eleven - supercase challenge

To the attention of the Data Science
& Business Analytics students

February 14th, 2022

CentraleSupélec ESSEC BUSINESS SCHOOL

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AGENDA

1. About eleven
2. Case presentations
   a) The Right Price
   b) Airplane Interior Service
   c) Worksite Monitoring
3. General information
   a) Expected output
   b) Practical information

eleven is Europe's first ever specialist strategy firm specifically founded to accompany clients' transformation through the AI and digital revolution, thanks to a unique combination of strategy perspective and hands-on approach

eleven
strategy consultants

DIGITAL & AI STRATEGY SPECIALIST

revolution is unlocking new, untapped value creation opportunities

STRATEGY X HANDS-ON POSITIONING

supporting C-level executives and organizations from strategic ignition to project scale-up and

A UNIQUE BLEND OF SKILLS

and data science ones, thanks to its 50+ consultants that master the continuously evolving

DISTINCTIVE ENTREPRENEURIAL MINDSET

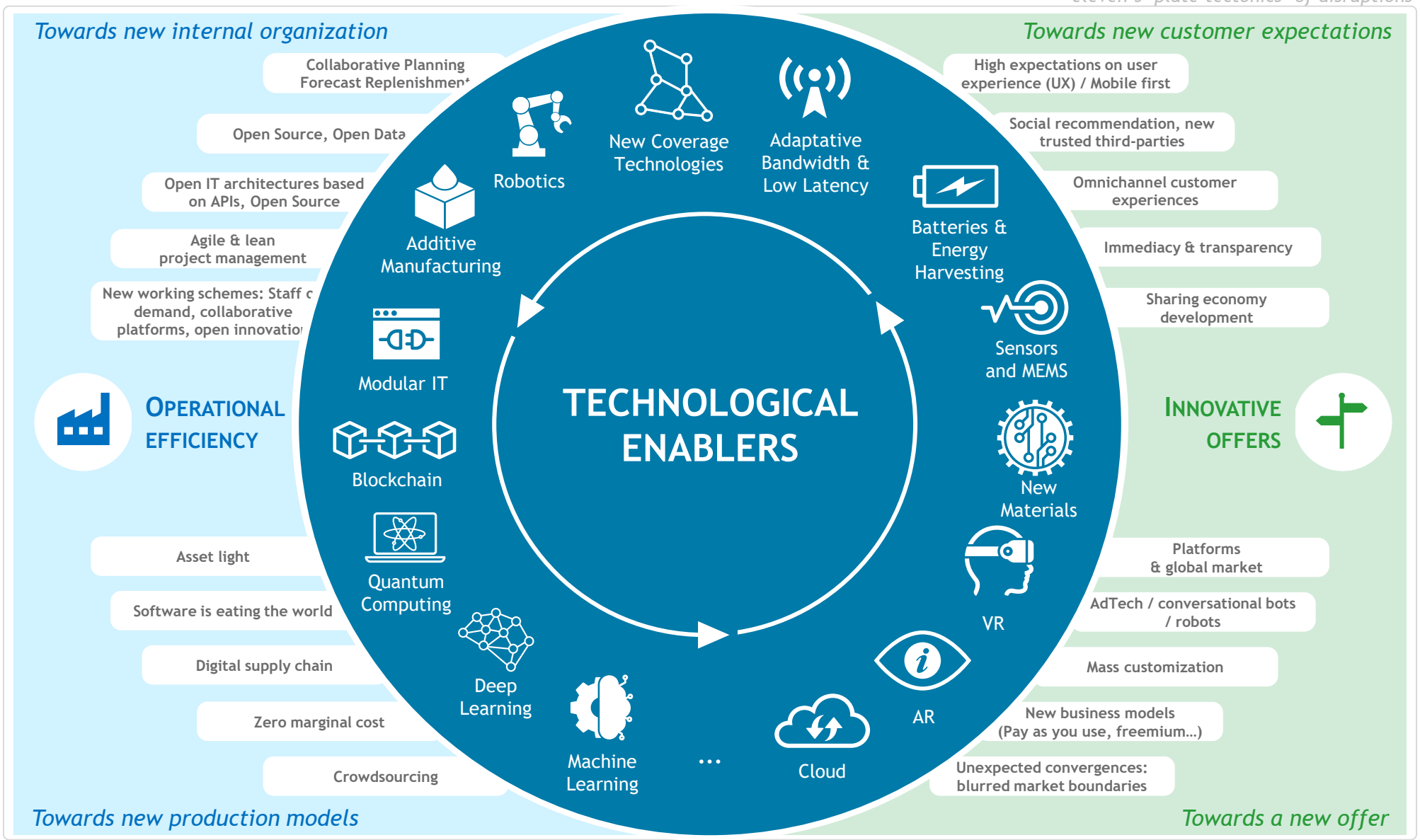
us to provide issue-based methodologies centered on your business needs

CSR AT THE CORE OF OUR DNA

Our approach enables our clients' projects to meet CSR expectations. Both financial and CSR impacts are tracked, proven and reported thanks to our mastering of digital and AI levers

