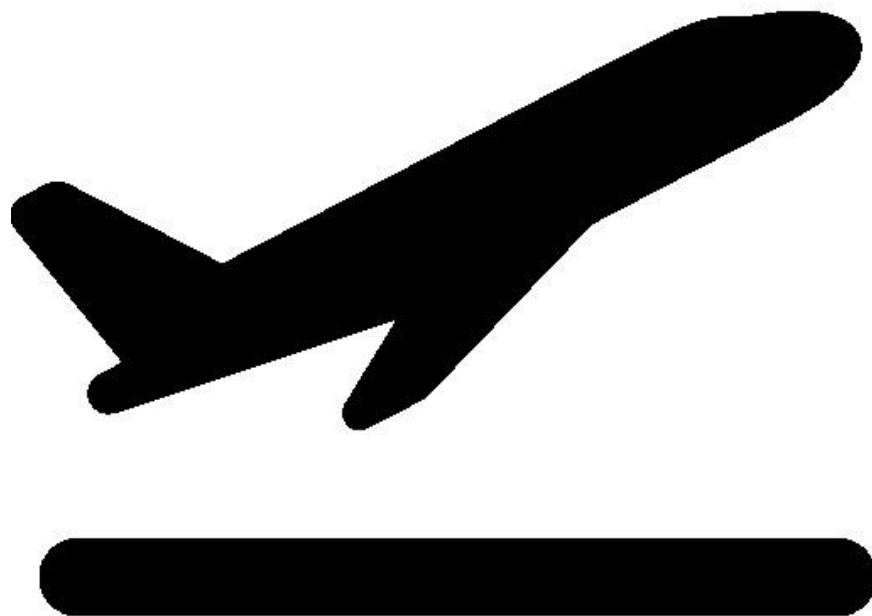


Runway Redeclaration User Manual



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1. Introduction

Welcome to the User Manual for our official Runway Redeclaration Tool. This manual is designed to provide you with comprehensive guidance on utilising this software to efficiently recalculate runway parameters for airport operations. Whether you're an air traffic controller, pilot, or runway technician, our tool is tailored to streamline the process of ensuring runway safety and compliance. With user-friendly interfaces and advanced functionalities, our tool empowers you to make informed decisions with confidence. This manual will walk you through the key features, functionalities, and best practices for optimal utilisation of our Runway Redeclaration Tool. FAQs will be at the bottom for your convenience. If you need any extra assistance, please follow the “Contact Us” option under the “Help” menu in the application.

2. Getting Started

Below are the necessary and initial steps to get this application running, set up, and start using it as intended. If any of the instructions don't make sense, please refer to the FAQs or contact us for further support.

2.1 Running the application:

- The application is distributed as a .jar file, tailored to different operating systems:
 - runway-redeclaration.jar for Windows systems.
 - runway-redeclaration.jar for MacOS systems.
 - runway-redeclaration.jar for Linux systems.
- To launch the application, you can either double-click the .jar file or execute it from a terminal or command prompt with the command: `java -jar`.



runway-redeclaration.jar

- The .jar files include all necessary components to run the application and will automatically create a "Resources" directory in the launch location. This directory is used to store persistent data such as airports, obstacles, and notifications.

2.2 Signing up & logging in to the system:

User Authentication and Authorisation:

- When the application launches, it should display a main menu with a prominent "Login" button. Clicking this button should bring up a dialog prompting the user to enter their username and password. The system will validate the provided credentials against user accounts stored in the database.
- If the user doesn't have an account, they should first “Sign up” using the designated button. They should set a username and password that fit the requirements and choose their desired access level. Users will then be granted their access privileges, once approved by an admin.

The system should support three user roles with varying levels of access:

- Administrator (A): Has full access to all system functionality, including the ability to manage user accounts.
- Editor (E): Can modify existing airport and runway data, as well as place obstacles on runways. However, they cannot access user management features.
- Viewer (V): Has read-only access to view airport and runway information but cannot make any modifications.

Upon successful login, the user should be granted access to the appropriate features based on their assigned role. The user's role should be clearly indicated in the profile icon in the top right corner.

