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Flash Talk Event
40 anos de Cultura, Ciência e Tecnologia para a Sociedade

Instituto Politécnico de Tomar | Ci2.ipt Centro de Investigação em Cidades Inteligentes | centro de geo ciências | Techn&Art Centro de Tecnologia, Restauro e Valorização das Artes | fct Fundação para a Ciência e a Tecnologia

SOLAR Prediction and Detection of Sunlight through Building Transparent Surfaces

UIDB/05567/2020/05 (Trabalho financiado por fundos nacionais através da FCT – Fundação para a Ciência e a Tecnologia, I.P., no âmbito do projeto UIDB/05567/2020)

Objetives

This project aims to develop a software package that receives the above stated inputs and produces the desired sunlight availability outputs.

Given variables such as latitude and longitude, configuration of windows, balconies and other sunlight entry surfaces, and a survey of the surrounding obstacles using a 360 camera, it is possible to predict the presence of sunlight over time.

One important aspect to be considered when buying a house or apartment is an adequate sunlight exposure.

The same applies to the evaluation of the effects of new construction sites on existing buildings.

In different climates and seasons, it is not always easy to assess if there will be excess or lack of sunlight, and both can lead to discomfort and excessive energy consumption.

Team

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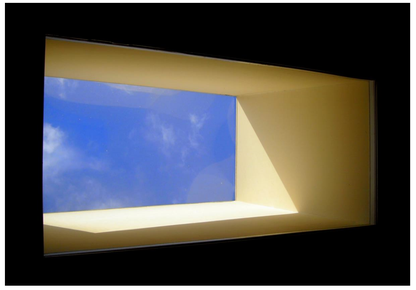
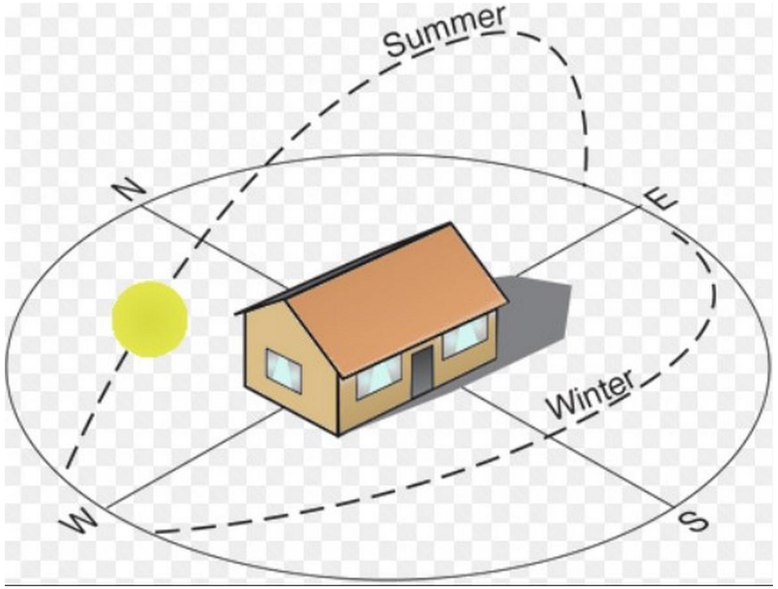
Results

To have a new software package to efficiently produce information to determine the desired sunlight exposure data for new buildings or to predict the sunlight exposure of existing buildings, from the perspective of a buyer. At a later stage, we expect to include a thermal analysis procedure, which will result in a lower energy consumption of buildings. This work will produce a scientific paper and a bachelor thesis.



https://energyeducation.ca/encyclopedia/Daylighting



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OBJETIVOS DE DESENVOLVIMENTO SUSTENTÁVEL
7 ENERGIAS RENOVÁVEIS E ACESSÍVEIS
9 INDÚSTRIA, INOVAÇÃO E INFRAESTRUTURAS
11 CIDADES E COMUNIDADES SUSTENTÁVEIS
12 PRODUÇÃO E CONSUMO SUSTENTÁVEIS
13 AÇÃO CLIMÁTICA

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