Our projects are built around ongoing major digital & data disruptions, including new modes of production, consumption and collaboration, which represent major challenges for existing players

eleven's 'plate tectonics' of disruptions



MEMS: Microelectromechanical systems

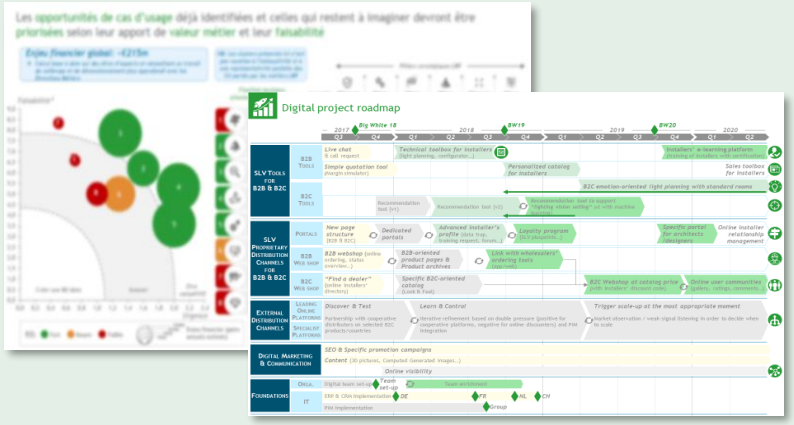
eleven's positioning encompasses an end-to-end spectrum enabling to secure the fastest route from strategy to industrialization, allowing to identify and accelerate most valuable digital x data initiatives

ELEVEN'S END-TO-END POSITIONING

1

THINK

Define a strategic vision & associated actionable roadmap, leveraging digital & data capabilities and deploying high value projects



2

BUILD

3

SCALE

4

BUY

Continuous interactions with client's c-levels, business units and digital & data teams

Proven ability to lead projects and teams remotely thanks to the most advanced digital tools

Sources: eleven strategy

eleven's positioning encompasses an end-to-end spectrum enabling to secure the fastest route from strategy to industrialization, allowing to identify and accelerate most valuable digital x data initiatives

ELEVEN'S END-TO-END POSITIONING

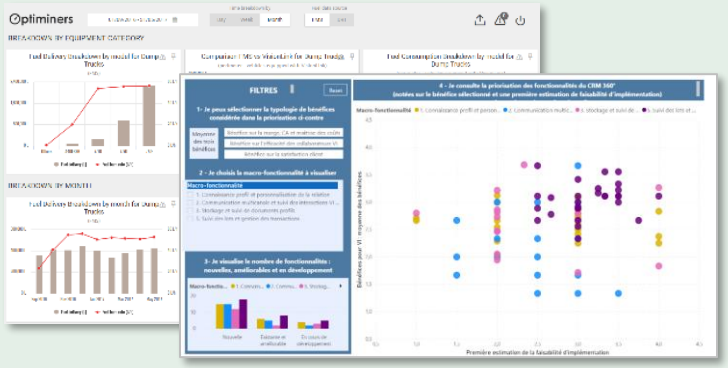
1

THINK

2

BUILD

- Accelerate the delivery of a strategic digital roadmap
- "Excubate" the launch of disruptive digital and data offers & services
- Build and model problem-solving algorithms



python · R · Apache Spark · Shiny · SQL · hadoop · Hive · Keras · ...

3

SCALE

4

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ELEVEN'S END-TO-END POSITIONING

1

THINK

2

BUILD

3

SCALE

- Scale digital and data projects on a group-level
- Consider the impacts of IT and IOT environment to ensure effective scaling

Dockerfile

```
FROM mcr.microsoft.com/dotnet/framework/sdk:4.8 as builder
RUN powershell -Command Invoke-WebRequest -OutFile nuget.exe https://dist.nuget.org/win-x86-commandline/v5.0.2/nuget.exe
COPY src/ ./src/
RUN nuget.exe restore .\src\compute.sln
RUN msbuild /p:Configuration=Release src/compute.sln
FROM mcr.microsoft.com/windows:1903
SHELL ["powershell", " Command"]
ADD http://files.mcneel.com/dujour/exe/20200114/rhino_en-us_7.0.20014.11185.exe rhino_installer.exe
RUN Start-Process .\rhino_installer.exe -ArgumentList '-package', '-quiet' -NoNewWindow -Wait
RUN Remove Item .\rhino_installer.exe
COPY ["xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx"]
COPY ["xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx"]
COPY ["xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx"]
COPY   from-builder ["/src/bin/Release", "/app"]
WORKDIR /app
EXPOSE 80
CMD ["compute.frontend.exe"]

FROM python:3.7
RUN mkdir /code
WORKDIR /code
ADD . /code/
RUN pip install -r requirements.txt
EXPOSE 6000
CMD ["python", "/code/app.py"]
```

Azure app services | docker | AWS Elastic Beanstalk | ...

4

BUY

Continuous interactions with client's c-levels, business units and digital & data teams

Proven ability to lead projects and teams remotely thanks to the most advanced digital tools

Sources: *eleven strategy*

eleven's positioning encompasses an end-to-end spectrum enabling to secure the fastest route from strategy to industrialization, allowing to identify and accelerate most valuable digital x data initiatives

ELEVEN'S END-TO-END POSITIONING

1 **THINK**

2 **BUILD**

3 **SCALE**

4 **BUY**

- Conduct a strategic due diligence of target/portfolio company with a digital and data angle
- Connect with the M&A technology environment

Continuous interactions with client's c-levels, business units and digital & data teams

Proven ability to lead projects and teams remotely thanks to the most advanced digital tools

Sources: eleven strategy

eleven serves top large cap clients and leading mid cap players across several key industries as well as leading International large cap and smid cap Private Equity funds

ELEVEN'S KEY REFERENCES

CORPORATE

Large corporates

VINCI, ENGIE, Air Liquide, SOCIETE GENERALE, AXA, LVMH, COVEA, KERING, TotalEnergies, ...

Mid Cap players

LA BANQUE POSTALE, INDIGO, PRIVATE SPORT SHOP, re/commerce, Club Med, SERVAIR, EURALIS, Van Cleef & Arpels, sonepar, ...

PRIVATE EQUITY

Large cap

BainCapital, CARLYLE, ARDIAN, VITRUVIAN PARTNERS, EURAZEO, Bridgepoint, ...

SMid cap

CATHAYCAPITAL Private Equity, naxicap PARTNERS, mbo & CO FOR CHANGE MAKERS, ABÉNEX, andera PARTNERS, 21 Partners, ...

