USER GUIDE:
RAINY DAYS HERO

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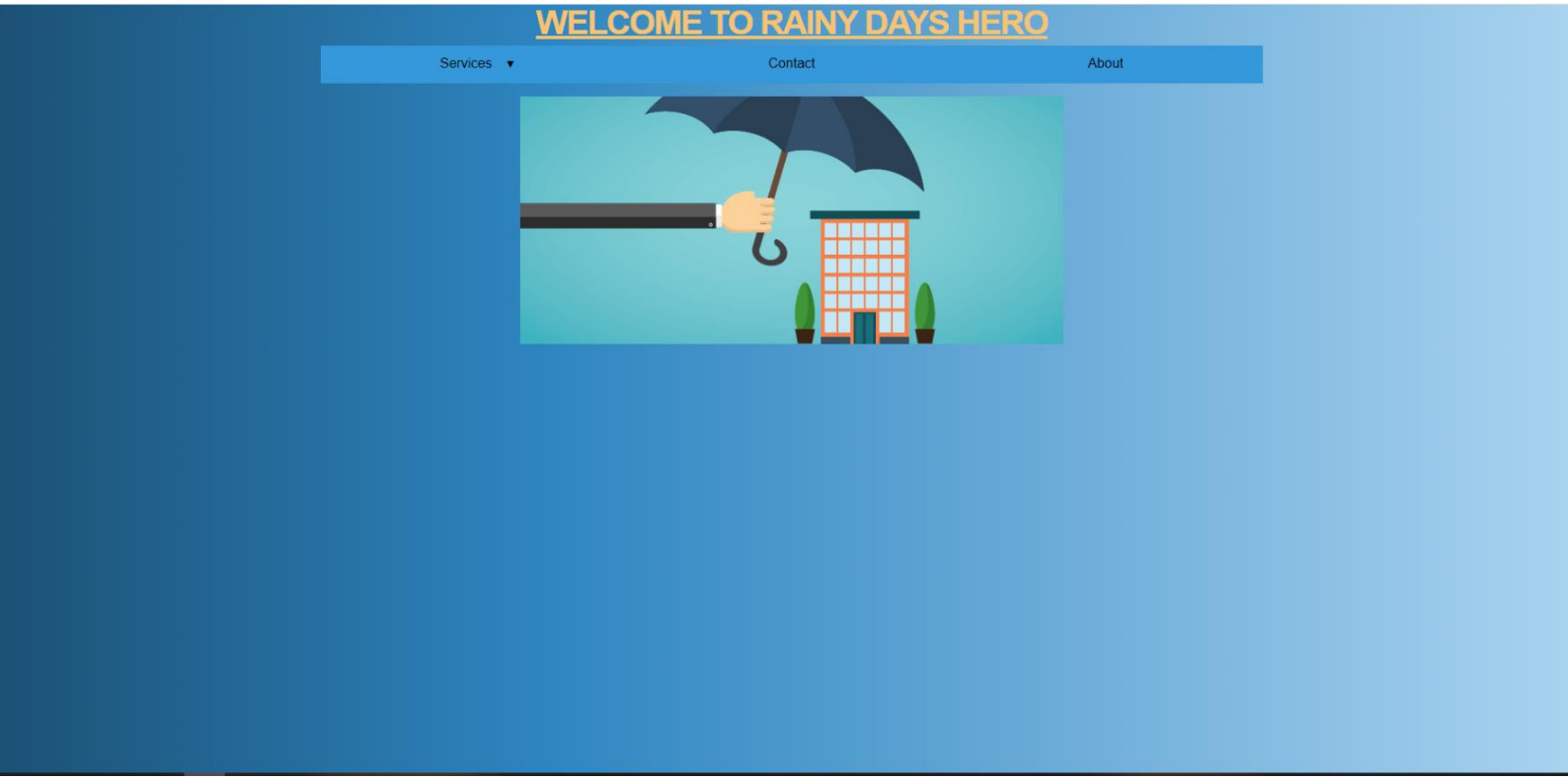
1) Usage

In order to discover our program, please use the following link:
https://rainydayshero.herokuapp.com/

