



# Projet développement web

Elaboration d'une interface web interactive pour  
valoriser des données externes

Master CTN

## Contexte du projet



Vous êtes *freelance* et un client vous commissionne pour **valoriser** ses données sur le **web**



## Contexte du projet

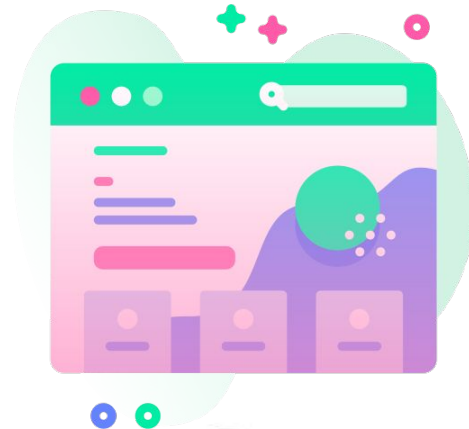
Vous avez carte blanche pour promouvoir les données du client

- ☐ Interface rendant lisible et accessible la consultation et la manipulation des données à l'aide de divers filtres et traitements

- ☐ Analyses statistiques

- ☐ Mini-jeu

- ☐ etc.

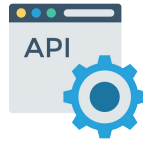


# Objectif et positionnement du projet



Penser, Spécifier, Concevoir et Prototyper un système informatisé complet

Exploiter des données externes à l'aide une **interface de programmation** (API) et valorisation de ces données par le biais d'une **application web** orientée *frontend*



# Objectif et positionnement du projet



Définir un **cahier des charges** succinct



Exploiter les méthodes de gestion de projet et du génie logiciel pour concevoir et réaliser une application Web remplissant les objectifs du cahier des charges

- ☐ Définitions algorithmiques
- ☐ Programmation *frontend* en HTML, CSS, Javascript
- ☐ Récupération des données au moyen d'une API



# Les API et les données



Une API un ensemble normalisé de classes, de méthodes, de fonctions et de constantes qui sert de façade par laquelle un logiciel offre des services à d'autres logiciels

Une API peut fournir des données comme elle peut fournir différents services

- **<https://hp-api.herokuapp.com/api/characters>** permet d'obtenir des informations concernant les personnages de la saga Harry Potter
- **<https://developers.giphy.com/docs/sdk>** permet d'obtenir des gif en fonction de mots-clés
- **<https://funtranslations.com/api/minion#translate>** permet de traduire une phrase en anglais en minion

## Les API et les données

La thématique des données est libre (vous pouvez choisir une ou plusieurs API)



<https://github.com/public-apis/public-apis>

Le répertoire Github **public-apis** référence 51 catégories et 1425 API différentes

Vous êtes libre de choisir une API en dehors de cette liste (si l'équipe pédagogique la valide)



# Les API et les données

API	Description	Auth	HTTPS	CORS
<a href="#">An API of Ice And Fire</a>	Game Of Thrones API	No	Yes	Unknown
<a href="#">Bob's Burgers</a>	Bob's Burgers API	No	Yes	Yes
<a href="#">Breaking Bad</a>	Breaking Bad API	No	Yes	Unknown
<a href="#">Breaking Bad Quotes</a>	Some Breaking Bad quotes	No	Yes	Unknown
<a href="#">Catalogopolis</a>	Doctor Who API	No	Yes	Unknown
<a href="#">Catch The Show</a>	REST API for next-episode.net	No	Yes	Unknown
<a href="#">Czech Television</a>	TV programme of Czech TV	No	No	Unknown
<a href="#">Dailymotion</a>	Dailymotion Developer API	OAuth	Yes	Unknown
<a href="#">Dune</a>	A simple API which provides you with book, character, movie and quotes JSON data	No	Yes	Yes
<a href="#">Final Space</a>	Final Space API	No	Yes	Yes
<a href="#">Game of Thrones Quotes</a>	Some Game of Thrones quotes	No	Yes	Unknown
<a href="#">Harry Potter Charactes</a>	Harry Potter Characters Data with with imagery	No	Yes	Unknown

Pour faciliter la manipulation des données, préférez les API sans *Auth* ou tout du moins sans *OAuth*

Renseignez-vous bien sur la nature et la manière dont les données sont structurées avant de faire votre choix





# Exemple de réalisation

<https://hp-api.herokuapp.com/>

Welcome to the **HP-API!**

Use these routes to request data on Harry Potter characters:

View

- all characters:
  - <https://hp-api.herokuapp.com/api/characters>
  - or
  - <https://hp-api.onrender.com/api/characters>
- characters who are Hogwarts students during the book series:
  - <https://hp-api.herokuapp.com/api/characters/students>
  - or
  - <https://hp-api.onrender.com/api/characters/students>
- characters who are Hogwarts staff during the book series:
  - <https://hp-api.herokuapp.com/api/characters/staff>
  - or
  - <https://hp-api.onrender.com/api/characters/staff>
- characters in a certain house, e.g. /gryffindor:
  - <https://hp-api.herokuapp.com/api/characters/house/house>
  - or
  - <https://hp-api.onrender.com/api/characters/house/house>
- all spells:
  - <https://hp-api.herokuapp.com/api/spells>
  - or
  - <https://hp-api.onrender.com/api/spells>