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eleven supercase challenge: work on real-life challenges coming from various industries leveraging your dual expertise in business and data science

Exercise:

- ✓ Find your group of 4/5 people
- ✓ Choose among the 3 available topics
- ✓ On your topic, put yourself in a data consultant's shoes:
  - ✓ What is the context of the company? (value chain, competition, technological trends, etc.)
  - ✓ How could you generate added-value for them using potential of new technological enablers? (time-series, NLP, computer vision, etc.)
  - ✓ What should be the best way to present your first results? (data visualization, 1st demo, etc.)
  - ✓ How much should we trust your first results? (accuracy of your model, etc.)
  - ✓ What would be the next steps if you wanted to keep improving your results? (fine tuning, new model, advanced feature engineering, etc.)
- ✓ Synthesize your work in a few slides (up to 15 slides)
- ✓ Upload your work on the Sharepoint (presentation, code, etc: see details at the end of this presentation)
- ✓ Present to the jury and prepare for questions

The Right Price

How to estimate a property price?

Airplane Interior Services

How to increase customers satisfaction?

Worksite Safety Monitoring

How to monitor worksites' safety?

The Right Price

improving definition and computation of mutability score in Île-de-France

Context: the client, a player in real-estate industry, wants to build a robust purchase/sale price estimation model

Value chain of a real estate development project

For illustration purposes

Prospection → Construction → Operation → Renovation → Sale

What can be constructed?

- *Data:* PLU (Plan Local d'Urbanisme)

What is constructed today?

- *Data:* Databases of constructed buildings (height, areas, ..)

What is purchase/sale prices?

- *Data:* Databases of historical transactions

Scope of the supercase

What is the willingness to sell/buy?

- *Data:* NA

Your missions

- Process the data from historical transactions to get geolocation information
- Build one or several price estimation model for new construction (exclusively apartments)
- Present the results to your client with the test dataset that will be provided to you

Sources: eleven strategy

Data available: you have access to data from official mutation databases in Île-de-France, non-geo-localized except but for cadastral id, with large and various information on the properties

Note that as in any data science project, the data may require further data engineering before being fully leverageable

datemut	anneemut	moismut	coddep	libnatmut	vefa	valeur fonciere	codtypebien	libtypbien
22/10/2018	2018	10	75	Vente	FALSE	147000.0	121	UN APPARTEMENT
26/10/2015	2015	10	75	Vente	FALSE	95000.0	131	UNE DEPENDANCE
13/06/2019	2019	6	75	Vente	FALSE	1900000.0	152	BATI MIXTE - LOGEME
20/04/2017	2017	4	75	Vente	FALSE	1509000.0	121	UN APPARTEMENT
06/03/2015	2015	3	75	Vente	FALSE	28250.0	131	UNE DEPENDANCE
01/08/2017	2017	8	75	Vente	FALSE	500000.0	121	UN APPARTEMENT
03/07/2019	2019	7	75	Vente	FALSE	367000.0	121	UN APPARTEMENT
27/10/2016	2016	10	75	Vente	FALSE	90000.0	121	UN APPARTEMENT
23/11/2018	2018	11	75	Vente	FALSE	135000.0	121	UN APPARTEMENT
26/08/2016	2016	8	75	Vente	FALSE	190000.0	121	UN APPARTEMENT
28/12/2017	2017	12	75	Vente	FALSE	300000.0	14	ACTIVITE
11/06/2014	2014	6	75	Vente	FALSE	730000.0	121	UN APPARTEMENT
02/05/2018	2018	5	75	Vente	FALSE	935000.0	121	UN APPARTEMENT
11/05/2016	2016	5	75	Vente	FALSE	535000.0	121	UN APPARTEMENT
07/10/2016	2016	10	75	Vente	FALSE	339050.0	121	UN APPARTEMENT
11/07/2018	2018	7	75	Vente	FALSE	413438.0	121	UN APPARTEMENT
22/10/2018	2018	10	75	Vente	FALSE	3327000.0	14	ACTIVITE
06/02/2018	2018	2	75	Vente	FALSE	650000.0	122	DEUX APPARTEMENTS
04/09/2018	2018	9	75	Vente	FALSE	375000.0	14	ACTIVITE
09/02/2015	2015	2	75	Vente	FALSE	163000.0	121	UN APPARTEMENT
18/06/2020	2020	6	75	Vente	FALSE	768490.0	121	UN APPARTEMENT
07/06/2017	2017	6	75	Vente	FALSE	15000.0	14	ACTIVITE
13/11/2014	2014	11	75	Vente	FALSE	480000.0	121	UN APPARTEMENT
30/03/2018	2018	3	75	Vente	FALSE	823000.0	121	UN APPARTEMENT
14/09/2015	2015	9	75	Vente	FALSE	250000.0	121	UN APPARTEMENT
16/02/2018	2018	2	75	Vente	FALSE	2873000.0	122	DEUX APPARTEMENTS
11/03/2019	2019	3	75	Vente	FALSE	525000.0	121	UN APPARTEMENT

Mid-term nudge

✓ After two days, you could be provided with a geo-localized version of this dataset

Resources : You are free to use any resources you want, here are some recommendations to help you get started

Languages

python™

We highly recommend you use Python even though same kind of results could be achieved with similar tools

Relevant libraries

scikit learn

To develop a wide range of ML models

GeoPandas

To use geo-localized visualization tools

Rtree

To use geo-localized advanced ML models

Streamlit

To efficiently develop a dashboard / front-end

For information: the process of geo-location is independent from the rest of the challenge