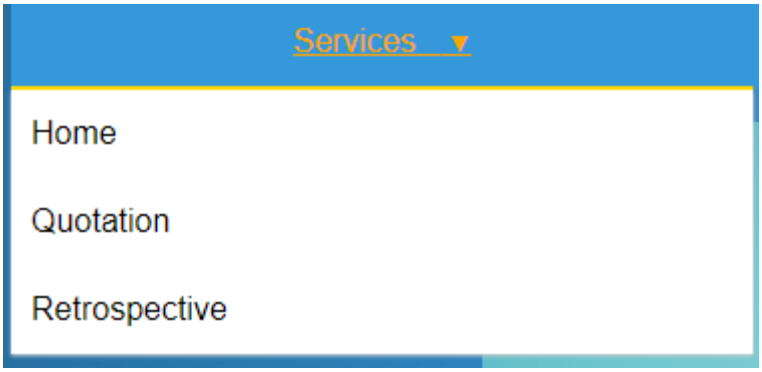


This is the website home page.

« Contact » allows you to contact the website creator.

« About » allows you to know more about our project.

« Services » allows you to access our insurance company services.



« Home » return the home page.

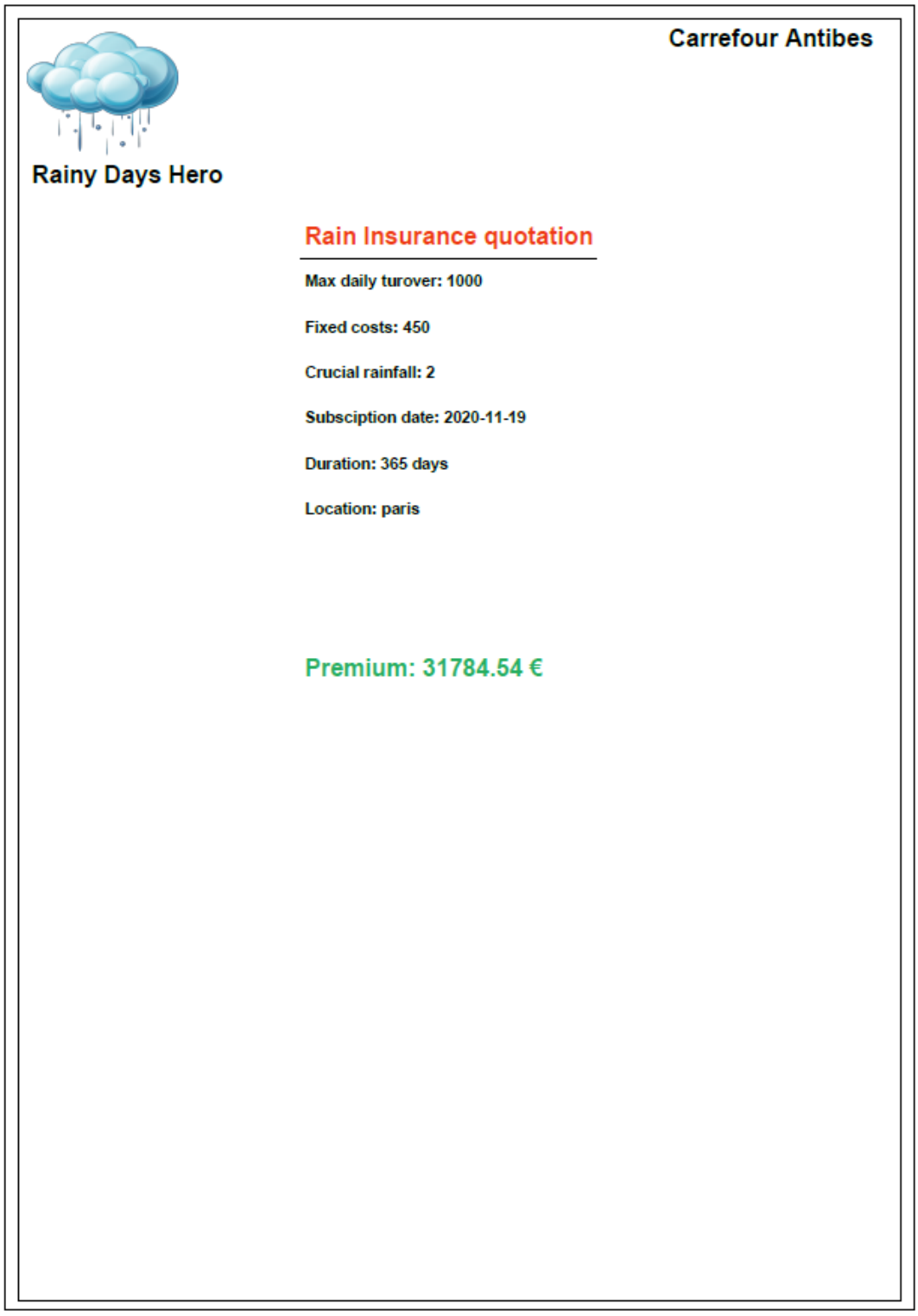
« Quotation » allows you to know the rainfall insurance premium.

