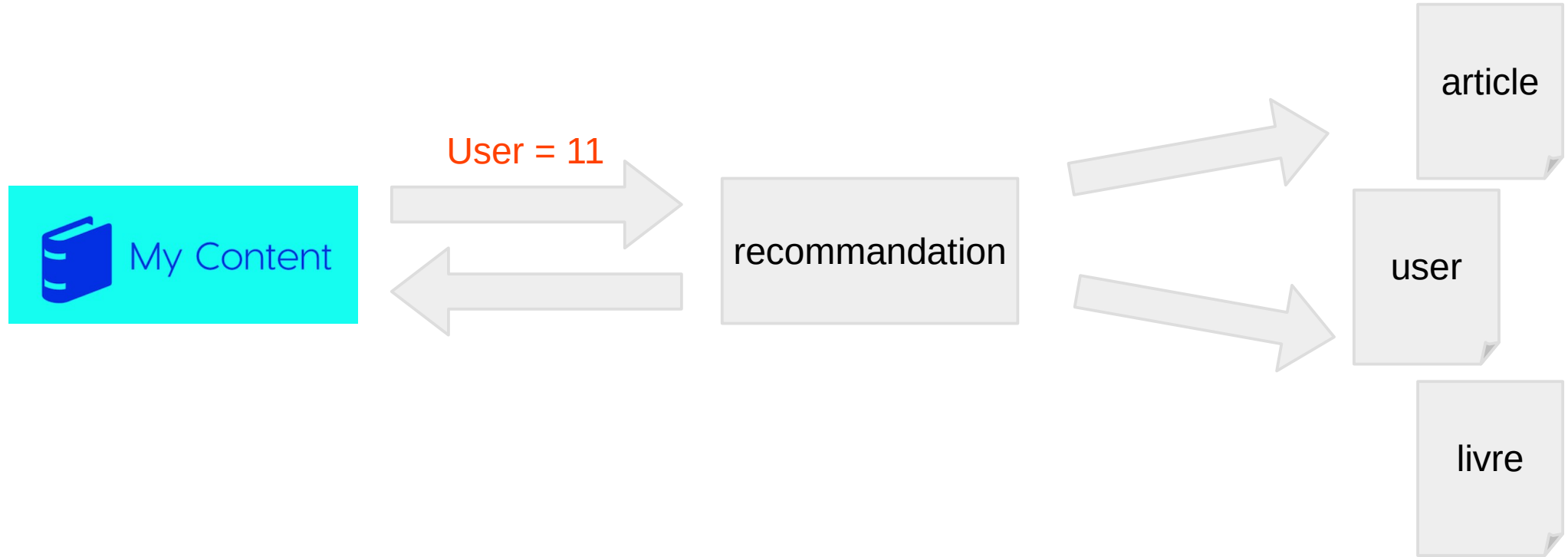


Projet 9 : Réalisez une application de recommandation de contenu

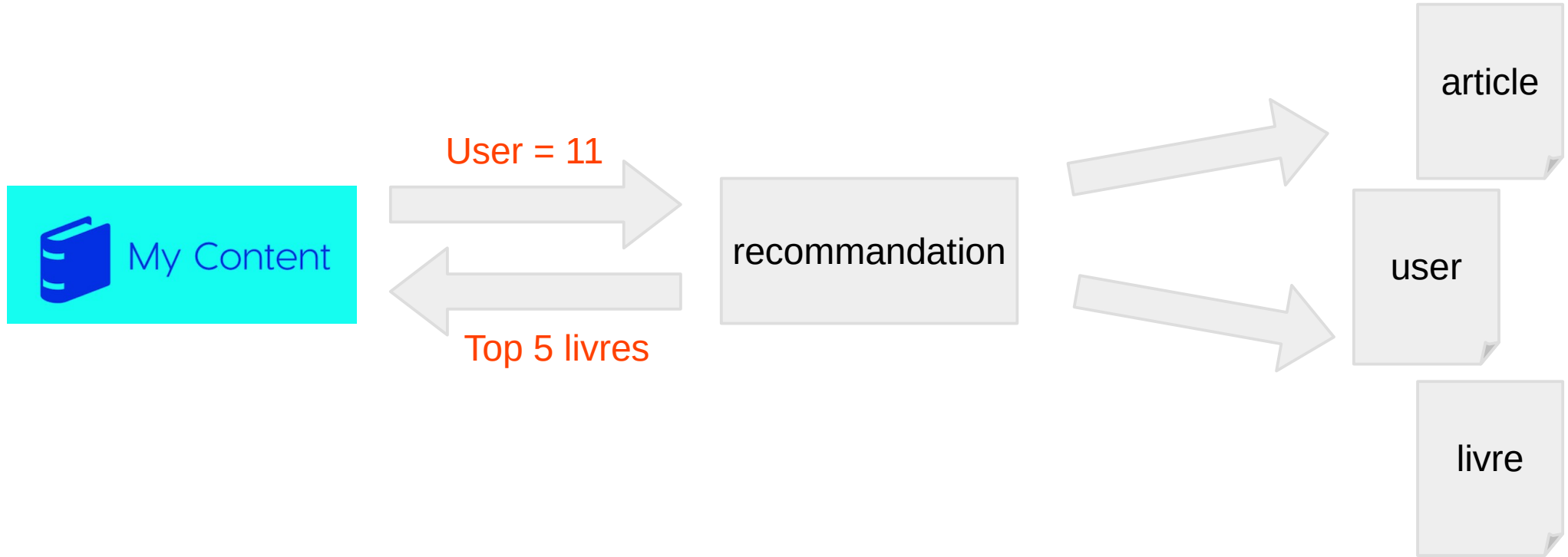
Plan

- Problématique
- Développement du système de recommandation
- Déploiement du système de recommandation
- Conclusion

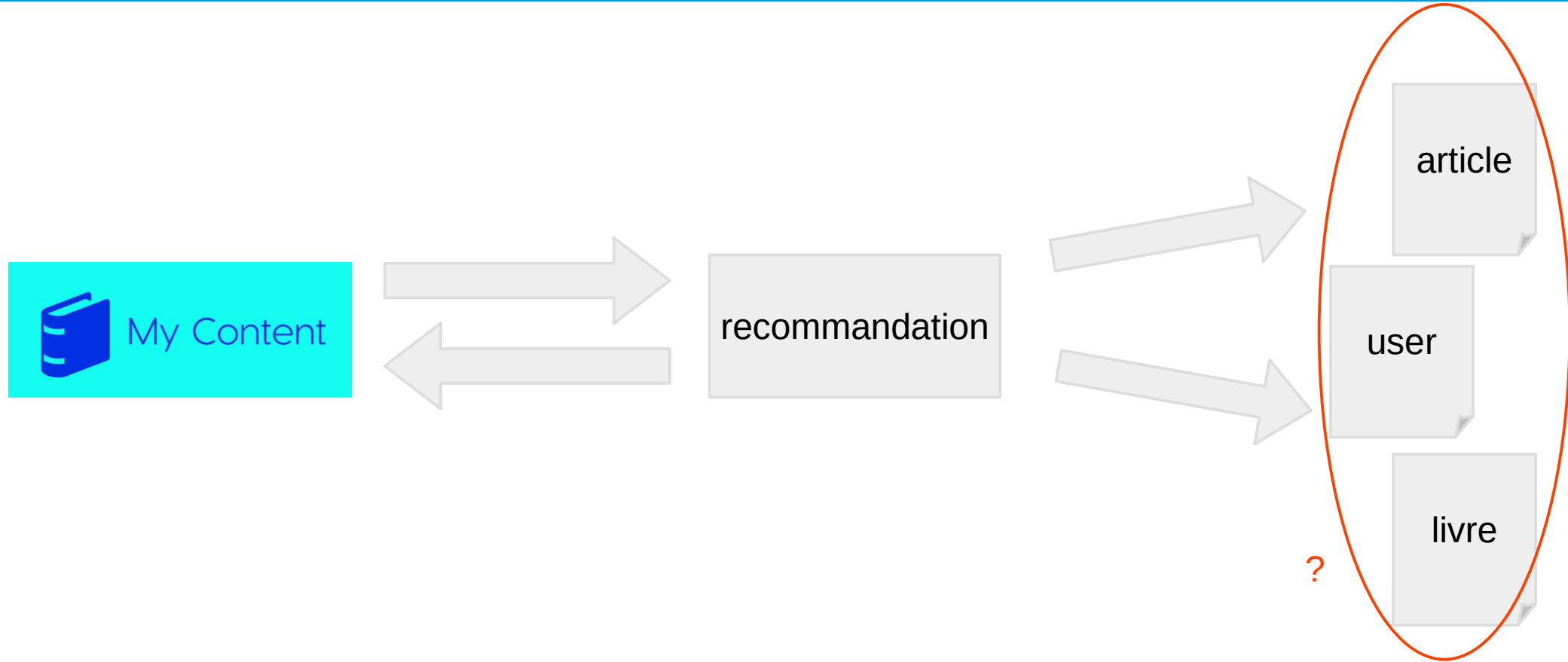
Problématique



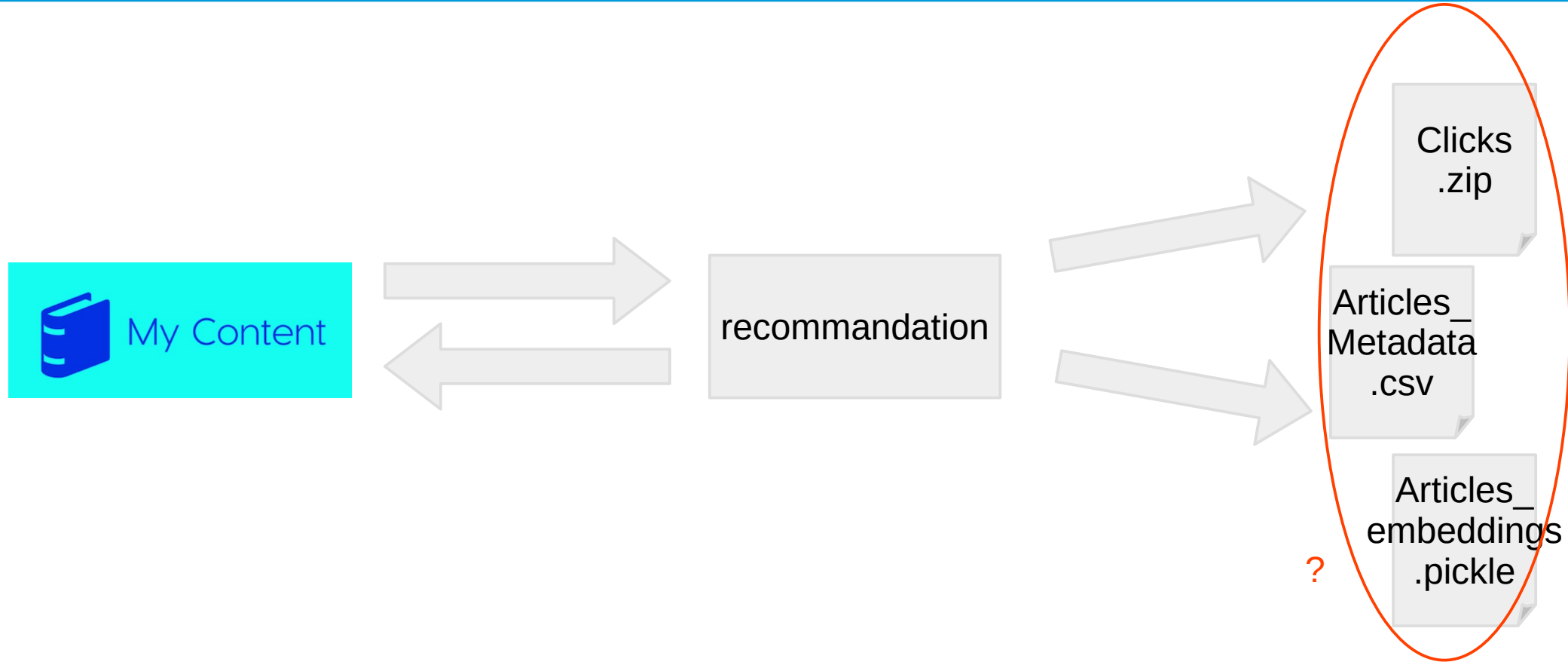
Problématique



Problématique



Problématique



Problématique



Problématique

Clicks.zip

clicks_hour_000.csv

.
. .
.

clicks_hour_384.csv

Articles_Metadata.csv

article_id,
category_id,
created_at_ts,
publisher_id,
words_count

0,0,1513144419000,0,168

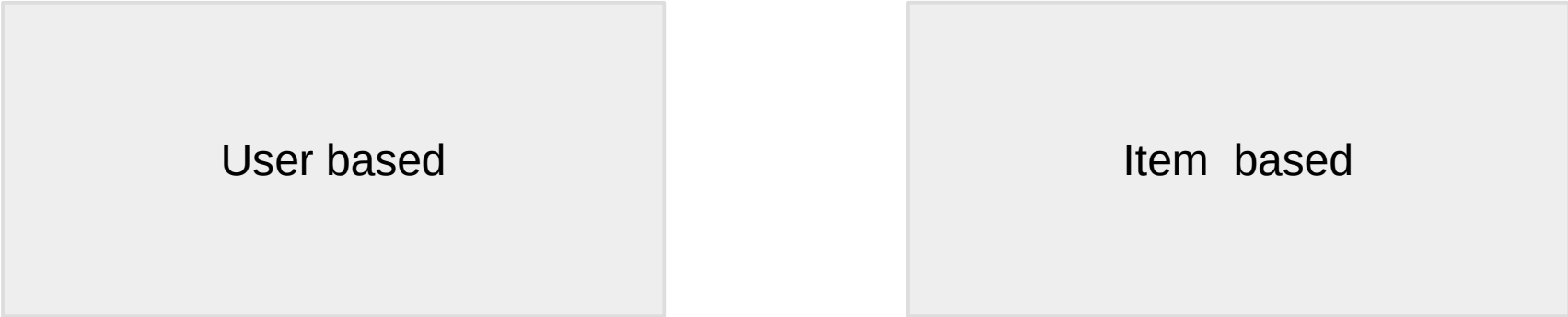
Articles_embeddings.pickle

[-0.16118301,
-0.95723313,
-0.13794445,
...,
-0.231686,
0.5974159,
0.40962312]

- Développement du système de recommandation



- Développement du système de recommandation

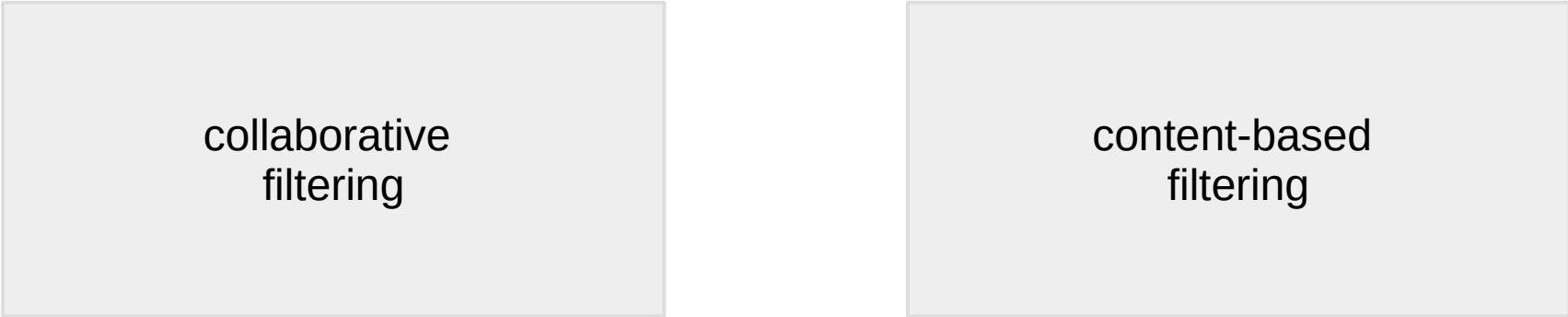


The diagram consists of two light gray rectangular boxes with thin black borders, positioned side-by-side. The left box contains the text 'User based' and the right box contains the text 'Item based'.