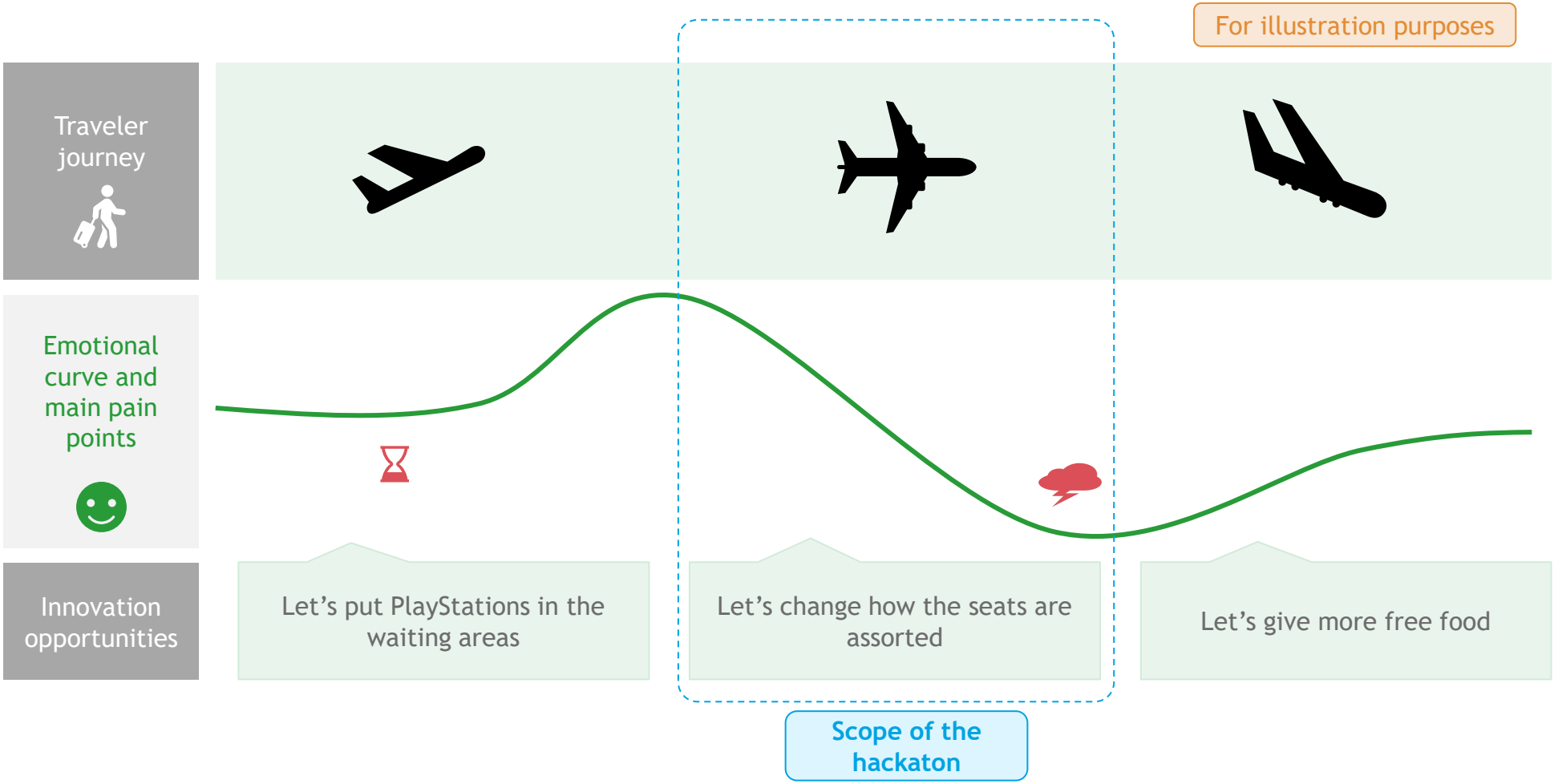
Hint : Investigate cadastral open data

Airplane Interior Services

designing new airplane interior services based on user experiences

Context: the client, a player in the aeronautic industry, wants to understand how the user experience of airplane passengers may be improved

For illustration purposes



Your missions

- Collect data about customer experience in airplanes
- Extract key insights from acquired data
- Suggest to your client mitigations solutions based on extracted insights

Data available: you do not have initial access to any data, except for your computer science skills and the whole world wide web, be creative to leverage existing information

Example of the kind of data you should be looking for to complete your supercase

SKYTRAX

1/10

"a horrible airline to fly"

Rachel Beale (United States) 28th July 2019

Trip Verified | Atlanta to Paris. Air France is just a horrible airline to fly, especially compared to delta. They do not update their movies on their tiny screen they put in front of you it's the same movie names repeated over and over to make it seem like there are choices. I found the food disgusting and they have no WiFi on the plane. I would not recommend flying Air France at all unfortunately due to work and my routes I've had to use them 4 times.

Type Of Traveller	Family Leisure
Seat Type	Economy Class
Route	Atlanta to Paris
Date Flown	July 2019
Seat Comfort	★★☆☆☆
Cabin Staff Service	★★☆☆☆
Food & Beverages	★☆☆☆☆
Inflight Entertainment	★☆☆☆☆
Ground Service	★☆☆☆☆
Value For Money	★☆☆☆☆
Recommended	✘