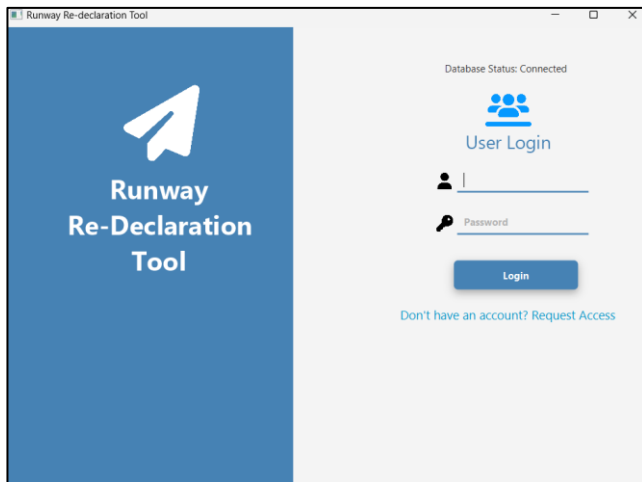


Figure 1 - Login screen

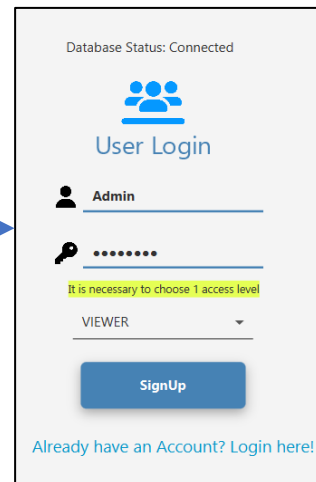
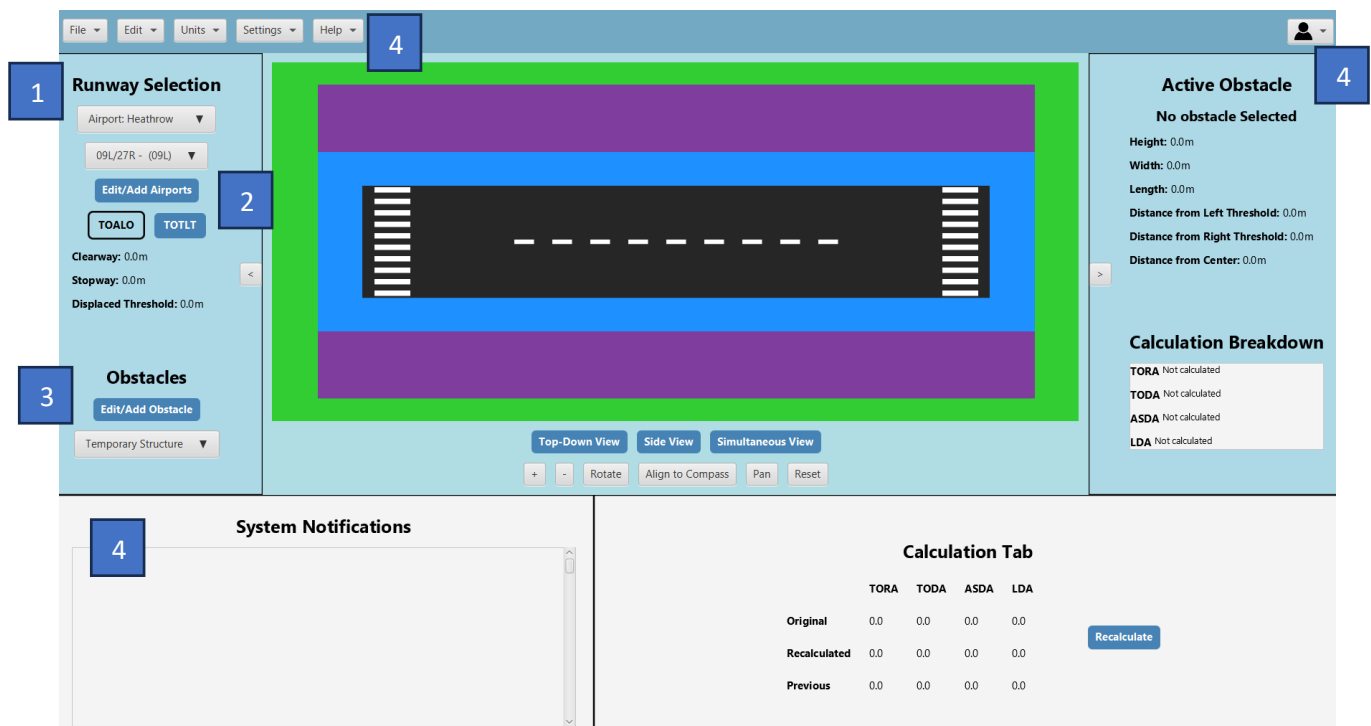


