remaining components should have at least 2 instances in order to have redundancy.