# Exemple de réalisation

Non sécurisée hp-api.herokuapp.com/api/characters






















Emails Cloud

```
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# Exemple de réalisation

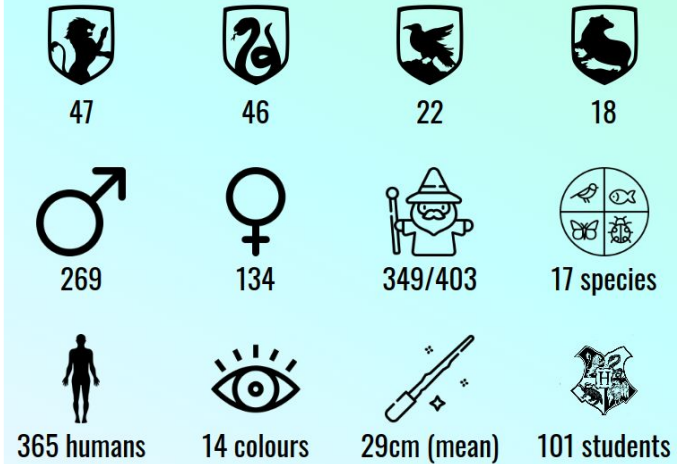
## Harry Potter Mining

⚡ Search

Image	Name ▲	Date of birth	Specie	Gender	Eye colour	Wizard	House	Patronus
	Harry Potter	31-07-1980	Human	♂	Green			Stag
	Hermione Granger	19-09-1979	Human	♀	Brown			Otter
	Ron Weasley	01-03-1980	Human	♂	Blue			Jack Russell Terrier
	Draco Malfoy	05-06-1980	Human	♂	Grey			-
	Minerva McGonagall	04-10-1925	Human	♀	-			Tabby Cat
	Cedric Diggory	-	Human	♂	Grey			-
	Cho Chang	-	Human	♀	Brown			Swan

— prev 1 2 3 — 58 next —

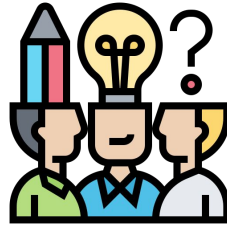
## Harry Potter Mining



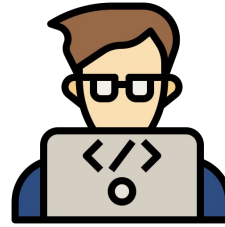
# Les grandes étapes du projet



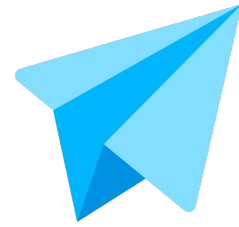
Constitution des équipes



Réflexion, analyse et  
définition des  
spécifications



Développement



Livraison



## Définition des équipes

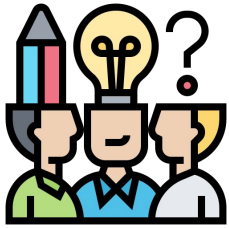


Les équipes regroupent **2 personnes** qui seront mobilisées sur la réalisation d'un même projet

Ce projet doit **fédérer l'équipe complète**

Privilégier des groupes nouveaux au sein de la promo (une personne avec qui vous ne partagez pas déjà un même projet)

# Réflexion, analyse et définition des spécifications



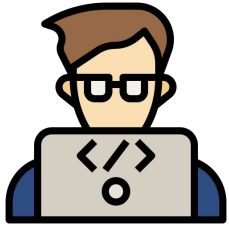
Quel est le périmètre du projet ? Quelles sont les **données** à exploiter ? Quels sont les **objectifs** visés en termes de rendu ?  
Quelles **fonctionnalités** seront proposées par la solution ? Les définir de manière détaillée

Ces objectifs sont-ils cohérents au regard

- ☐ Des contraintes de temps
- ☐ Des capacités techniques de l'équipe
- ☐ De la faisabilité technique (accès aux données, outils disponibles, temps de calcul, ressources matérielles engagées, contraintes de déploiement...) ?

- **La rédaction du cahier des charges** doit détailler ces différents aspects

# Développement de la solution fonctionnelle



Définition des **interactions** avec les sources de données (selon la ou les API en question) et **développement** de l'interface web

Définitions algorithmiques

Implémentation des fonctionnalités *frontend* (HTML, CSS, JS)

Identification et prise en main de librairies tierces (requêtes, visualisation)

Phases de tests et vérification de l'adéquation avec les spécifications

Rédaction de la documentation (pour reprendre et déployer votre application)

# Livraison



Préparation de la livraison :

- ☐ Archivage du code et de la documentation
- ☐ Test de réception (simulation)

Envoi et validation de la réception

Restitution orale de votre application

- ☐ Rappel des spécifications du cahier des charges
- ☐ Respect de la solution par rapport au cahier des charges
- ☐ Démonstration



# Contraintes



Budget nul et fortes contraintes sur la mobilisation de personnes externes (hors enseignants)



Équipe de 2 personnes



Technologies utilisées (HTML, CSS, JS)

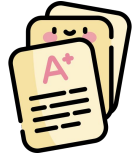


Utilisation d'au moins une API pour récupérer des données



Calendrier (9 séances de travail et 1 séance dédiée à l'exposé des travaux)

## Evaluation



Note commune à l'ensemble des membres d'une équipe (hors engagement différenciant)

Evaluation sur la base des différents rendus

- **Cahier des charges**, interactions avec l'équipe encadrante

- **Solution implémentée** (fond/forme de la solution et de la construction technique, e.g. code, documentation technique)