country	number_of_reviev	date	rating	header	body	aircraft	cabin	airline
Netherlands	NA	2019-11-11	5	"pretty decent airline"	âœ... Trip Verified | Moroni to M	NA	NA	ab-aviation
United Kingdom	26 reviews	2019-06-25	1	"Not a good airline"	âœ... Trip Verified | Moroni to Ar	E120	NA	ab-aviation
United Kingdom	26 reviews	2019-06-25	1	"flight was fortunately short"	âœ... Trip Verified | Anjouan to C	Embraer E120	NA	ab-aviation
Serbia	NA	2019-09-28	1	"I will never fly again with Adria"	Not Verified | Please do a favor	NA	NA	adria-airways
Netherlands	NA	2019-09-24	1	"It ruined our last days of holiday	âœ... Trip Verified | Do not book	NA	NA	adria-airways
Austria	NA	2019-09-17	1	"Had very bad experience"	âœ... Trip Verified | Had very bac	CR 900	NA	adria-airways
Switzerland	NA	2019-09-06	1	"worse than the budget airlines"	Not Verified | Ljubljana to ZÃ¼ri	NA	NA	adria-airways
Germany	NA	2019-08-24	1	"book another company"	Not Verified | First of all, I am nc	Bombardier CRJ	NA	adria-airways
Switzerland	NA	2019-08-06	1	"combined two flights"	âœ... Trip Verified | Worst Airlin	NA	NA	adria-airways
Germany	35 reviews	2018-10-12	5	"the crew was nice"	âœ... Trip Verified | Ljubljana to f	NA	NA	adria-airways
Germany	NA	2018-10-05	1	"Very bad experience overall"	Not Verified | Zurich to Ljubljana	NA	NA	adria-airways
United States	NA	2018-07-29	1	"bad customer service"	âœ... Trip Verified | Vienna to Sc	NA	NA	adria-airways
France	NA	2018-07-19	2	"overall very poor"	âœ... Trip Verified | We were tra	NA	NA	adria-airways
Slovenia	NA	2018-06-30	2	"Would not fly again"	âœ... Trip Verified | Ljubljana to	NA	NA	adria-airways
Czech Republic	NA	2018-06-24	3	"very unpleasant experience"	âœ... Trip Verified | A very unple	A319	NA	adria-airways
Slovenia	NA	2018-05-04	10	"Flight was very comfortable"	âœ... Trip Verified | Frankfurt to	NA	NA	adria-airways
Germany	NA	2018-03-11	1	"delayed for more than 2 hours"	âœ... Trip Verified | Ljubljana to	NA	NA	adria-airways
United States	NA	2017-12-05	3	"should be ashamed of their oper	âœ... Trip Verified | Ljubljana to	ATR-72	NA	adria-airways
Slovenia	NA	2017-11-20	9	"Two nice short flights"	âœ... Trip Verified | Two nice sho	CRJ700 / ATR72	NA	adria-airways
Finland	NA	2017-10-27	2	"extremely bad service"	âœ... Verified Review | We were	NA	NA	adria-airways
United States	NA	2017-09-16	2	"never fly this airline again"	âœ... Verified Review | Ljubljana	NA	NA	adria-airways
Switzerland	NA	2017-08-19	9	"can't remember a flight delay"	âœ... Verified Review | Ljubljana	CR9	NA	adria-airways
Austria	11 reviews	2017-01-27	9	"seat was quite comfortable "	âœ... Verified Review | Ljubljana	Canadair 700	NA	adria-airways

Date	unknown	Company	Flight
29/12/2019	From Istabul to Athens. Seat 3C doesnt have any extra legroom.	aegean-airlines	airbus_a319-100
09/06/2018	I traveled Athens-Zurich with Aegean Airlines and the SX-DNB aircraft. I chose the 21A position. This place is awkward. The foot space is minimal, and the window is in an uncomfortable position. The display is two rows ahead .	aegean-airlines	airbus_a320-200
25/05/2018	very tiny leg room as I am quite tall. flight attendants friendly and meal ok.	aegean-airlines	airbus_a320-200
19/04/2018	Exit row 12F was nice for the 2.5 hour ZRH-ATH flight and back. Quite a few empty seats throughout the cabin both ways, and a nice meal service.	aegean-airlines	airbus_a320-200
22/07/2017	It is a wonderful seat at no additional cost (subject to availability during online check in) - more legdom and reclining.	aegean-airlines	airbus_a320-200

tripadvisor®

Baloo wrote a review Sep 9
2 contributions

Moscow - Ulaanbaatar | International | Economy

Delay

After getting inside the aircraft we were waiting about 2 hours on board, then they announced that they are gonna change our schedule. Because they have to change the aircraft. That's all somehow ok, but the worst part of the story is, that the pilot tried to explain what is...

Read more

Date of travel: August 2019

Helpful | Share

Praveen Chaudhary wrote a review Sep 9
Little India, Singapore • 44 contributions • 7 helpful votes

New Delhi - Moscow | International | Business Class

Flight to Moscow

You Have no choice to Fly to Moscow in 6 Hours other than AeroFloat. Which cannot offer you the Indian Food ,Indian Movies & even did not understand what you would like to express because they don;t understand English.Even the Very Common Words.Seat in Business class is just the...

Read more

Date of travel: September 2019

Mid-term nudge

✓ After two days, you will be provided with a scrapped dataset from Skytrax and Tripadvisor

Resources: You are free to use any resources you want, here are some recommendations to help you get started

Languages

We highly recommend you use Python even though same kind of results could be achieved with similar tools