« Retrospective » creates a retrospective analysis of the insurance impact.

2) Quotation

Company Name	Customer Name
Daily Max Turnover	Daily maximum turnover (€)
Daily Fixed Costs	Daily fixed costs of the company (€)
Critic RainFall	Value of the company critic rainfall (mm)
Subscription Date	Date from which the customer will be insured for 365 days
Company Location	City of the customer
Export As Pdf	Allows you to print the quotation (Yes/No)

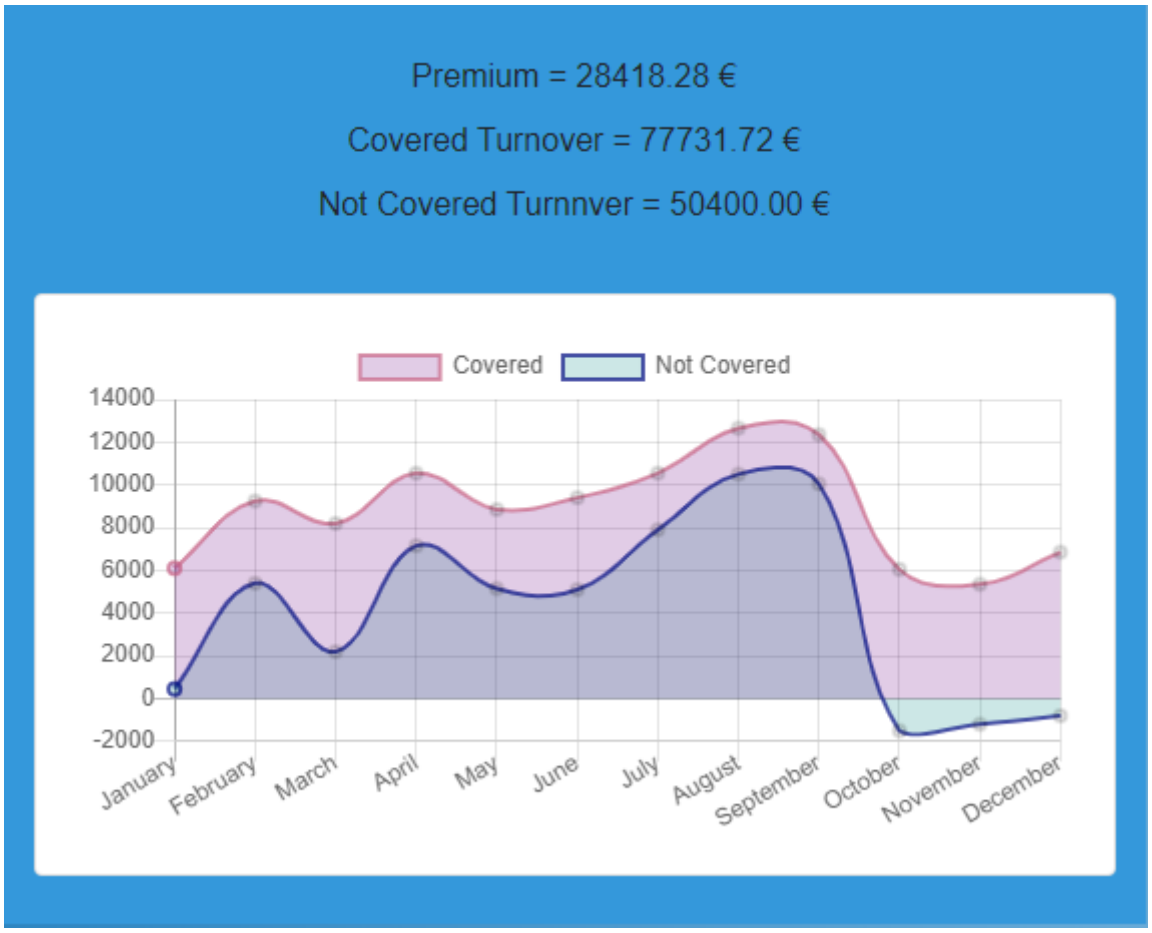
The « pricing » button gives the premium to pay in order to be insured. If you choose not to export the quotation as pdf, the premium will appear under the button. If you choose to export the quotation as pdf, you will get the quotation in a pdf file with all your information and you will be able to print it.



