**Deconflicting tool**

**Presentation**

Your team will be in charge of developing an Deconflicting tool that takes a list of flight plans (4D trajectories), identify and visualize conflicts (two aircrafts closer that a certain security distance) and allows the user to eliminate conflict by changing speed in selected flight plans.

Three versions of the Deconflicting tool must be delivered:

Version 1

This version will work with simple flight plans: flight ID, company, initial position and final positions (X,Y), and speed. The tool must allow the user to:

* Introduce data for two flight plans
* Anticipate conflict and inform the user
* Propose speed changes that avoid anticipated conflicts
* Simulate the flight plans (step by step and automatically) and visualize the conflict
* Change speeds during simulation to avoid conflict

Version 2

This version will work with a list of simple flight plans (read from a text file). Again, the tool should anticipate conflicts, propose speed changes, simulate and visualize flight plans and conflicts and change speeds during simulation to avoid conflicts.

Version 3

In the final version, the tool should be able to access a data base with information about flight companies (with data such as telephone, email, etc.). Version 3 must include additional functionalities defined by the team to make the tool as useful as possible.

**Assessment**

Only versions 2 and 3 will be grades according to the following criteria:

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| --- | --- | --- | --- |
| **Criteria** | **Description** | **version 2**  **35%** | **version 3**  **65%** |
| Complete | Implements all the requirements | 50% | 45% |
| Robust | The tool never hangs, even if user inputs wrong data | 15% | 7,5% |
| User friendly | User never doubts on how to interact with the tool. Visually attractive and realistic. | 10% | 7,5% |
| Efficient | The best algorithms are used always | 10% | 5% |
| Well organized and documented | Good organization of code into classes and forms. Enough comments in every block of code. Good use of indentation. | 15% | 10% |
| Additional functionalities | Additional functionalities are not trivial and make the tool really interesting and useful |  | 25% |