Relevant libraries

To develop a wide range of ML models

To develop topic-modelling algorithm as well as sentiment-analysis tools

To efficiently develop a dashboard / front-end

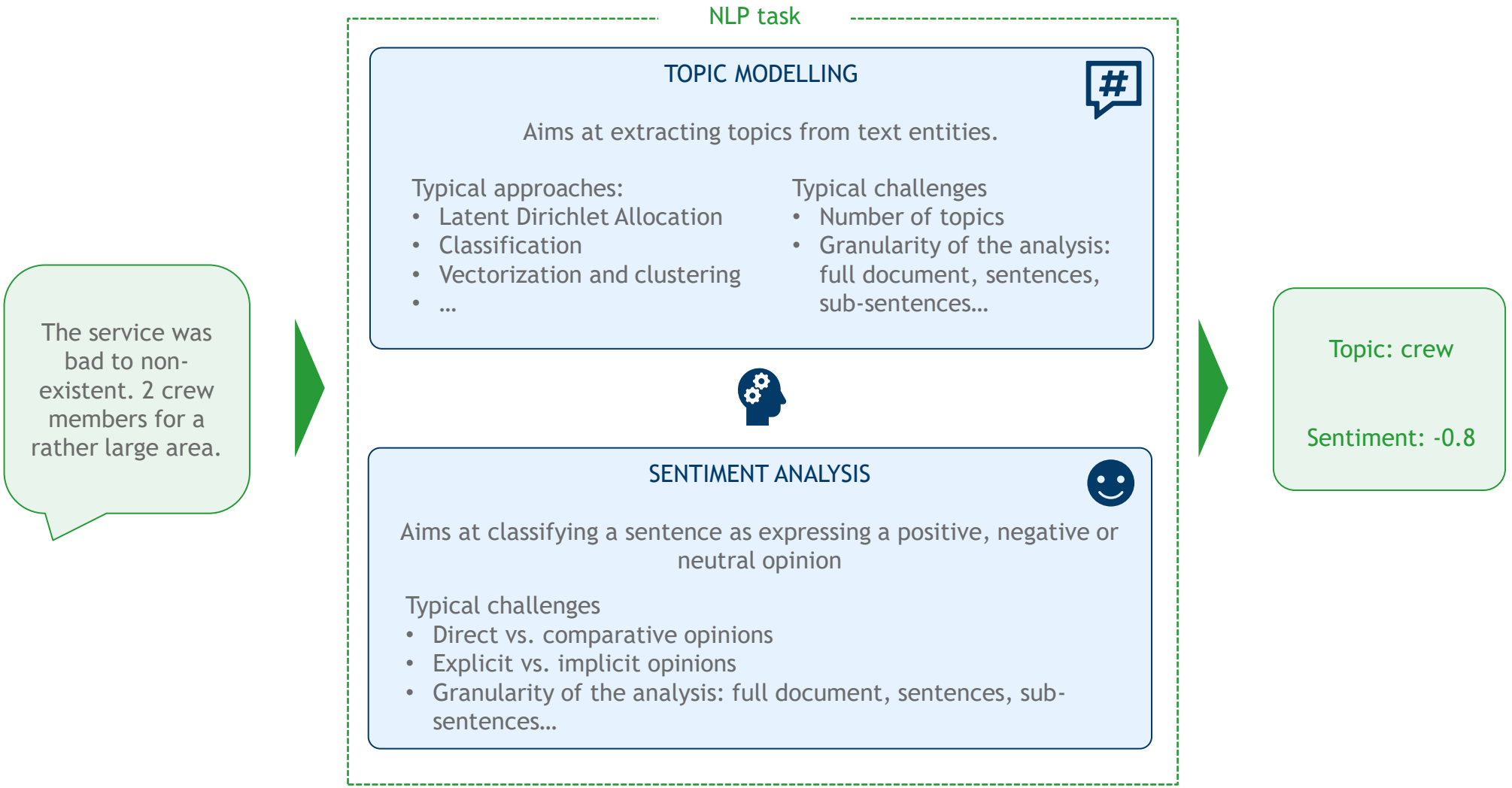
For information: the origin source of the data

https://www.seatguru.com/browseairlines/browseairlines.php

https://www.seatguru.com/airlines/Aegean_Airlines/Aegean_Airlines_Airbus_A320-200.php

https://www.airlinequality.com/review-pages/a-z-airline-reviews/

Illustration: Topic modelling and sentiment analysis enable to derive valuable insights from customer reviews



Worksite Safety Monitoring

ensuring a worksite safety thanks to computer vision technology

Context: the client, a player in the construction industry is building a worksite monitoring solution to evaluate and mitigate risks on worksites

For illustration purposes

1 Data acquisition

- 7 camera deployed on several test construction site
- Storage in a centralized database

2 Detection model

- Detection automation based on deep learning
- Training on 1500 pictures with 11 000 annotations

3 Analysis model

- Clustering of images to group together images from the same camera
- Heatmap of workers' presence during the day
- Storage of results in a table

4 Reporting

- Synthesis of daily human activities contextualized in a picture
- User-friendly exposition of the results
- Identify other value propositions relying on the detection model