3) Retrospective

Company Name	Customer Name
Daily Max Turnover	Daily maximum turnover (€)
Daily Fixed Costs	Daily fixed costs of the company (€)
Critic RainFall	Value of the company critic rainfall (mm)
Retrospective Year	Year for which we want to know the retrospective analysis
Company Location	City of the customer
Export As Pdf	Allows you to print the retrospective analysis (Yes/No)

The « Retrospective » button gives the retrospective analysis. If you choose not to export it as pdf, the price which should have been paid last year will appear under the button with the graphs of the monthly results. You will get the yearly result you should have got with the insurance coverage and the yearly result you should have got without the coverage. You can choose which graph you want to see while clicking on « covered » or « not covered ».



If you choose to export it as pdf, you will get the retrospective analysis in a pdf file with all your information and you will be able to print it. You will also get a graph showing the monthly results, with and without the insurance coverage.

Burger King

Rainy Days Hero

Rain Insurance quotation

Max daily turover: 1000

Fixed costs: 450

Crucial rainfall: 2

Subsciption date: 2019

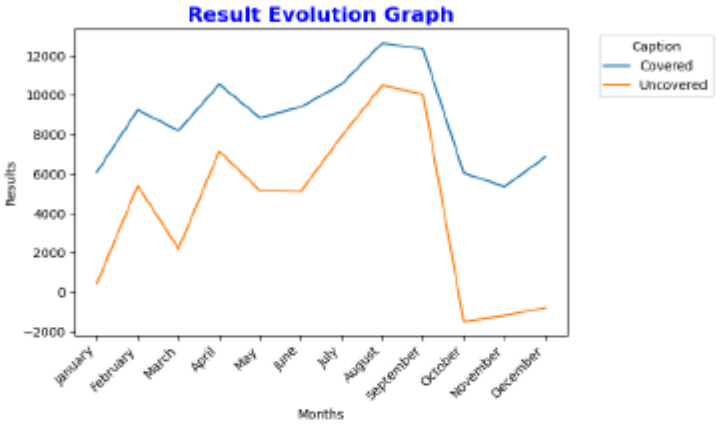
Duration: 365 days

Location: paris

Premium Price: 28418.28 €

Covered Result: 77731.72 €

Uncovered Result: 50400.00 €



4) Calculation of the premium

Y is the number of years used to compute the premium.

Critic is the critic rainfall.

CA is the daily max turnover.

CF are the daily fixed costs.

i is the interest rate.

pl_t^y is the rainfall level for the day t of the year y.

$$f(y,t) = \begin{cases} \frac{1}{\left(1 + i * \frac{t}{360}\right)} \left(\min\left(CA * \frac{Critic - pl_t^y}{Critic} - CF, 0 \right) \right) ; \ if\ pl_t^y < rainfall \\ -CF\ ;\ if\ pl_t^y \geq rainfall \end{cases}$$

$$premium = -\frac{1}{Y} \sum_{y=1}^{Y} \sum_{t=1}^{365} f(y,t)$$

5) Data import

We import data dynamically from the following website:

https://www.historique-meteo.net/