User based

Item based

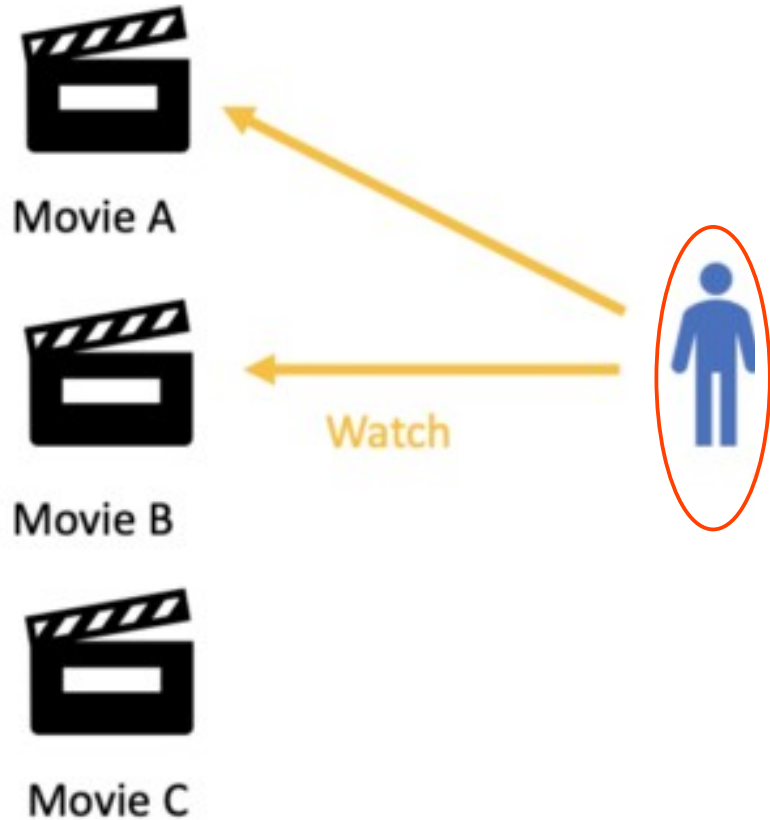
- Développement du système de recommandation