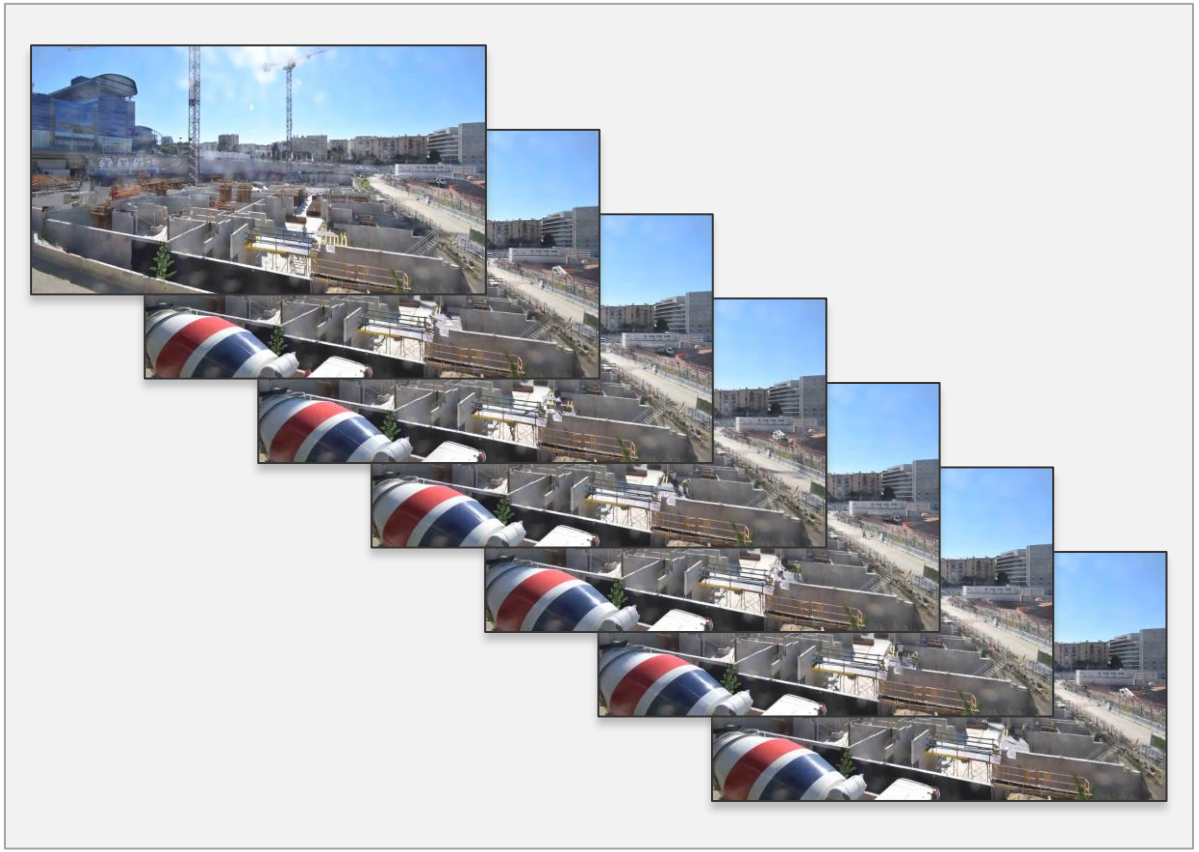
Scope of the supercase

Your missions

- Build a worker detection model based on annotated data
- Cluster the images to process each camera independently (prerequisite to draw heatmaps)
- Build a heatmap for each worksites with density of workers during the day
- Expose your result and performance on a dashboard with a test dataset that will be provided to you
- Identify additional value that could be brought by the detection model

Data available: you have access to pictures from different worksites, with the corresponding labels giving you information about on-site workers

Example of worksite pictures



Example of labels (json format)


```
{"description": "",
 "tags": [],
 "size":
        {"height": 720, "width": 1280},
        "objects":
                [{"id": 346688445,
                "classId": 1285799,
                "description": "",
                "geometryType": "rectangle",
                "labelerLogin": "Raziajuthy",
                "createdAt": "2020-02-04T09:08:12.615Z",
                "updatedAt": "2020-02-28T11:38:28.963Z",
                "tags": [],
                "classTitle": "People",
                "points":
                        {"exterior": [[153, 622], [177, 647]],
                        "interior": []}},
                {"id": 346688444,
                "classId": 1285799,
                "description": "",
                "geometryType": "rectangle",
                "labelerLogin": "Raziajuthy",
                "createdAt": "2020-02-04T09:08:12.615Z",
                "updatedAt": "2020-02-28T11:38:28.963Z",
                "tags": [],
                "classTitle": "People",
                "points":
                        {"exterior": [[851, 683], [865, 720]], "interior": []}},
                {"id": 346688443,
                "classId": 1285811,
                "description": "",
                "geometryType": "rectangle",
```

Resources: all classical Machine Learning might come handy and a good understanding of Computer Vision libraries will be helpful

Computer Vision libraries

PyTorch

Standard library for deep learning

OpenCV

Standard library classical computer vision

TensorFlow

An alternative to Pytorch

ML + Viz libraries

scikit learn

To develop a wide range of ML models

pandas

To exploite model's output and aggregate them

Streamlit

To efficiently develop a dashboard / front-end

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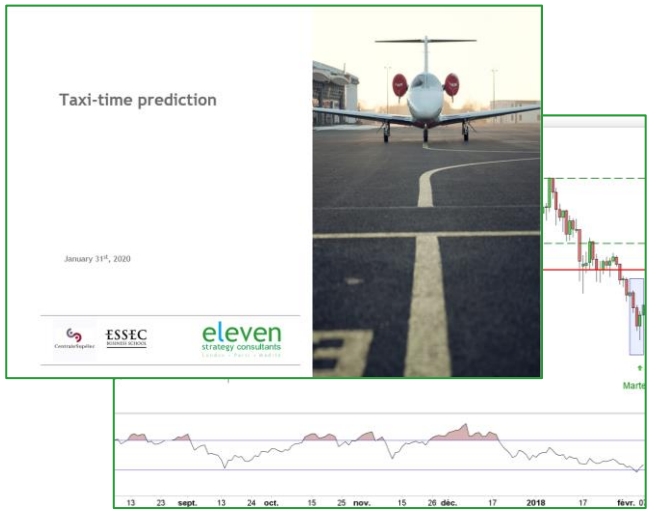
Expected output

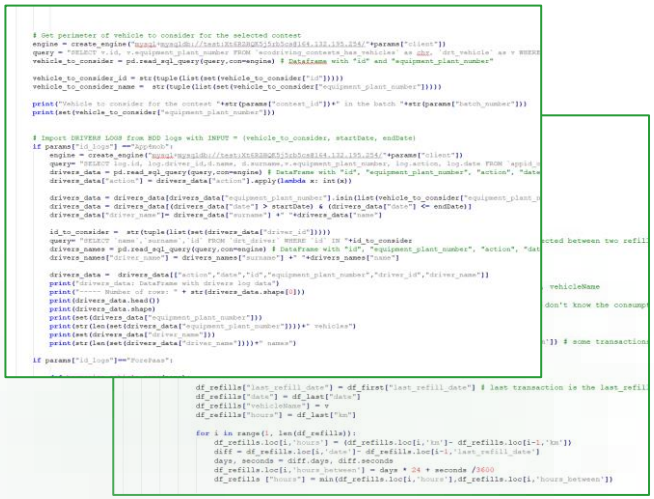
You are expected to deliver the following:

- The file with your code (for this assignment we highly recommend using Python)
- A PowerPoint presentation of your work (including your experiment process, your thoughts, the hardships you had to overcome…)

PRESENTATION



CODE



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The Slack workplace

For this challenge, we opened a Slack workplace for you to ask your questions when eleven consultants are not on campus

On this workplace, you will find three channels:

1) **général**: for all questions and information related to the organization of the challenge
2) **TheRightPrice**: for all questions specifically related to *TheRightPrice* case
3) **AirplaneInteriorServices**: for all questions specifically related to *AirplaneInteriorServices* case
4) **WorksiteSafetyMonitoring**: for all questions specifically related to WorksiteMonitoring case

Additional information may also be pinned in these channels (schedules, classroom numbers, etc.)

