

Internship 2024 (M2 / Engineer)

Laboratory: CESBIO (<https://www.cesbio.cnrs.fr/>)

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Title of the internship: Web site of the DART model

DART is a 3D radiative transfer model that simulates remote sensing images and the radiative budget of natural and urban landscapes in any spectral domain from visible to thermal infrared. It is the most complete model in the world. It has been developed by CESBIO since 1992. It was patented in 2003 and certified by CNRS in 2023. UT3 (Toulouse III University) has delivered over 630 licences to Universities and space centres (NASA, DLR, CNES,...). Its present web site (<https://dart.omp.eu>) enables DART upload/download and to manage contacts with users. Its technical environment relies on mysql/mariadb database, apache 2, php 8, angular and reCaptcha.

The present web site has important limitations, which explains the need to develop a new site while keeping some functionalities and introducing new ones. The intern will have the responsibility to design the new site with the most appropriate technologies. The functionalities to keep and to introduce are only general recommendations.

Examples of functionalities to keep:

- Upload (by the administrator of the site) of documentation and DART executable code.
- Download of DART documentation (by anybody) and DART executable code (by anybody with a licence)
- World map that shows the DART licenses per University / Laboratory / Space centre
- Management of licences: validation, removal, extraction per name / date / status (licence validated or not),..
- Autocomplete form to apply for a DART licence: the user inputs administrative data, then an auto-generated licence form is uploaded on the web site for later validation by UT3. Then, the user can download DART.

Examples of functionalities to introduce:

- Possible access to DART web site in countries (e.g., China) where Google technology is forbidden. The present reCaptcha should be replaced by hcaptcha or other.
- Process that up-dates the changelog
- Possibility to update / modify some elements of the web site
- Possibility to send Emails to DART licensees and those who apply for a licence.
- User forum. The present forum "Help" is not efficient.

Requirements: specialist in web design. Ability to work in a team.

Send a CV and motivation letter to J.P. Gastellu-Etchegorry (jean-philippe.gastellu@iut-tlse3.fr)