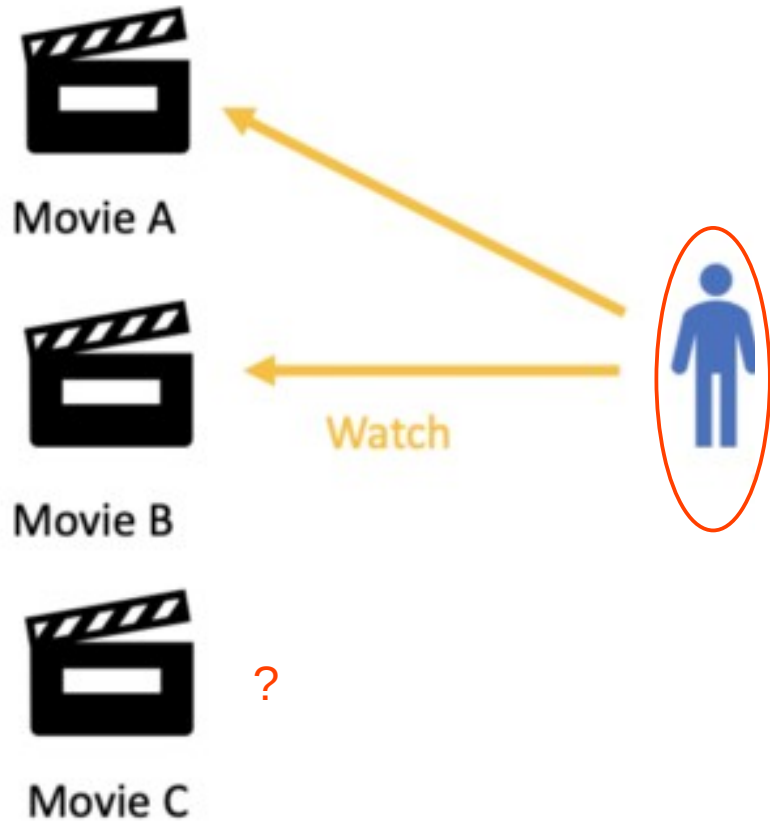
collaborative
filtering

content-based
filtering

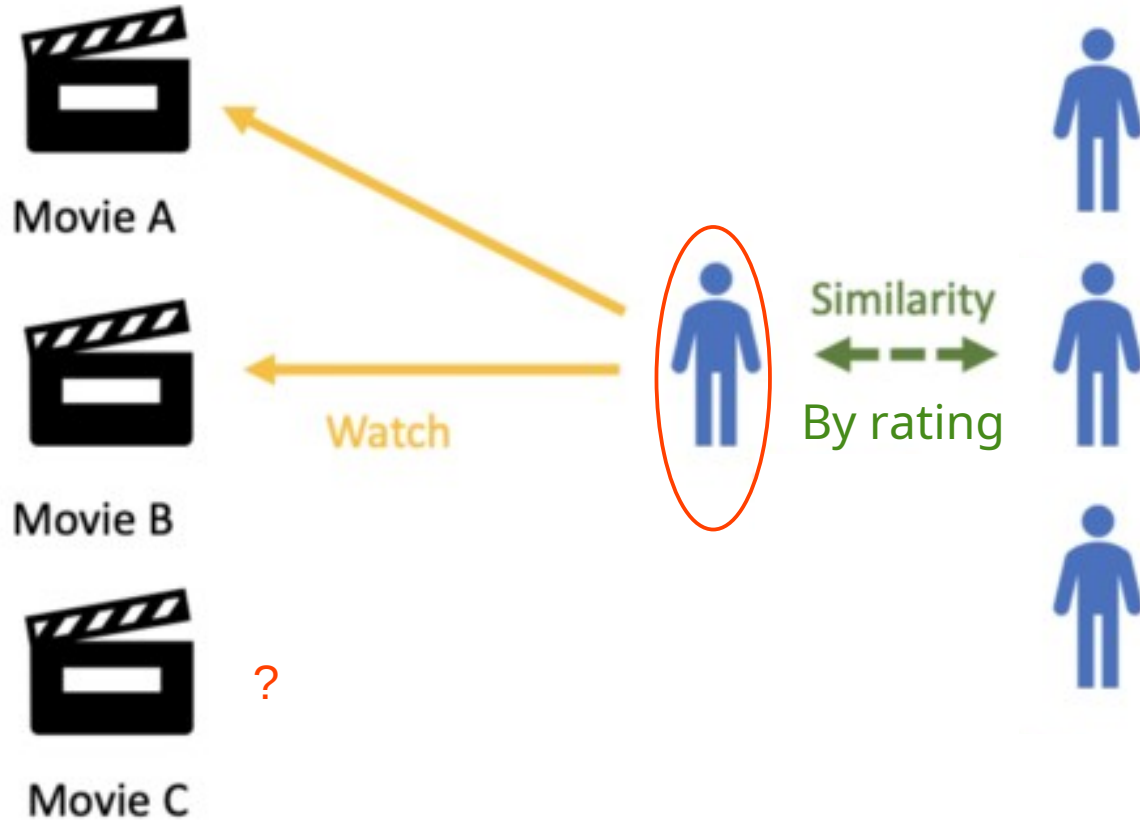
- Collaborative filtering



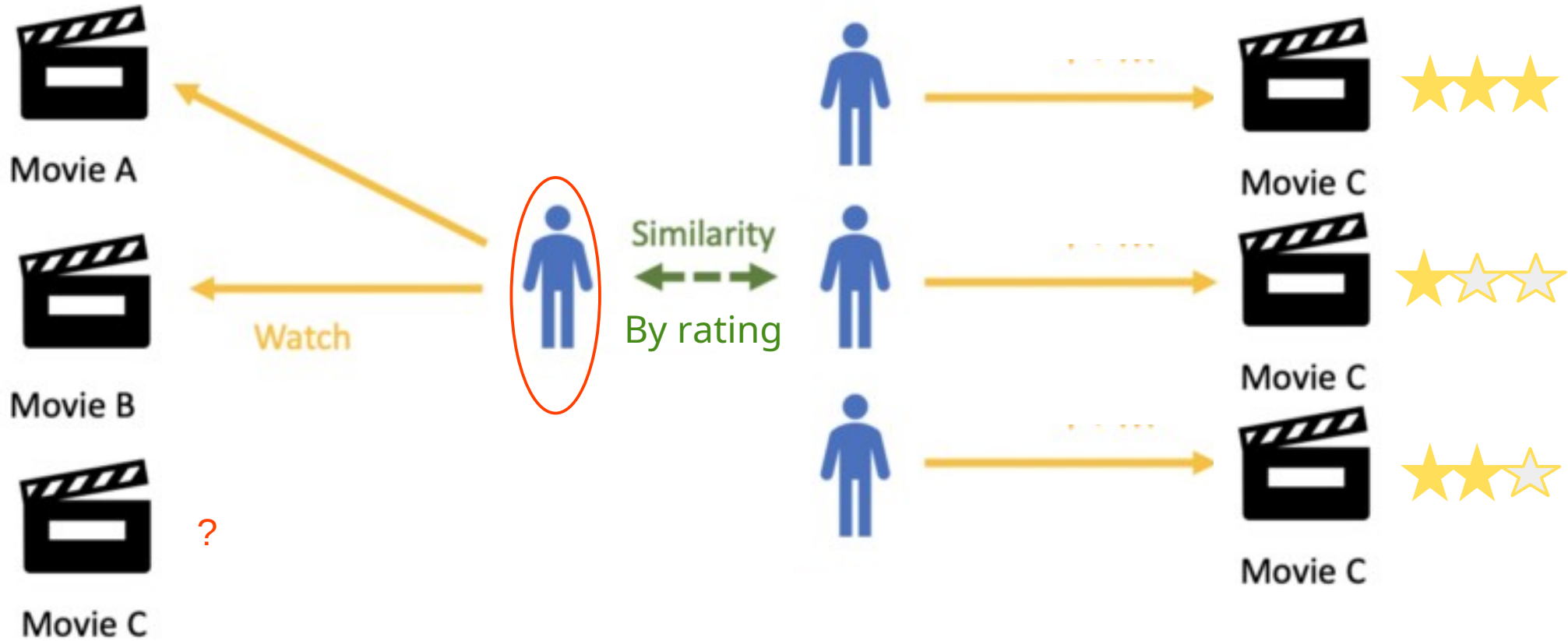
- Collaborative filtering



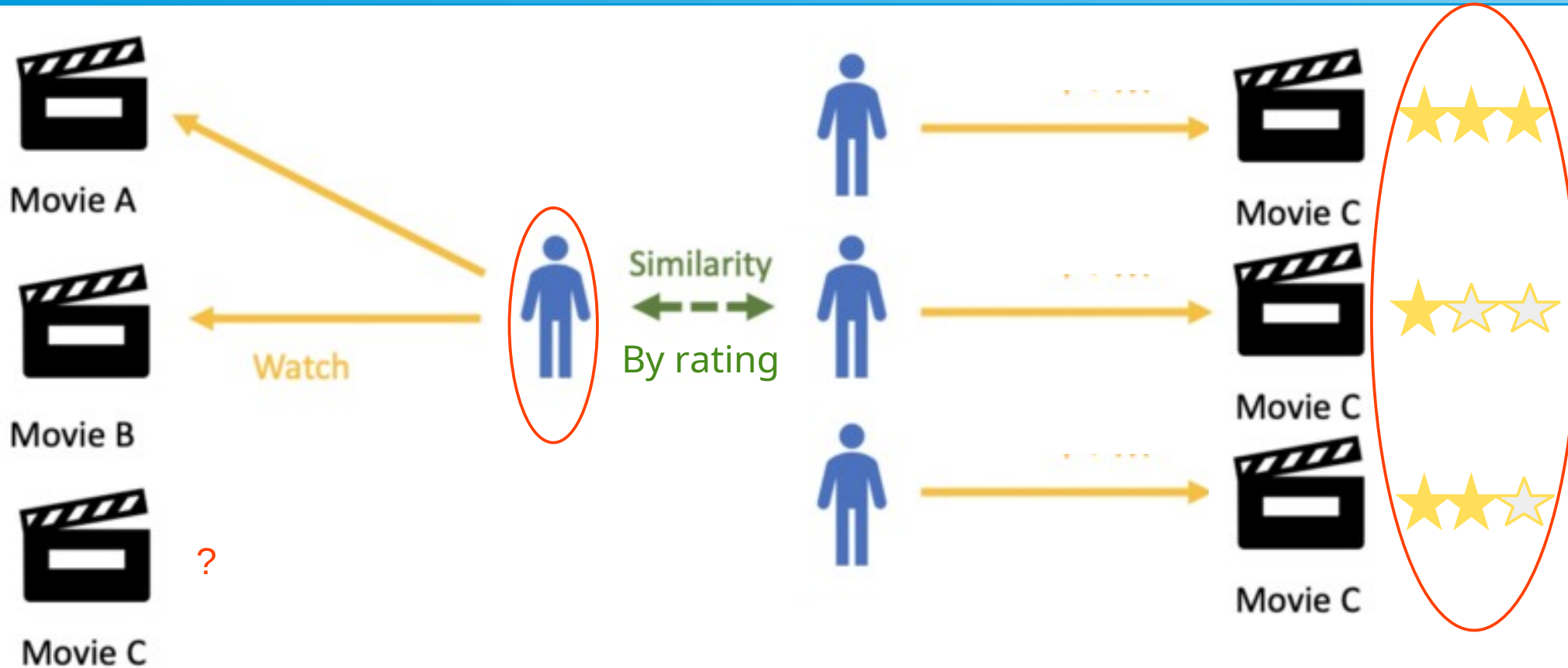
- Collaborative filtering



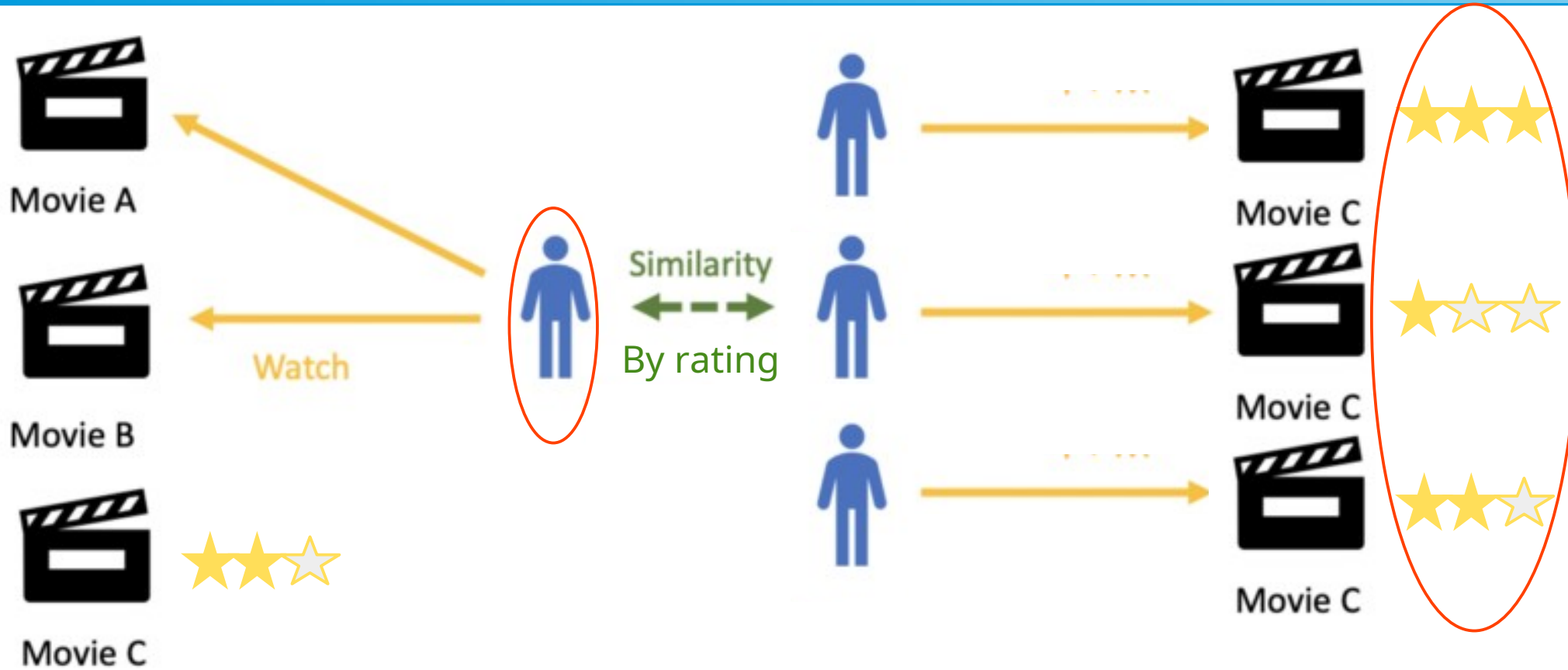
- Collaborative filtering



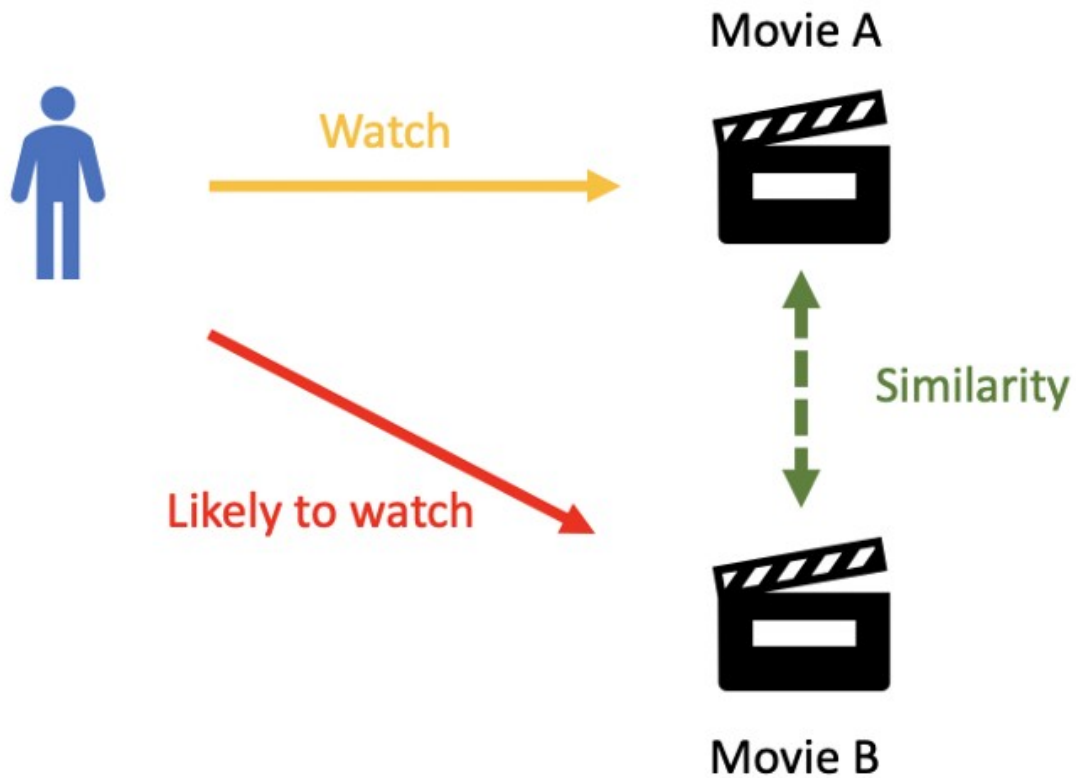
- Collaborative filtering



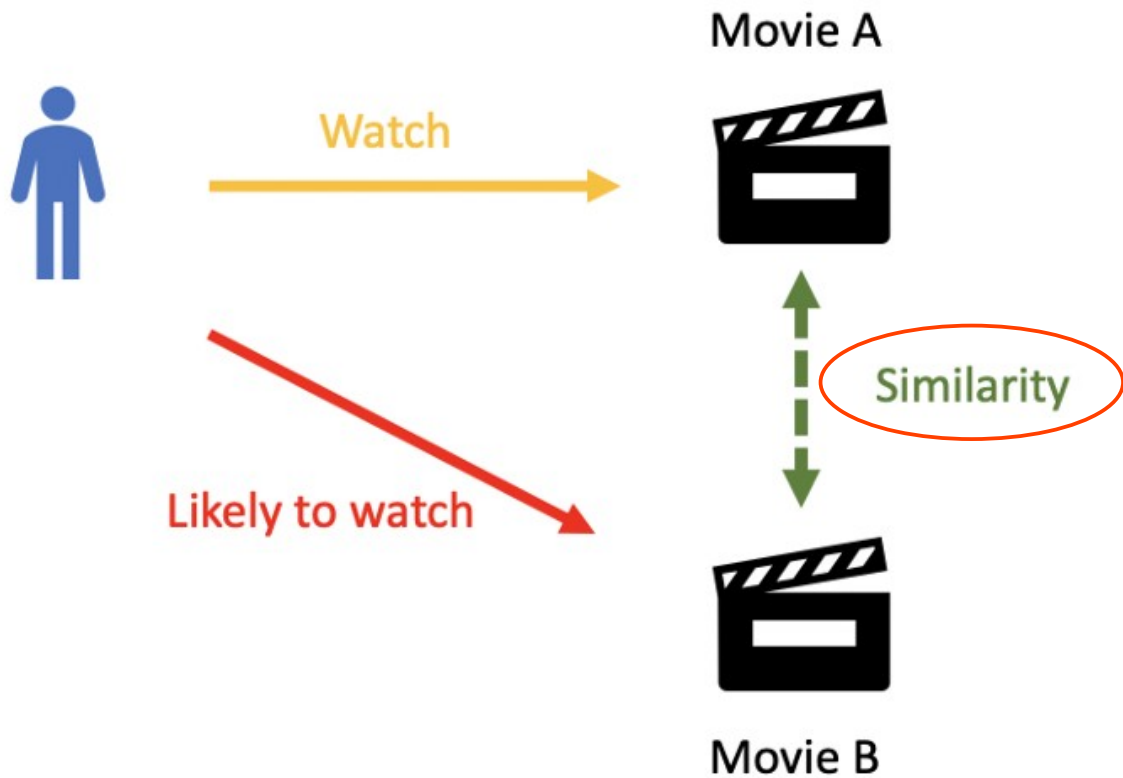
- Collaborative filtering



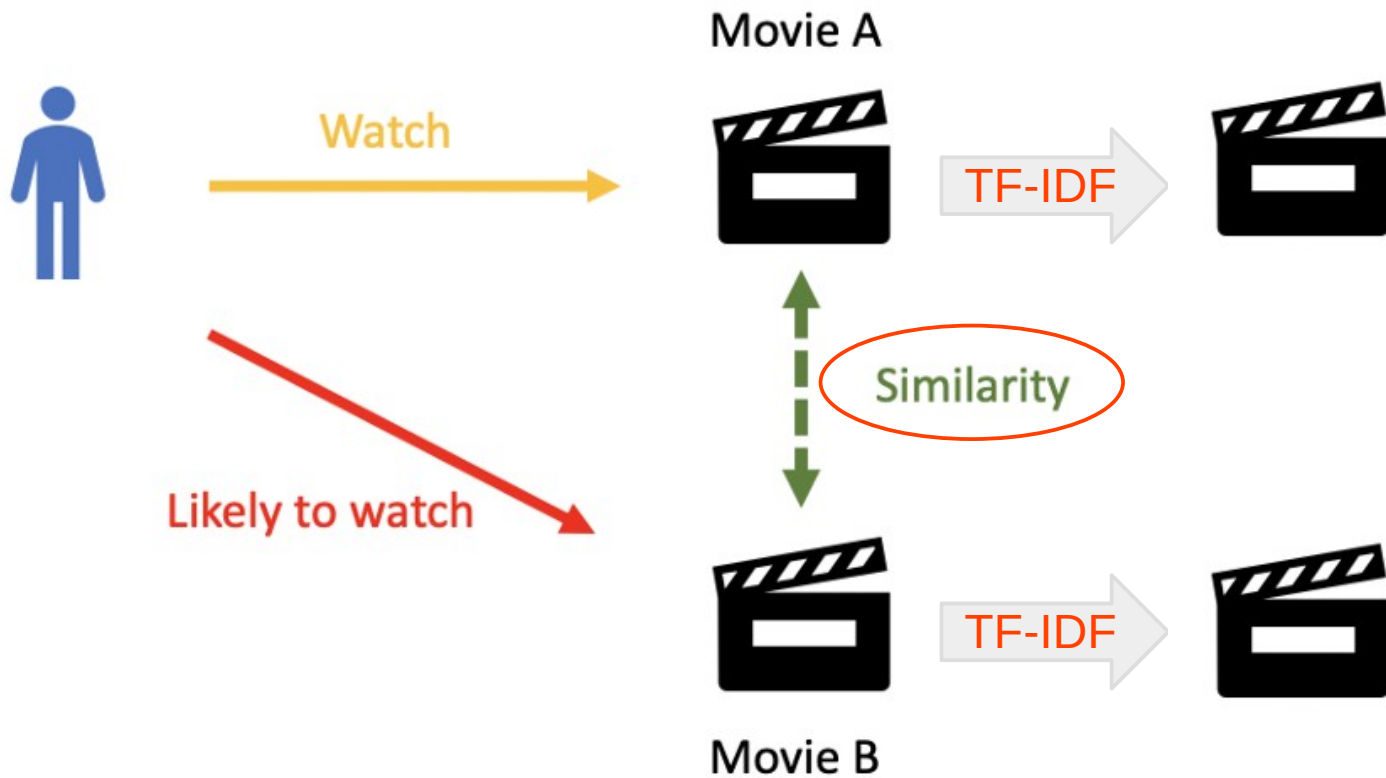
- Content-based filtering



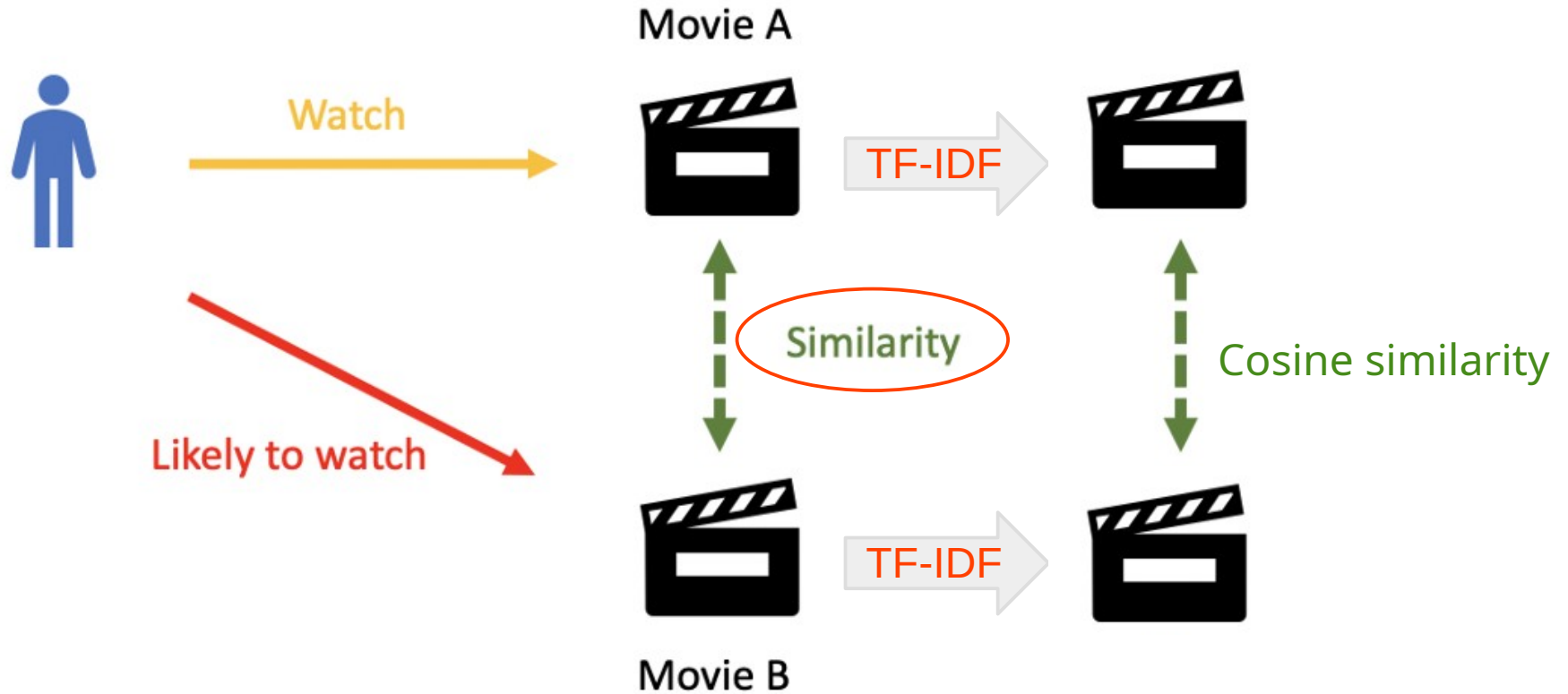
- Content-based filtering



- Content-based filtering



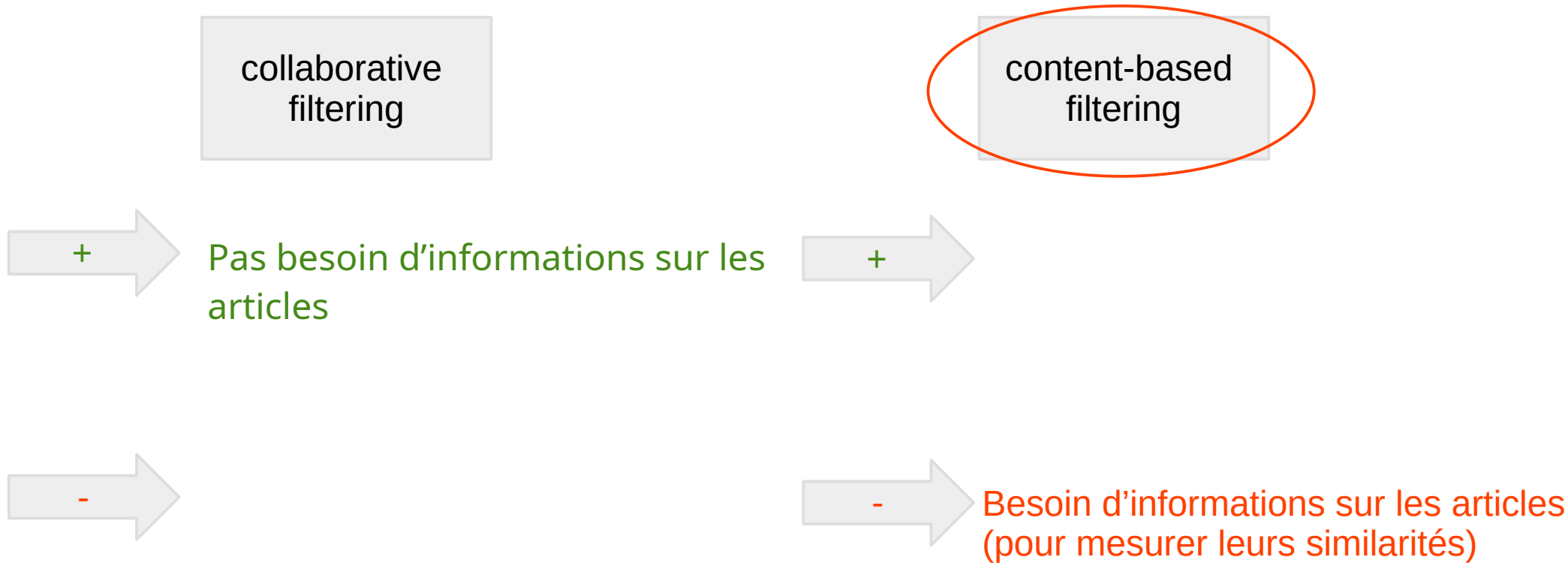
- Content-based filtering



- Développement du système de recommandation



- Développement du système de recommandation



• Développement du système de recommandation

collaborative
filtering

content-based
filtering

+

Pas besoin d'informations sur les articles

+

Recommandation personnalisée dès le 1^{er} visionnage d'un article (pas besoin de notation)


-

Besoin de notation (ou autre mesure) sur l'utilisateur pour lequel on recommande des articles (pour mesurer la similarité utilisateur)


-

Besoin d'informations sur les articles (pour mesurer leurs similarités)