Please use the right channel to ensure fluidity of the interactions

Before asking something, also make sure that the requested information has not been given already ;)

You may download the slack application on your device or access it via your usual browser

Download instructions & submission process

How to download datasets ?

You can download datasets and potential additional information at the following links:

- **Case #1: AIS** - get your files here

Note: no files shared for the 2 first days

- **Case #2: TRP** - get your files here

Nom	Modifié	Modifié par
Data localisée	25 octobre	Jean SAUVIGNON
Data non localisée	12 octobre	Oussama ENNOURI
lexique_variables.csv	21 septembre	Jean SAUVIGNON

Note: geo-localized data will not be shared before the 2 first days

- **Case #3: WSM** - get your files here

Nom	Modifié	Modifié par
Detection_Train_Set_Img	28 septembre 2020	Jean SAUVIGNON
Detection_Train_Set_Json	28 septembre 2020	Jean SAUVIGNON

How to submit your works ?

Each team will receive a link by email with a Sharepoint folder to submit their assignment (both Presentation + Code)

Notes:

- You can organize your folder as you wish.
- You can keep old files that should not be submitted to the jury in a *0_Archives* folder

Schedule for the five days: the timing may be short, do not hesitate to split the work between the members of the team

	Monday 14th	Tuesday 15th	Wednesday 16th	Thursday 17th	Friday 18th
AM session	**9.00 am** **Kick-off session** *Amphi F3.05* *Breguet - 2nd floor*	**Free working session** *Classrooms* *Breguet - 2nd floor*	**Free working session** *Classrooms* *Breguet - 2nd floor*	**Free working session** *Classrooms* *Breguet - 2nd floor*	**9.00 am > 1.00 pm** **Pitches session** *Classrooms* *Breguet - 2nd floor* Pitches will take place in front of a 3 people jury: 2 technical profiles and 1 business profile
	Training (NLP/CV) *Classrooms* *Breguet - 2nd floor* **Support session (TRP)** *Classrooms*				
PM session	**Q&A - tech** *Amphi F3.05* *Breguet - 2nd floor* 2.00pm - The Right Price 2:000pm - Airplane Interior Services 2.00pm - Worksite Safety Monitoring	**Q&A - tech** *Amphi F3.05* *Breguet - 2nd floor* 2.00pm - The Right Price 3.30pm - Airplane Interior Services 5.00pm - Worksite Safety Monitoring	**Q&A - tech** *Amphi F3.05* *Breguet - 2nd floor* 2.00pm - The Right Price 3.30pm - Airplane Interior Services 5.00pm - Worksite Safety Monitoring	**Q&A - business** *Amphi F3.05* *Breguet - 2nd floor* 2.00pm - The Right Price 3.00pm - Airplane Interior Services 4.00pm - Worksite Safety Monitoring	**3.00 pm** **Closing session** *Amphi F3.05* *Breguet - 2nd floor* The best team of each topic will pitch in front of the whole class

Final presentation details and best practices:

On Friday 18th, you will have to present your work in front of a jury during a closed-door session

The modalities of the presentation will be as follow:

- 10min group pitch based on a PowerPoint presentation
- ~10min Q&A session with the jury
- ~5min debrief from the jury

For each supercase, a winner will be announced. The three winners will then present their work to the other students (same modalities with questions from the students)

The presentation must be as professional as possible. Here are some advices and best practices that may be useful:

- Structure your presentation: start by stating the problem that you want to solve, then present the way you tackled it, and finally describe your solution. The "story" of the presentation should be natural and easy to follow
- Be concise and precise: focus on the most important messages, as you only have 20 minutes to present the work achieved for the entire week. You should limit the number of slides you present (you can still add appendices if needed)
- Be organized as a team: split up the speaking time between the team members beforehand to make it smoother
- Be honest: tell where you encountered issues or challenges
- C-suite level: you should convince both the CEO and the CTO/CDO of the company

Evaluation criteria:

**The contribution of each criteria may not reflect the actual value in a final mission restitution*

Although different in their essence, the cases will be graded based on similar criteria.
NB: any provided code will be tested in order to ensure its good functioning.

	Topic	Description	Contribution to the final grade*
	Engagement	The engagement of the team during the exercise (how far you've gone, how autonomous you have been, how much you have asked questions when stuck, etc.)	2 points
Business aspect	Presentation quality	The quality of your final presentation: how professional it looks (slide quality), how clear and complete it is (storytelling), how pertinent your answers are, etc.	3 points
Business aspect	Business methodology	The creativity and relevance of the methodology (i.e. scientific approach) you choose regarding the problem you try to solve, and the data provided, the business sense behind your methodology and the pragmatism of your presentation	6 points
Technical aspect	Technical choices	The explanation of your technical choices and your ability to present them in non-technical terms	3 points
Technical aspect	Model efficiency or Analysis relevance	The performance of your model (specific to each case), the relevance for the problem in question, the quality of the analysis led	5 points
Technical aspect	Code good practices	Your code must be well structured, easy to run and easy to understand with clear readme and requirements.	1 point

Please note that all groups will be graded at the end of the week

Enjoy the challenge!