- Développement du système de recommandation

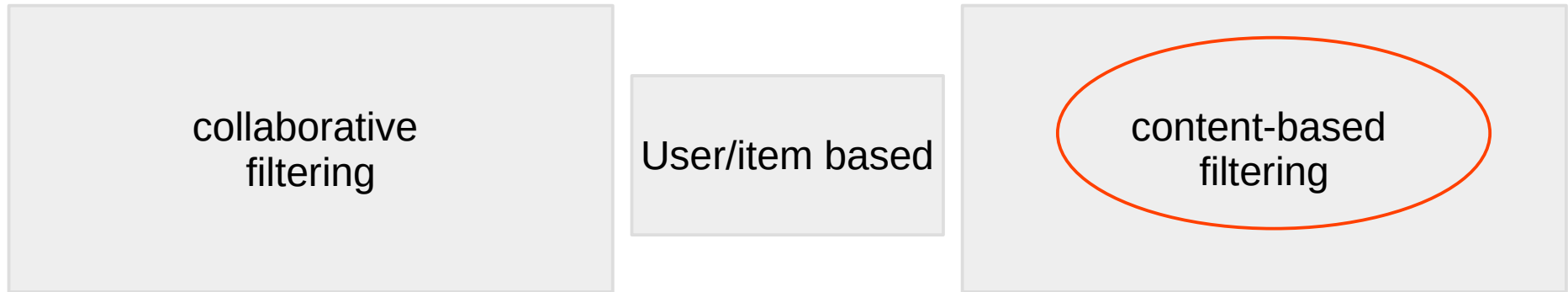


collaborative
filtering

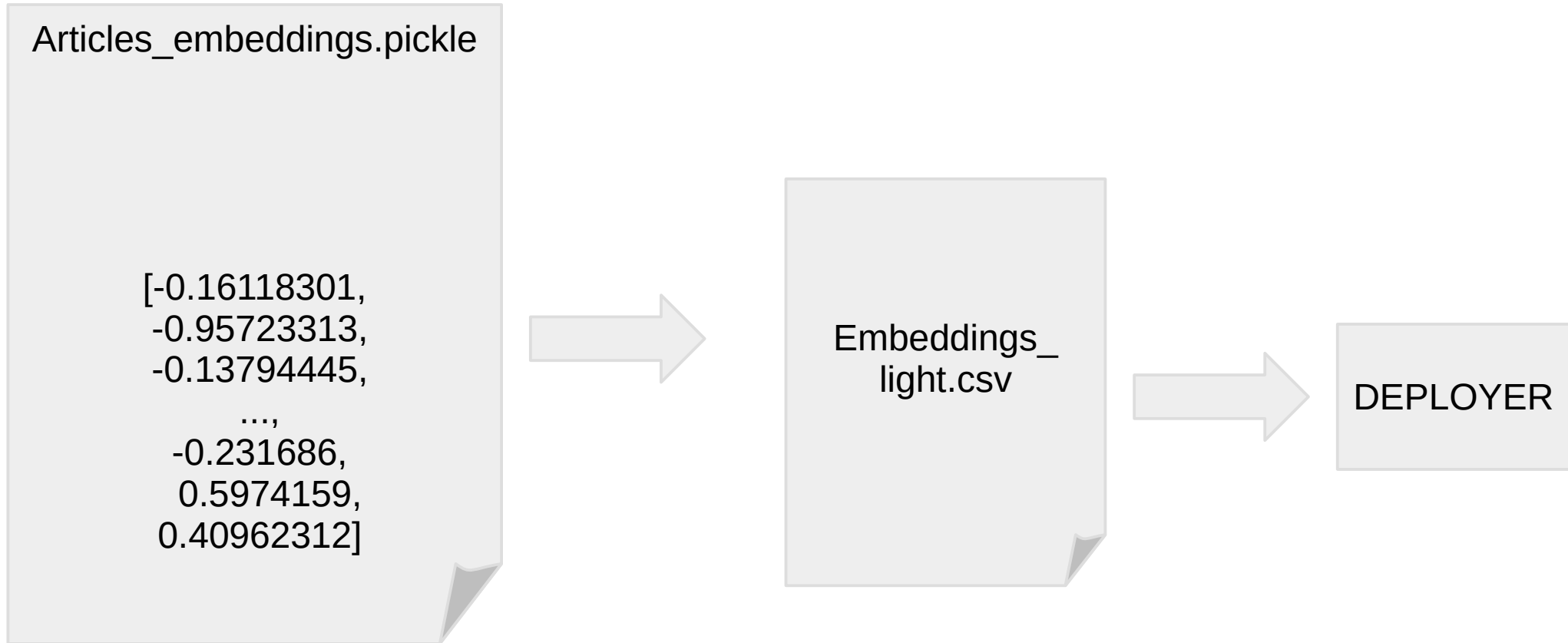


content-based
filtering

- Développement du système de recommandation



- Développement du système de recommandation



- Développement du système de recommandation

Articles_embeddings.pickle

```
[-0.16118301,  
-0.95723313,  
-0.13794445,  
...,  
-0.231686,  
0.5974159,  
0.40962312]
```

PCA

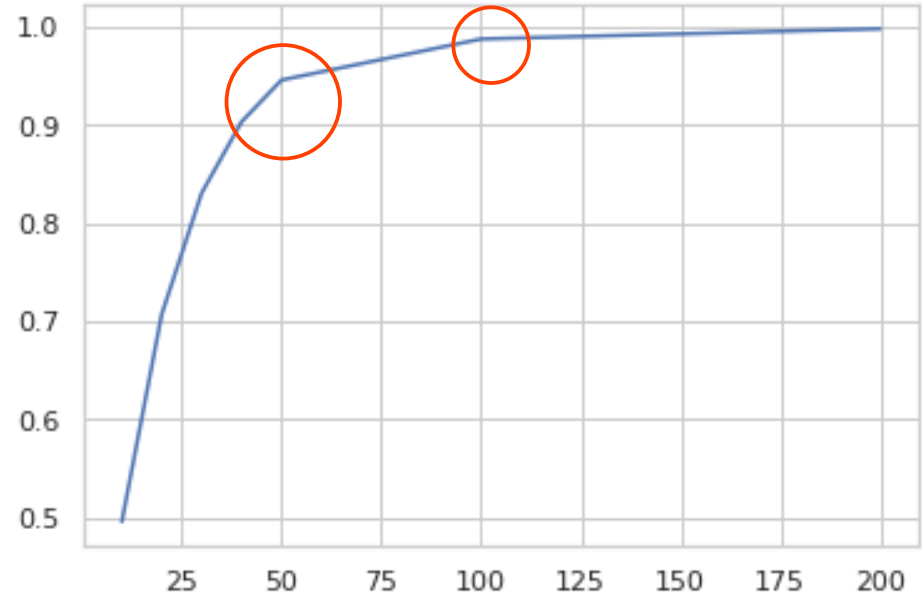
Embeddings_
light.csv

- Développement du système de recommandation

Articles_embeddings.pickle

```
[-0.16118301,  
-0.95723313,  
-0.13794445,  
...,  
-0.231686,  
0.5974159,  
0.40962312]
```

PCA



- Développement du système de recommandation

Articles_embeddings.pickle

```
[-0.16118301,  
-0.95723313,  
-0.13794445,  
...,  
-0.231686,  
0.5974159,  
0.40962312]
```

PCA

Embeddings_
light.csv

- Exemple



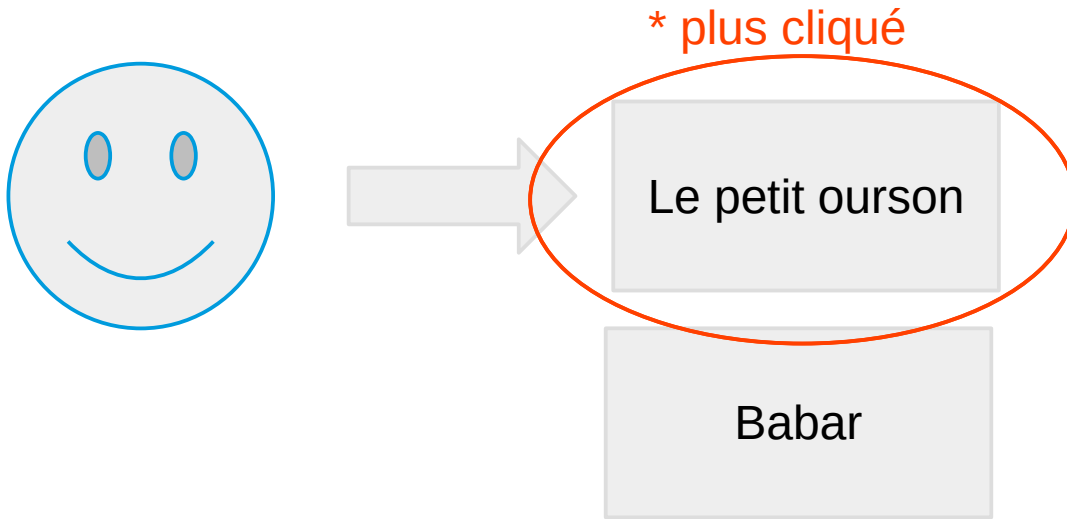
- Exemple



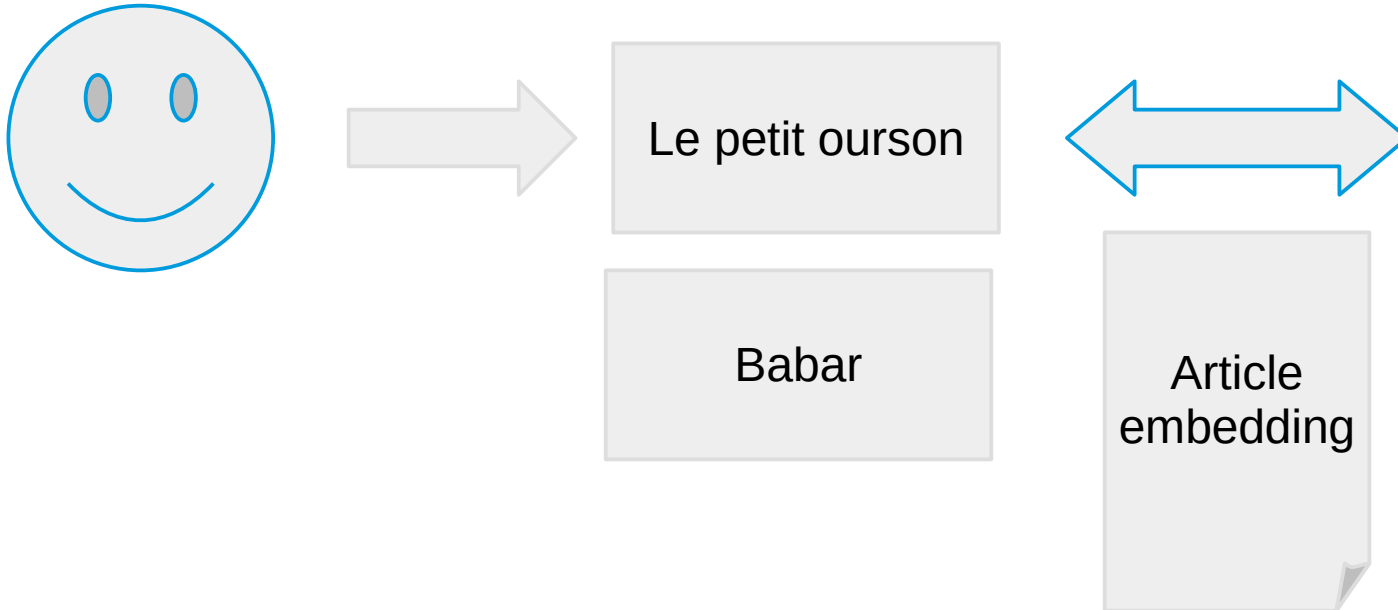
Le petit ourson

Babar

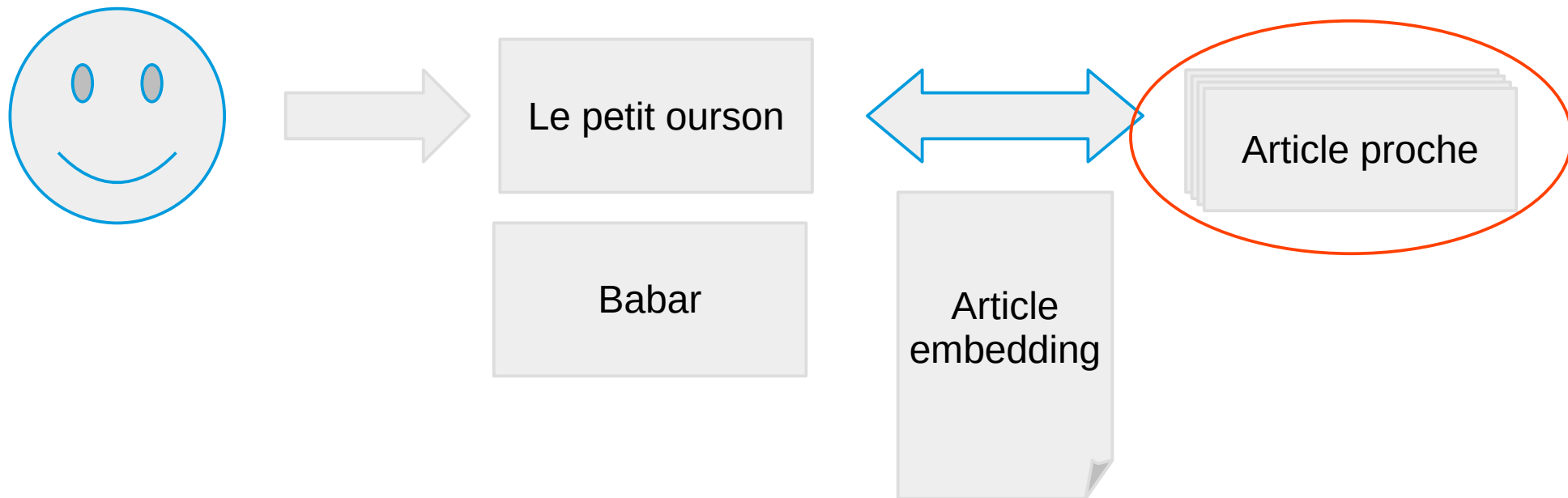
- Exemple



- Exemple



- Exemple



- Déploiement du système de recommandation



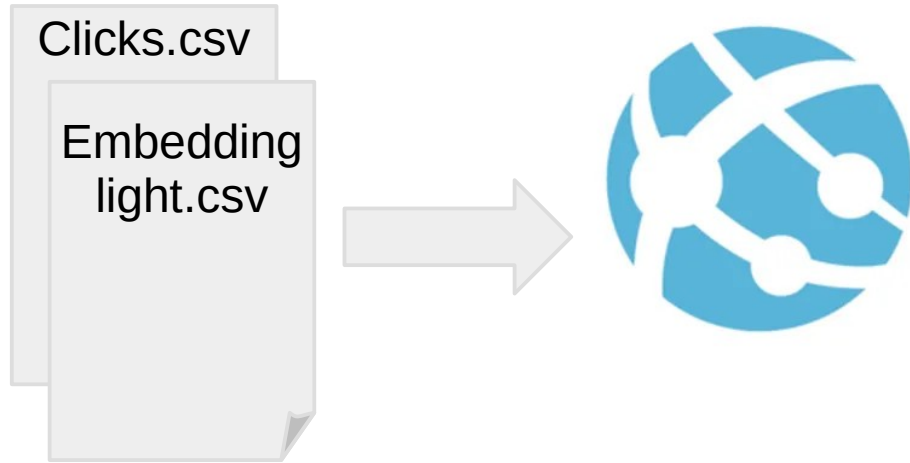
Flask



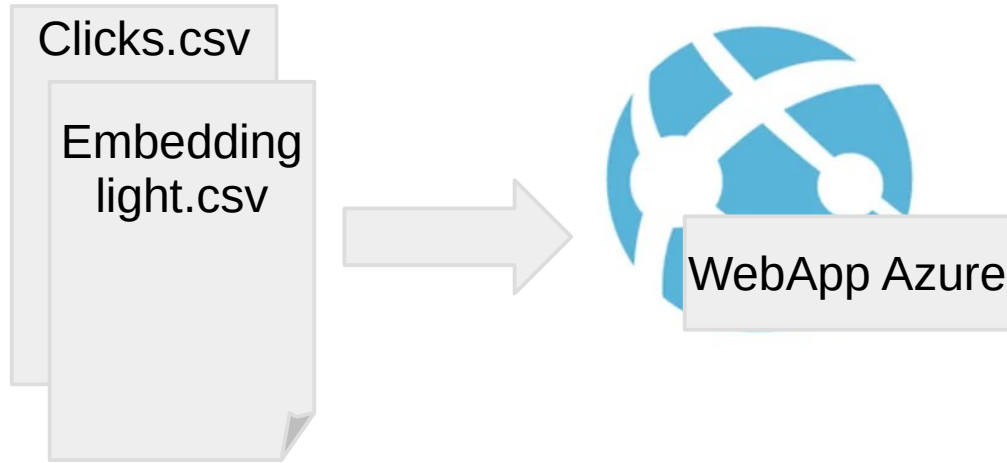
HEROKU



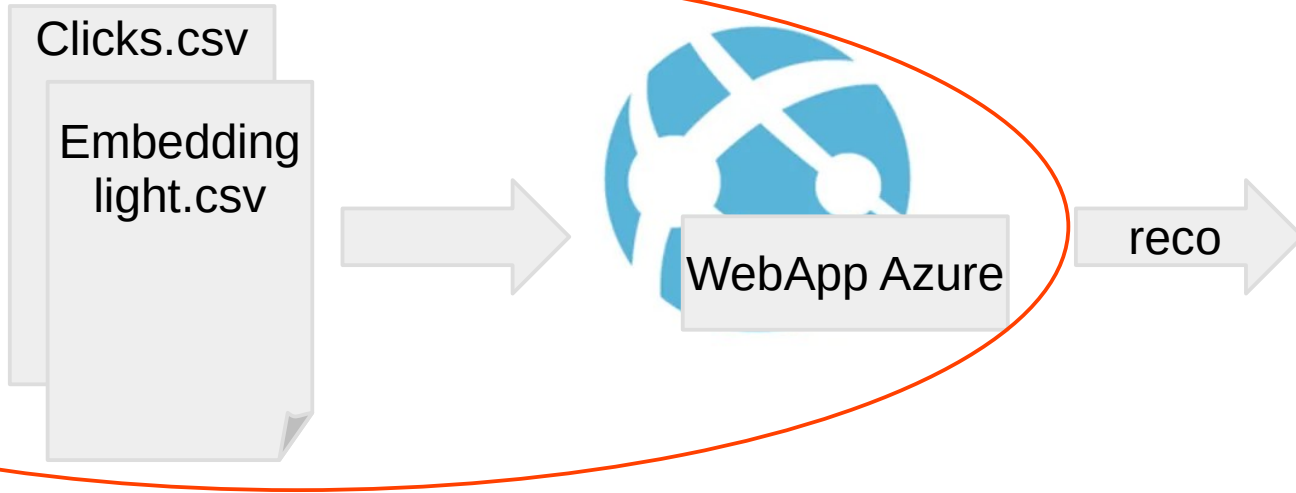
- Déploiement du système de recommandation



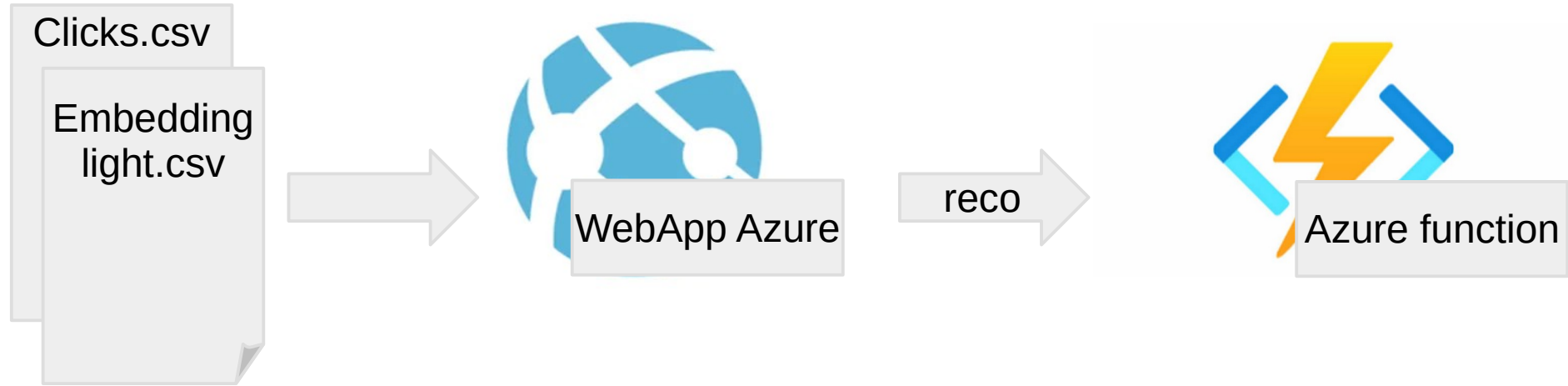
- Déploiement du système de recommandation



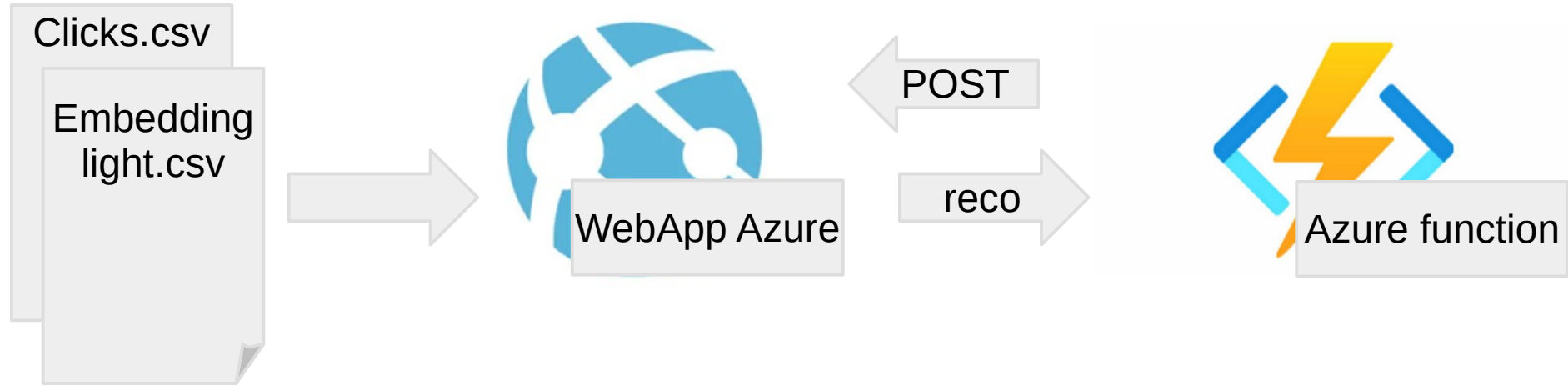
- Déploiement du système de recommandation



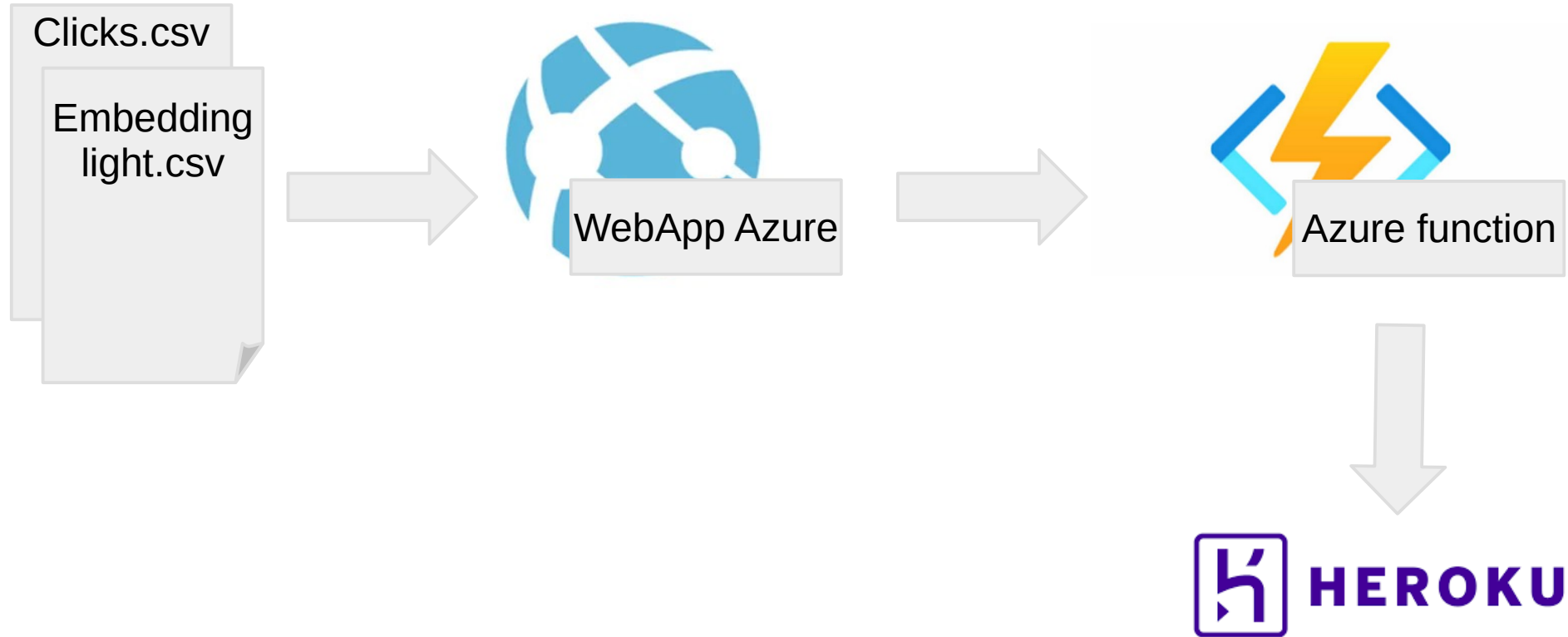
- Déploiement du système de recommandation



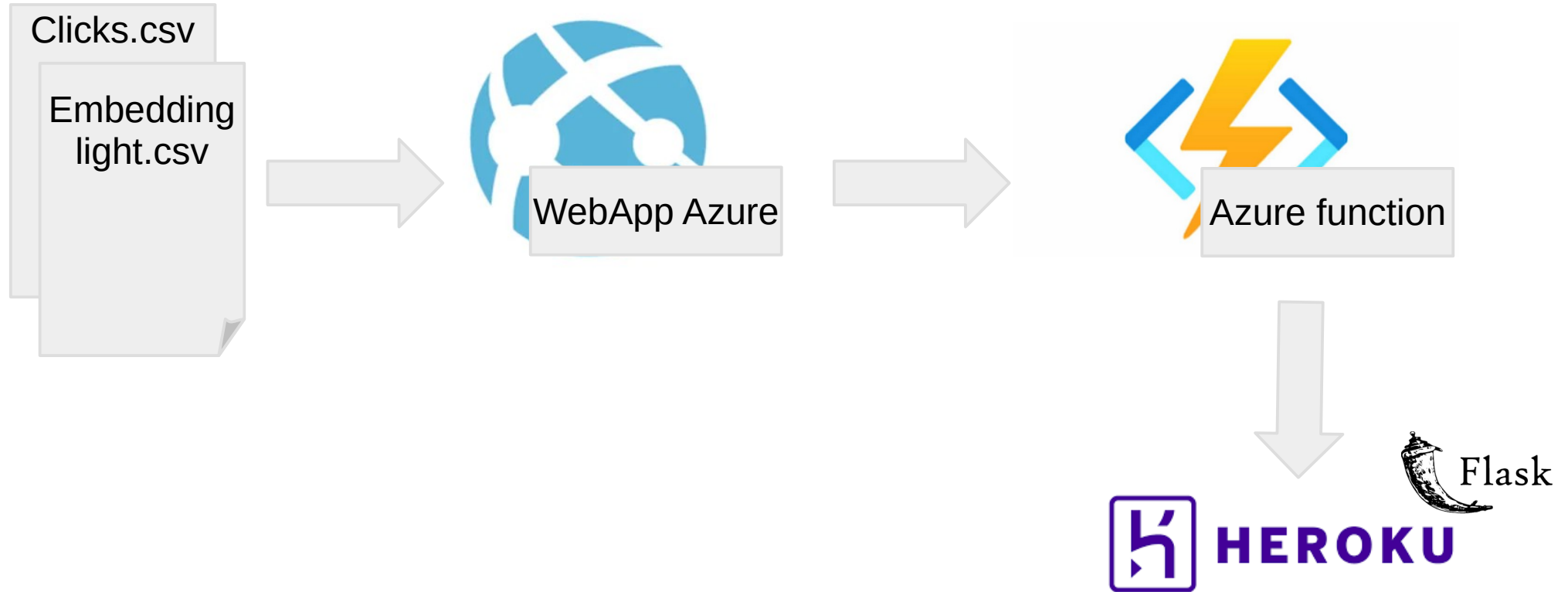
- Déploiement du système de recommandation



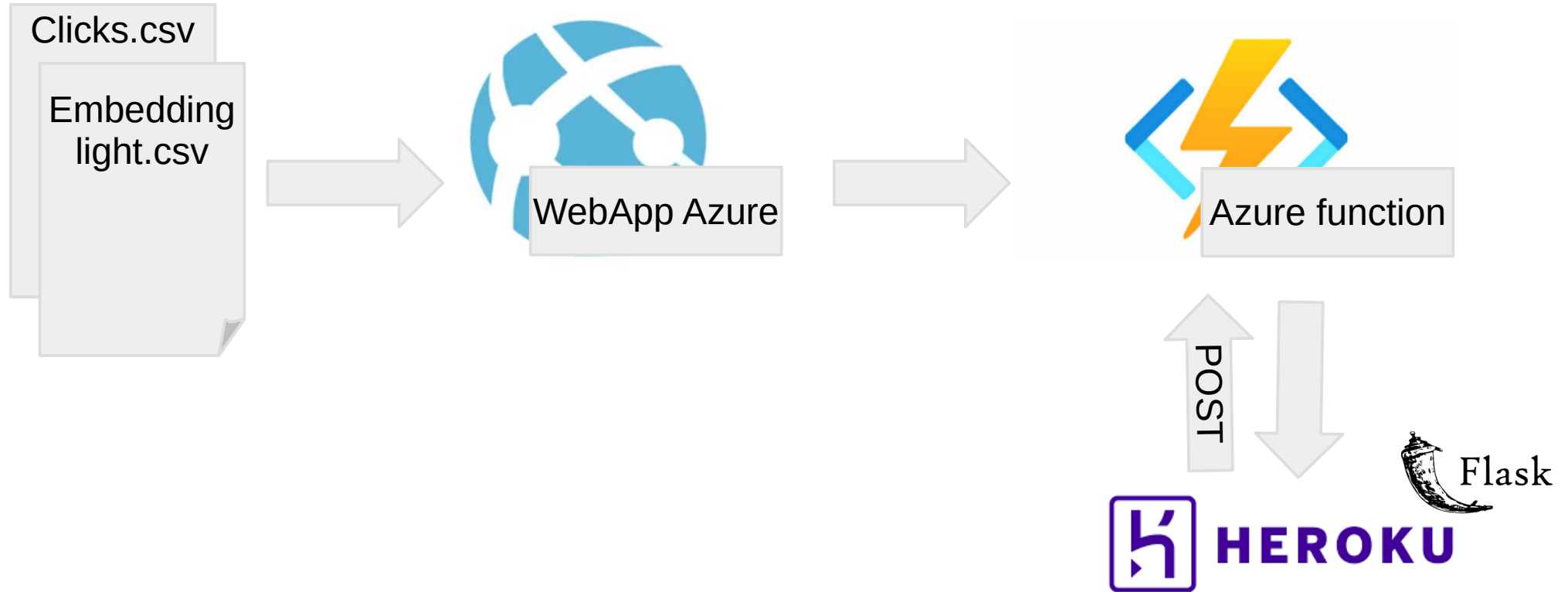
- Déploiement du système de recommandation



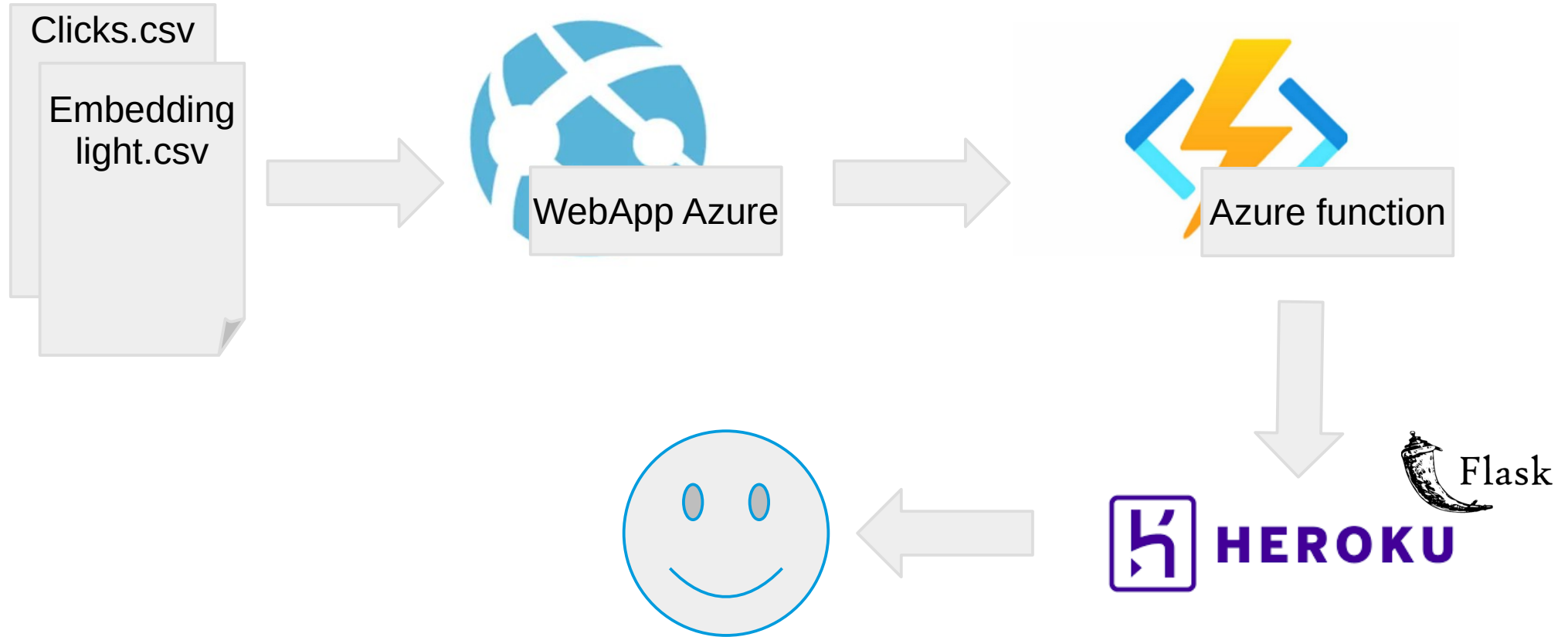
- Déploiement du système de recommandation



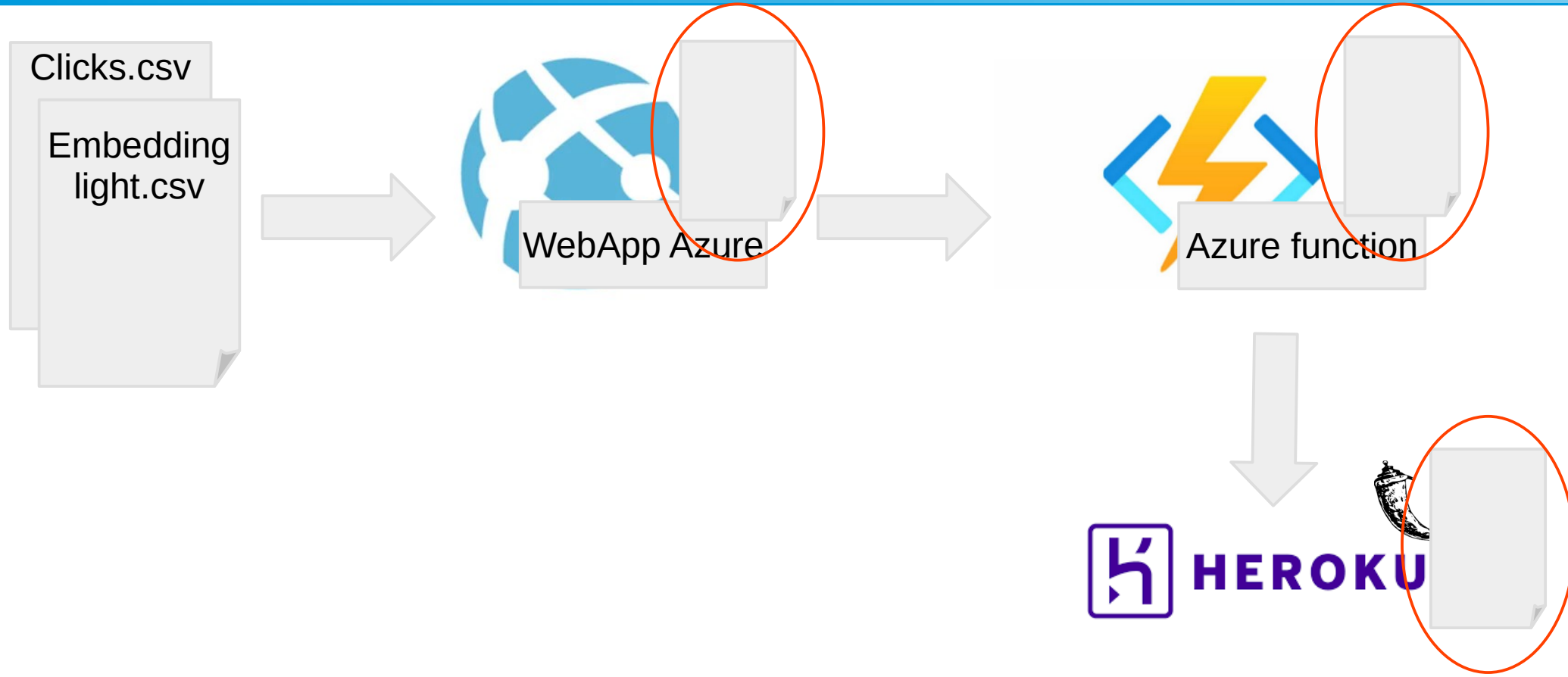
- Déploiement du système de recommandation



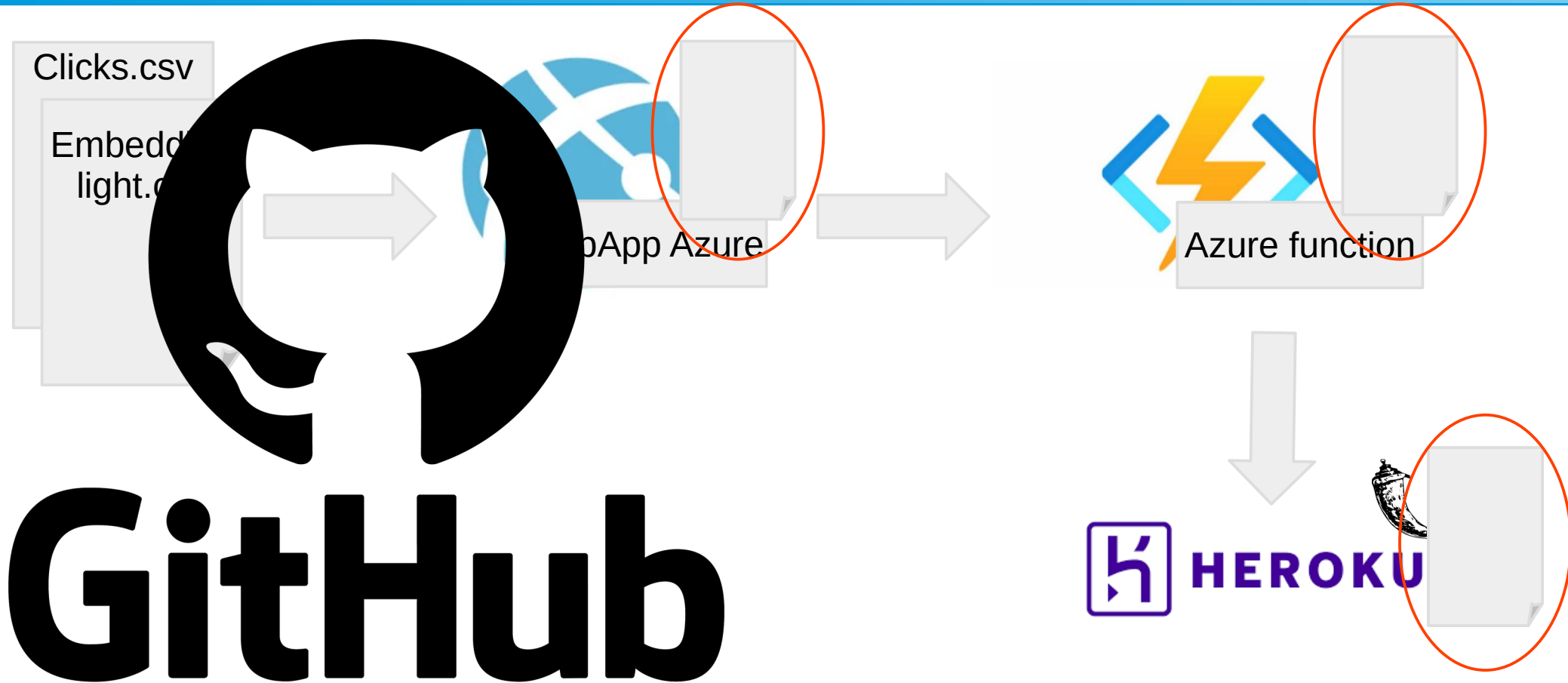
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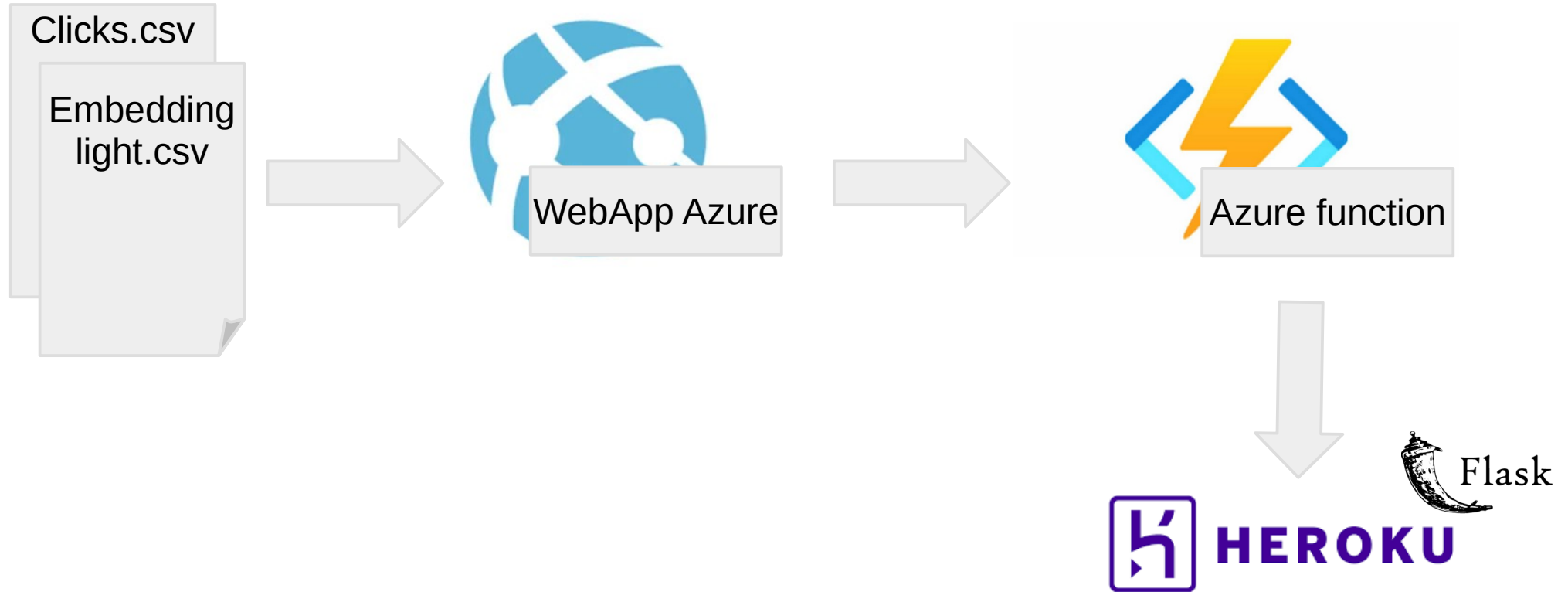
- Déploiement du système de recommandation



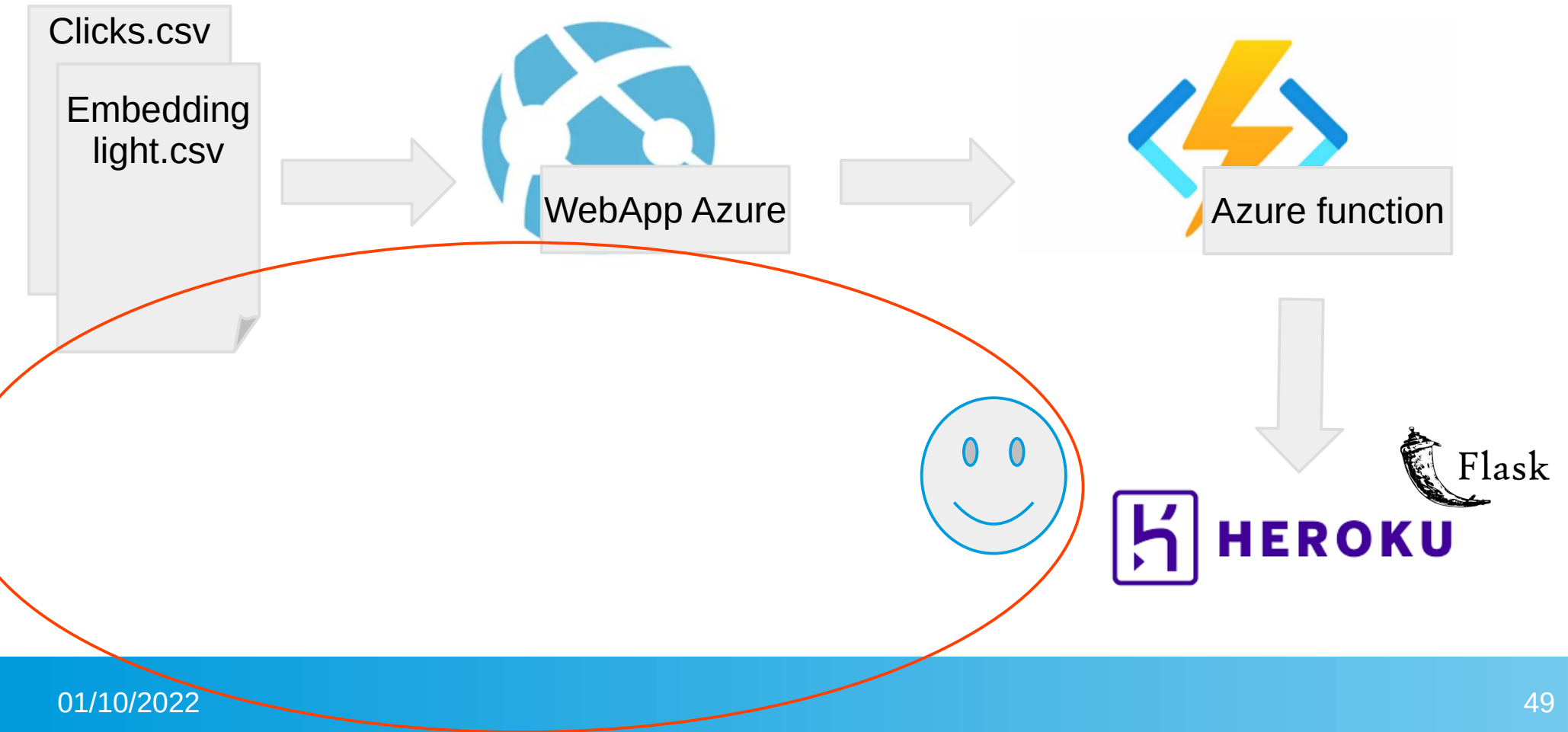
- Déploiement du système de recommandation



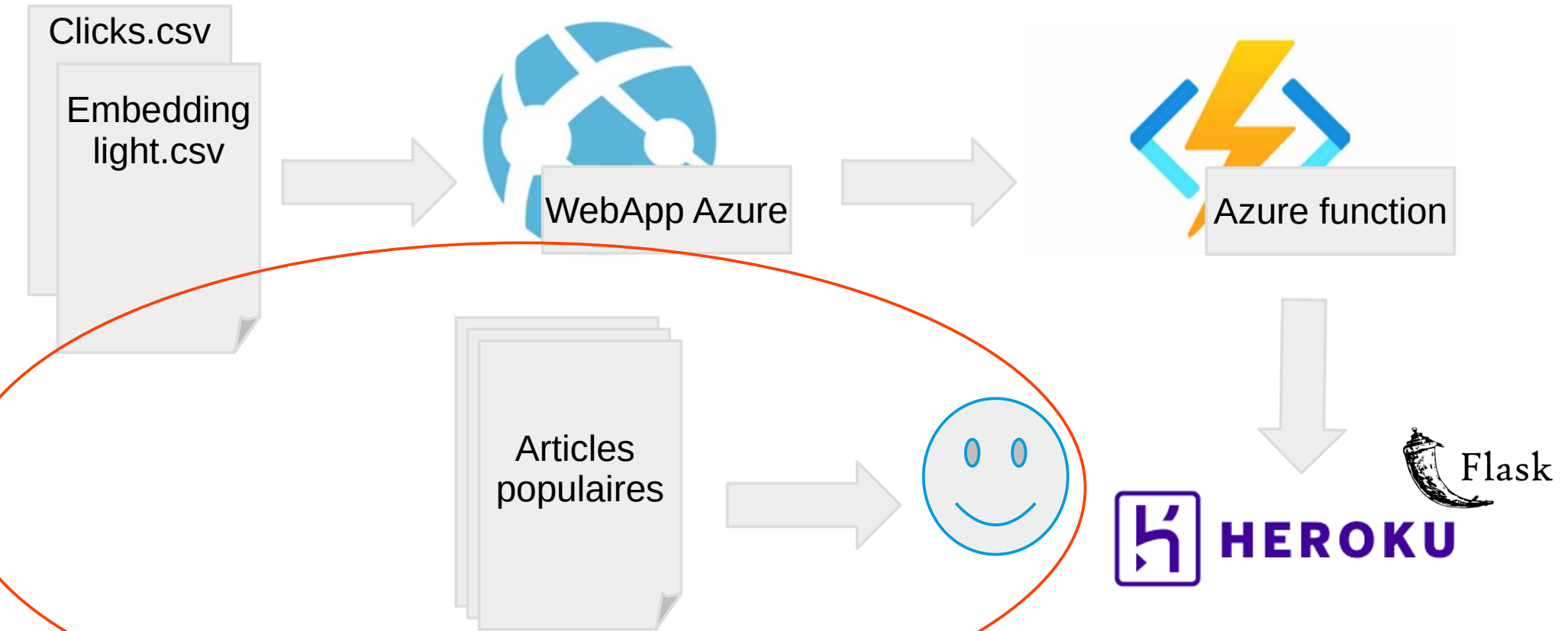
- Ajout de client



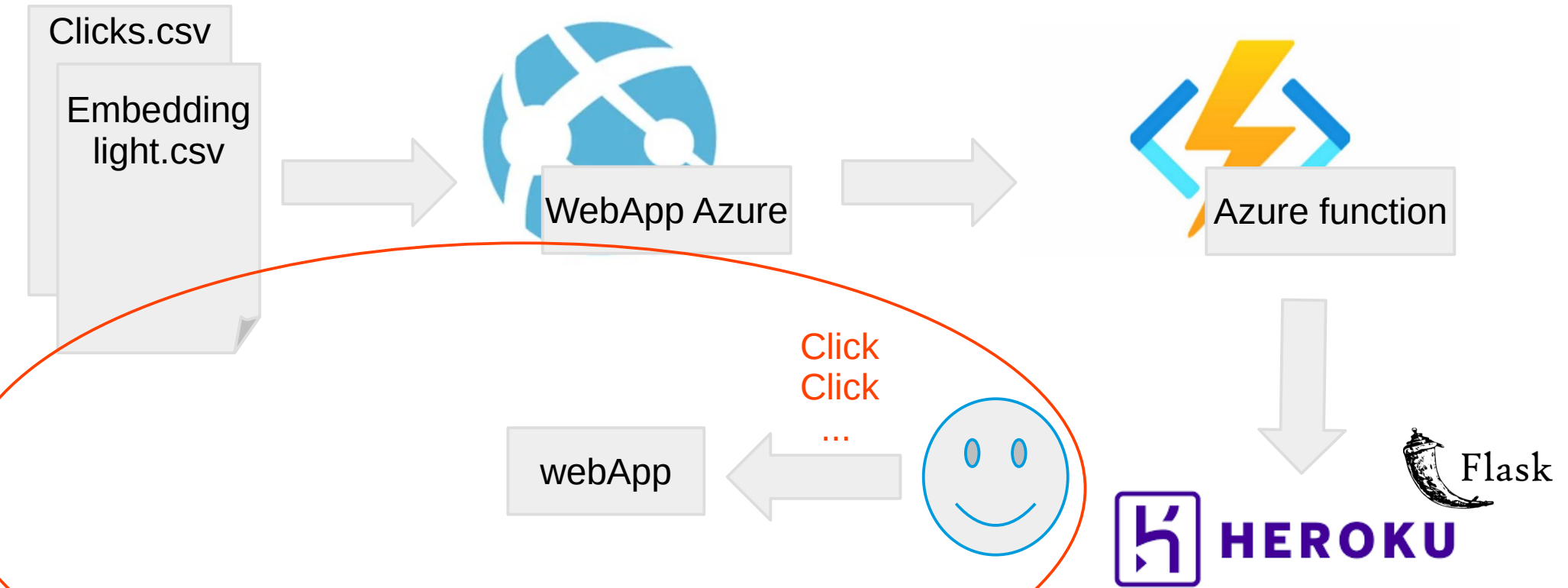
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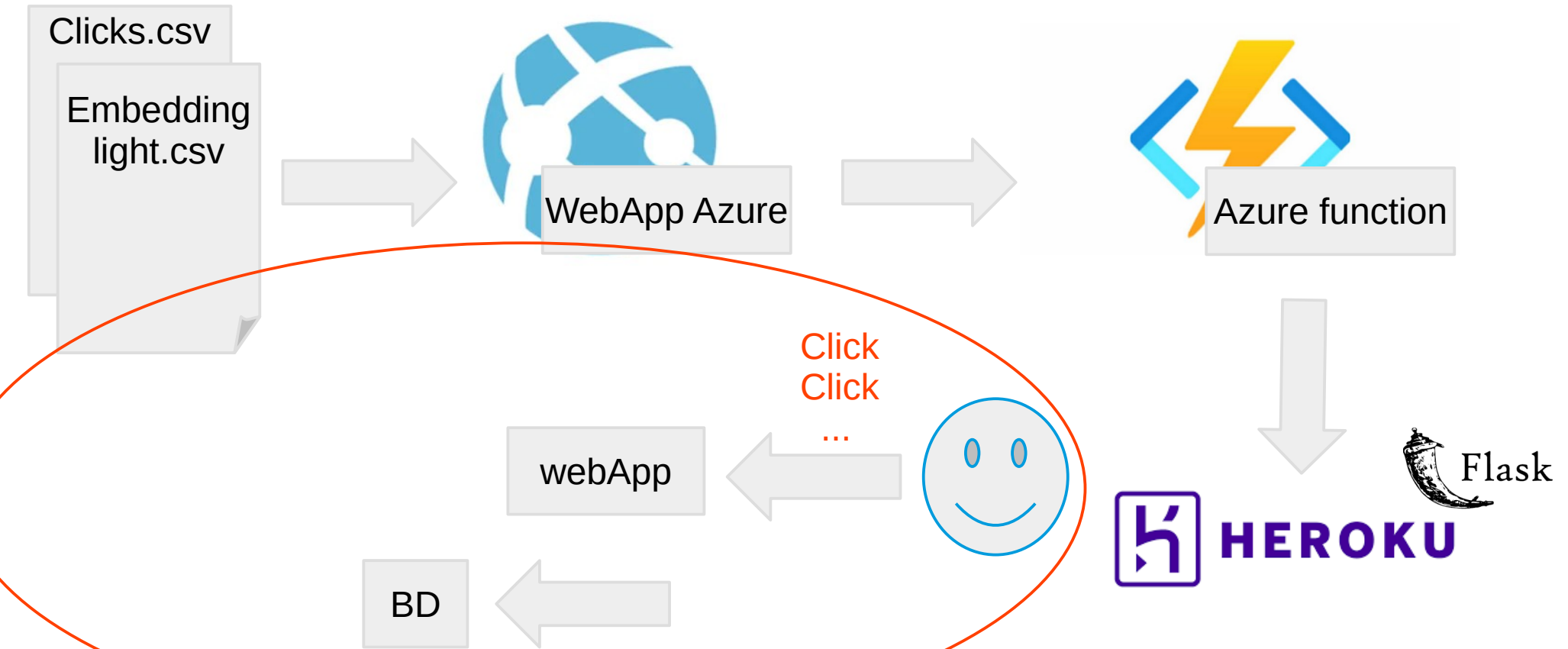
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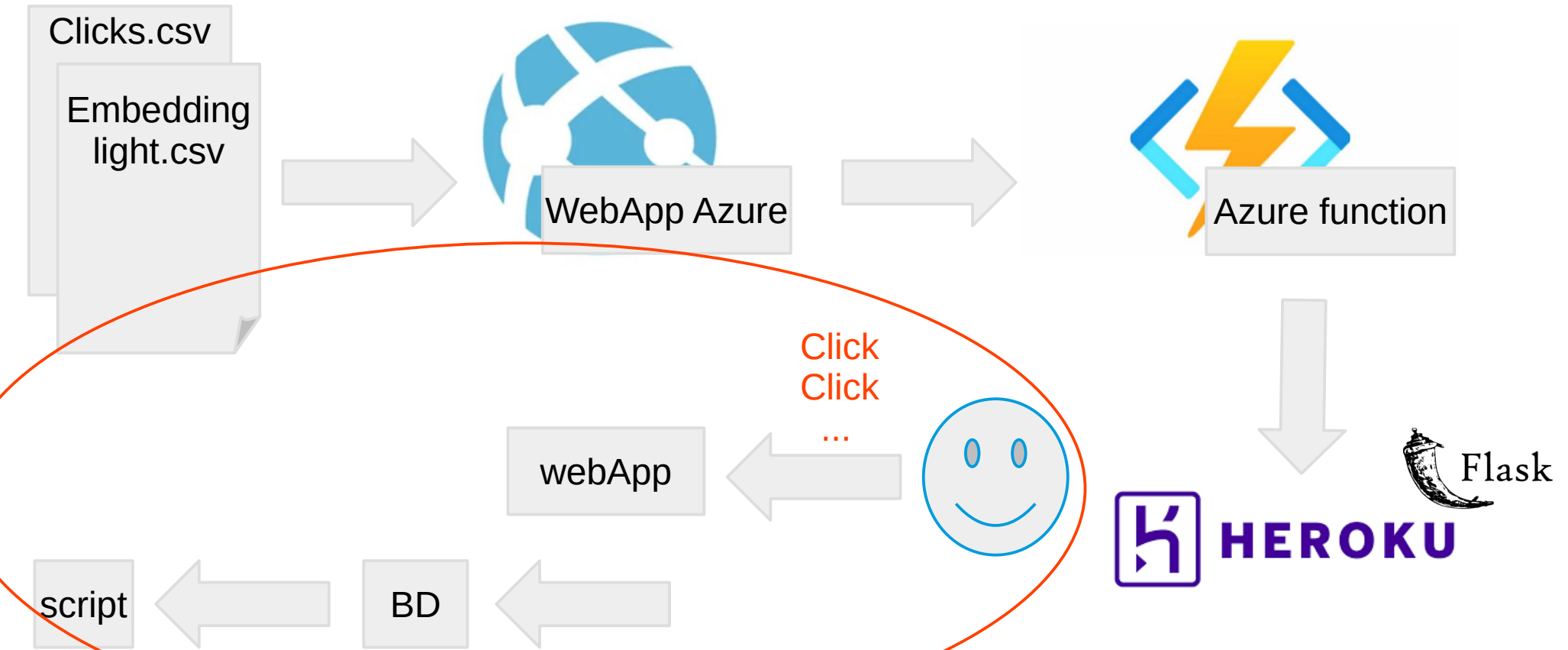
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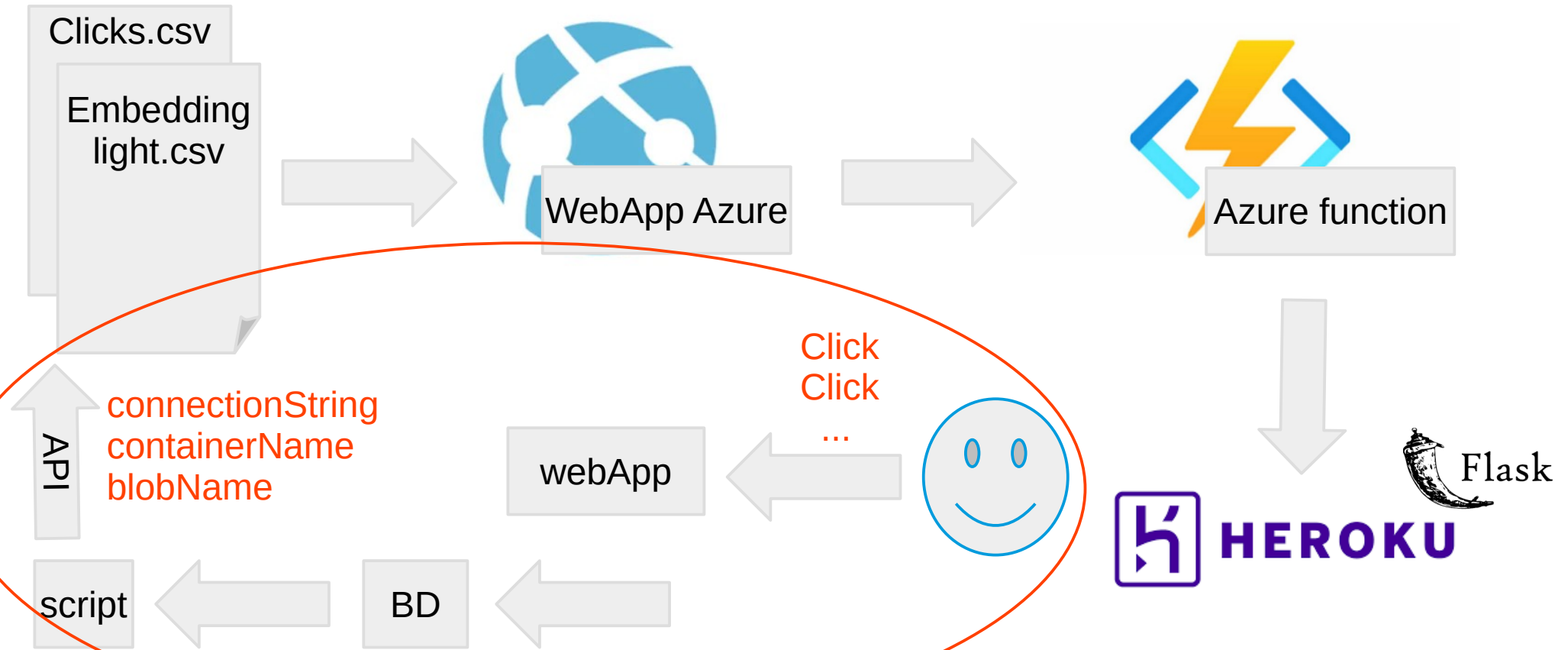
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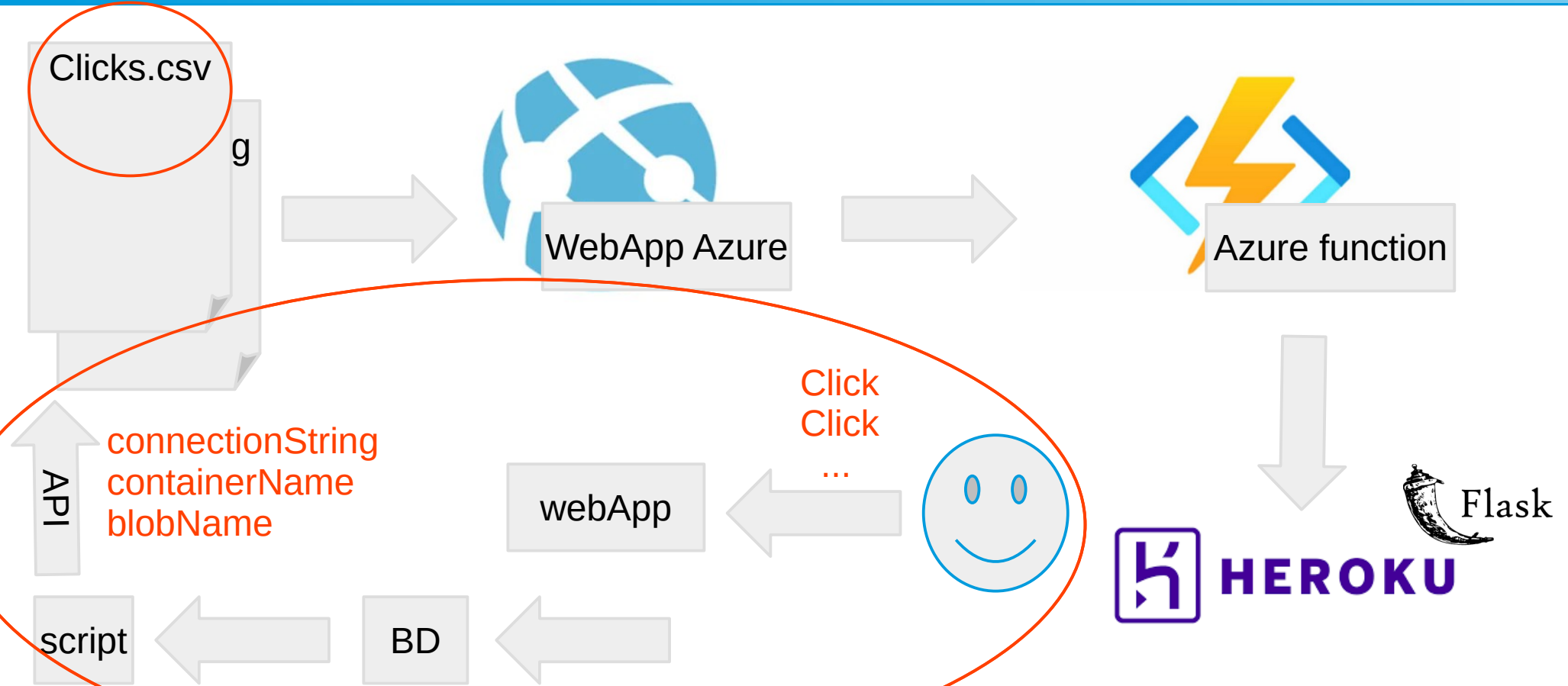
- Ajout de client



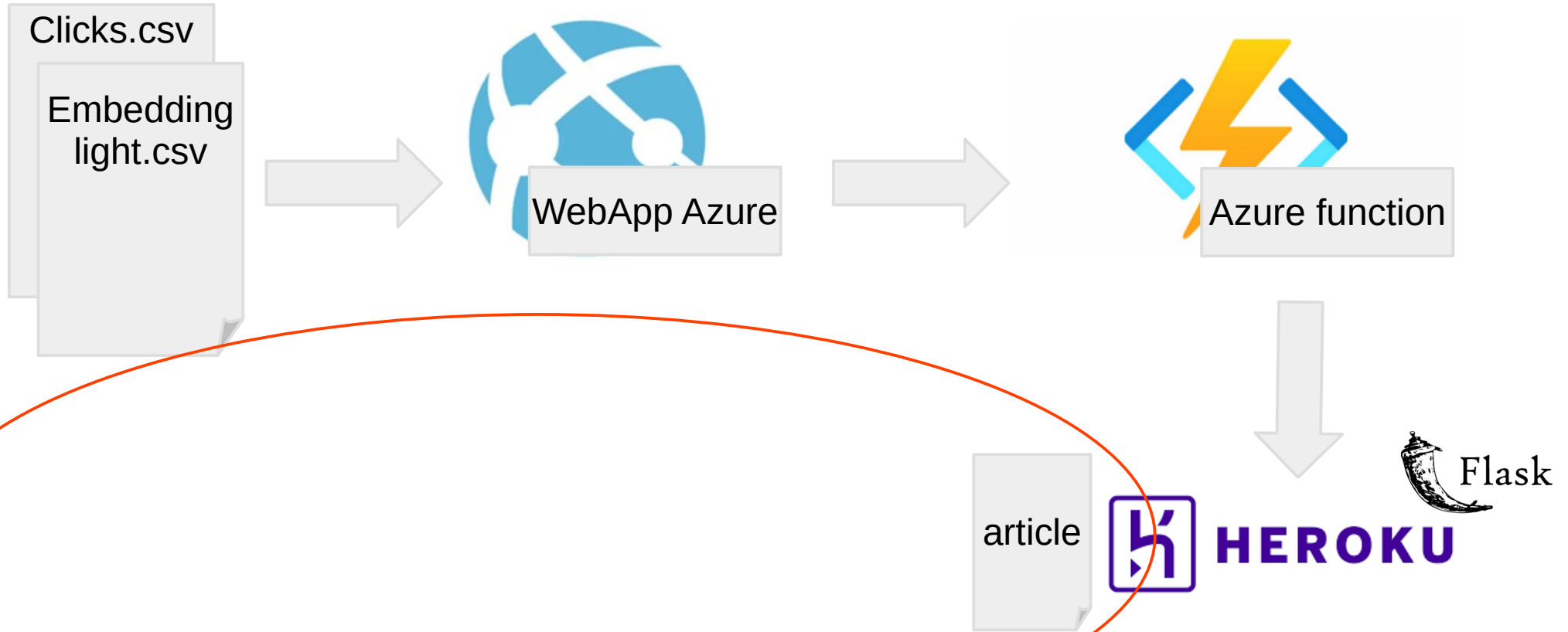
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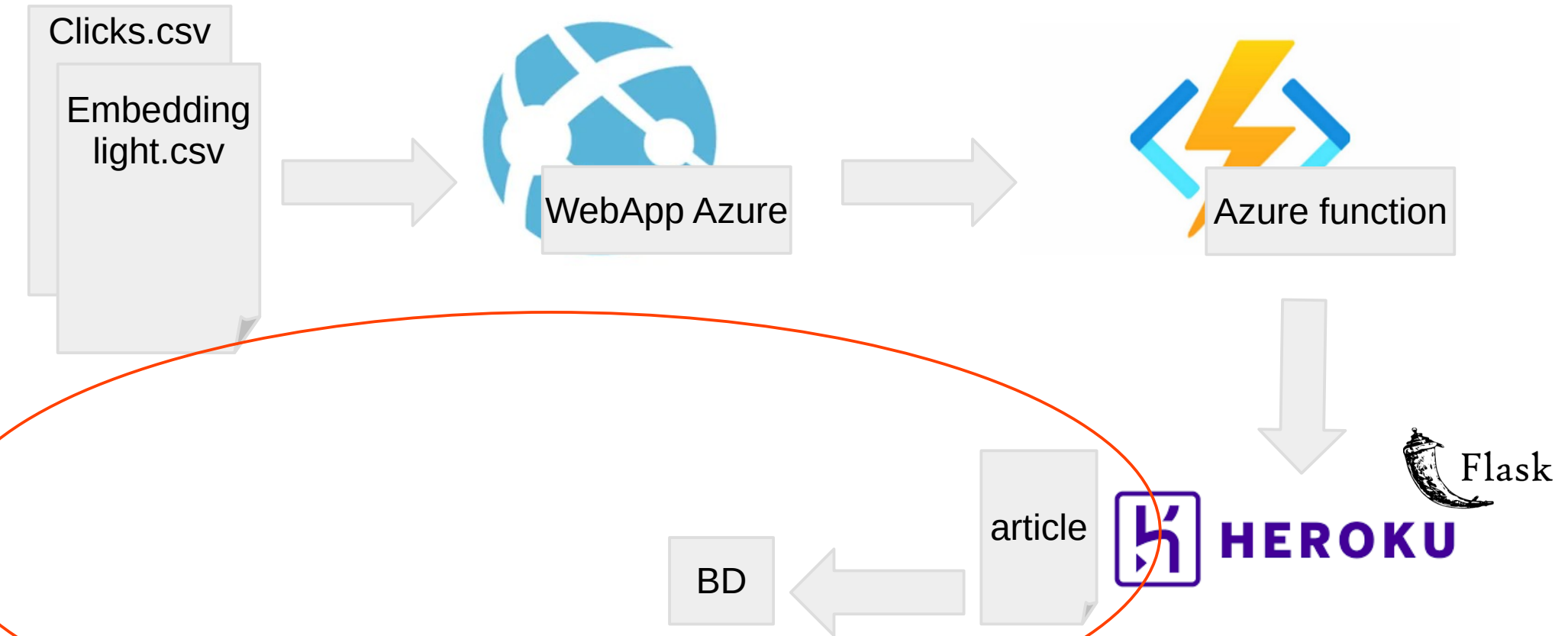
- Ajout de client



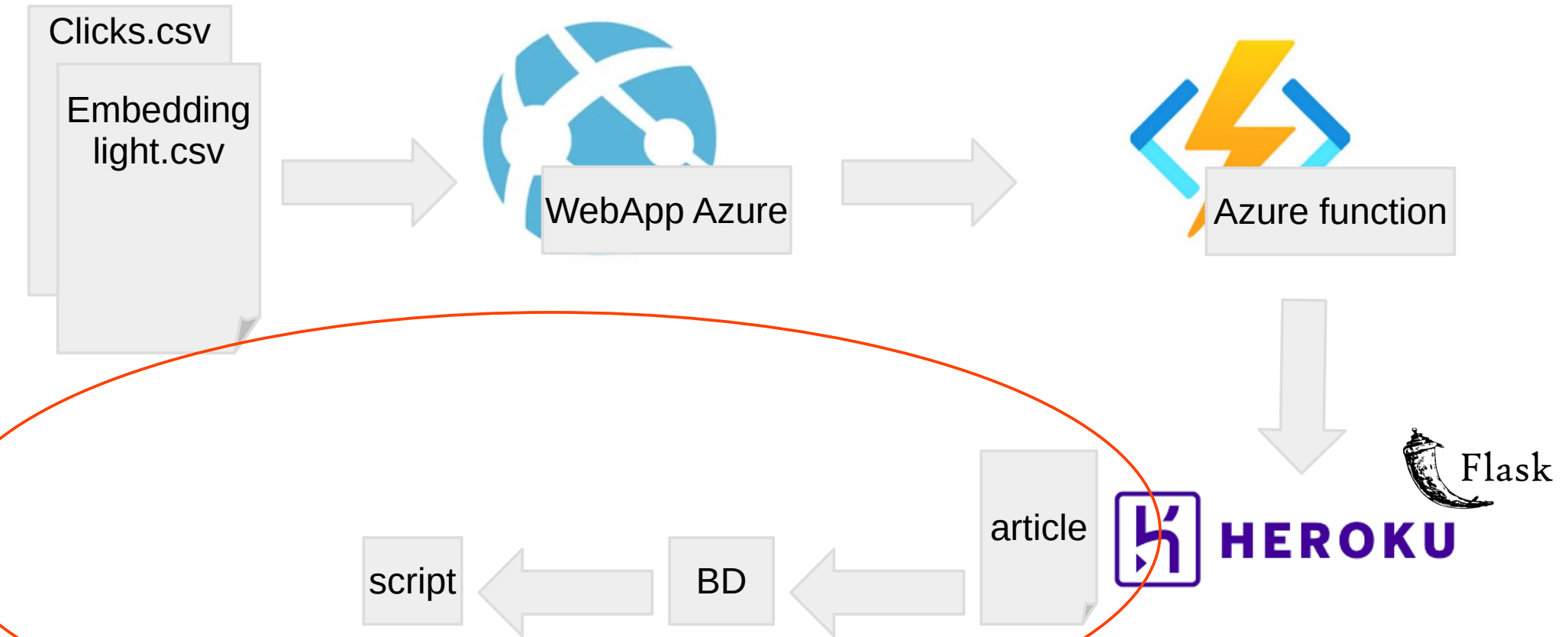
- Ajout d'article



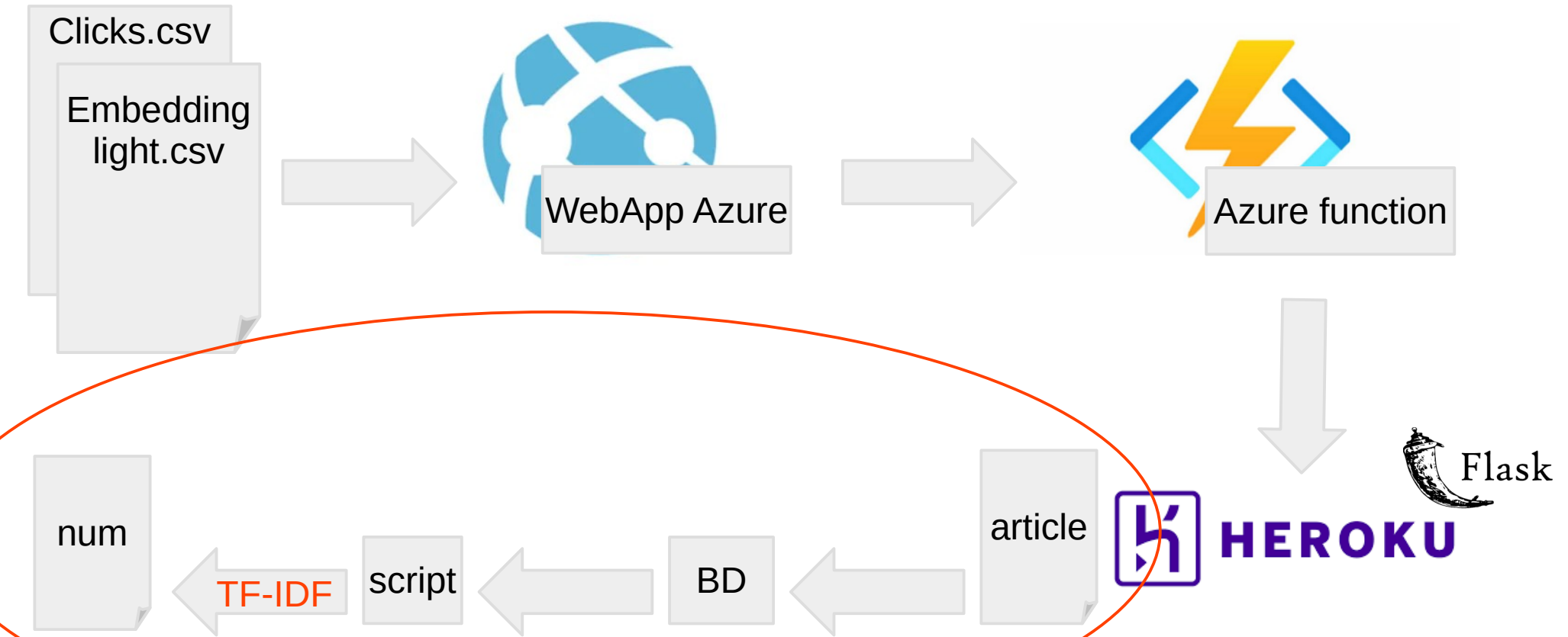
- Ajout d'article



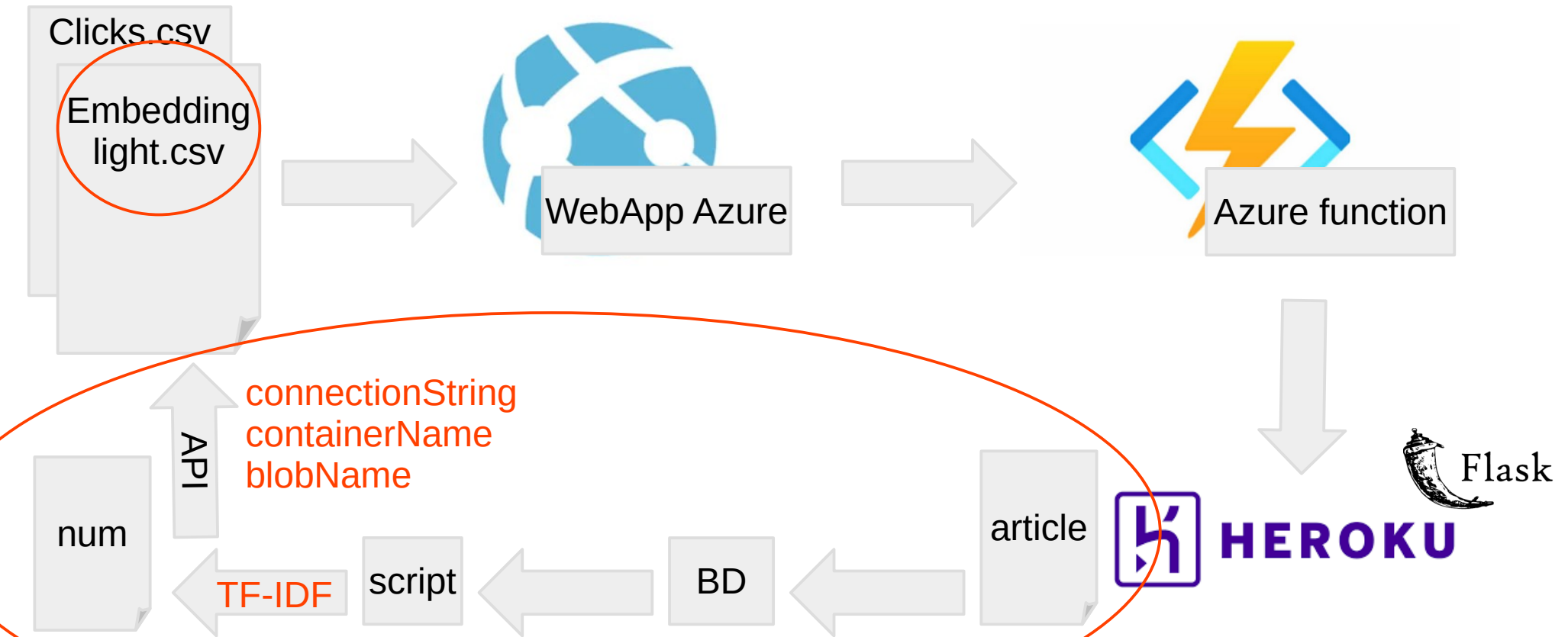
- Ajout d'article



- Ajout d'article



• Ajout d'article



- Conclusion

Conclusion

- Déploiement model
- Conception d'une appli A->Z
- Chaîne d'API
- Azure function
- Méthode de recommandation

Perspective

- Démarrage à froid
- Autre méthode de recommandation
- Autre quantité/type de données
- Pré calculer
- Mise en prod