Figure 2 - Sign-up screen

3. User Guide

3.1 Main Screen:

- The following snapshot shows the main screen that greets the user upon login.
- The screen is annotated with numbers to make the process of navigating the application easier.



3.2 Airports [1]

Once logged in, you will see a list of pre-registered airports on the left side of the screen. Clicking on an airport will display its details, including the airport's name and code. The runway information is presented as follows:

- Runways are grouped into sets of parallel runways.
- You can Edit or Add new airports using the “Edit/Add Airports” function.
- A "Delete" button allows you to remove a runway set from the list, within the “Edit” section.
- An "Add" button in the information box enables the addition of new airport or runway details.
- Once inside the Edit/Add Airports window, you can add, edit, and delete airports and runways separately. Alternatively, the “Edit” menu button performs the same actions.

3.3 Runway Configuration [2]

Selecting a set of parallel runways displays the original and adjusted distances after placing an obstacle, along with a breakdown of the calculations. Available actions include:

- "Edit": Edit the runway parameters for both directions.
- "Edit / Add Obstacles": Navigate to a window for adding, configuring, or removing obstacles.
- "Top-Down View/Side View": View the runway in 2D Top-down and side perspectives.
- "Simultaneous view": Toggle to the next set of parallel runways (e.g., from 09R to 09L in both top-down and side view).
- "Pan, Zoom, Rotate and Reset": Switch between different viewpoints of the runway, and move and adjust it to your liking, such as zooming in and out, etc...

3.4 Obstacle Placement [3]

Clicking the "Edit/Add Obstacles" button in the obstacle configuration sections shows two sections: placed obstacles and a list of predefined obstacles imported via XML files. Actions you can perform include:

- "Add/Refresh": Place an obstacle on the runway, replacing any existing one – this also adds it to the obstacle list. Press refresh to see your new obstacle. Close window to see on runway.
- "Delete": Delete the obstacle from the Obstacle list.
- "Edit": Adjust the obstacle's parameters.
- "Add": Generate a new obstacle with a specified displacement from the threshold and set the obstacles parameters.

After adding an obstacle, you can select it from the list of defined obstacles and use it for your calculations.

3.5 Additional Functionality and User Management [4]

Some additional functionality that users can utilise depending on their access level:

- You can export Obstacles and Airport Data as XML files – “File” Menu Option -> “Export” -> “XML” (Every access level)
- You can import and edit Airports (From “File”), as mentioned above (Admin access level only)
- As an admin, you can access “Manage Users” in the top right profile that leads to user management page – admins can grant access and authorise/unauthorise users.
- You can export System Notifications for logging, calculations as a PDF, and runway snapshots.

4. FAQs

1. *What is the runway redeclaration tool?*

- The runway declaration tool is designed to help users quickly determine the safety of a runway for use. It enables the rapid calculation of runway parameters in the event of an obstruction or obstacle. This tool aims to maximise airport efficiency by facilitating as many take-offs and landings as possible. By automating these calculations, it assists in making timely critical decisions.

2. *How can a new user sign up to the system?*

- New users can sign up through the login page, by pressing on “Sign up” they are taken to a login page, where they are able to select a username and a password, of minimum length 6, and choose their access level. An admin can then approve their account to gain full access.

3. *How can an admin delete a user?*

- Admins can see a list of all the users on the database, through the profile icon in the top right-hand corner of the main screen. This allows the admin to see All the users, who the authorised users are, and who the unauthorised users are, as well as grant access to users, for example when they first sign up. Please speak to your workplace management team, if you would like your account deleted, and an admin will assist you.

4. *What OS does this run on?*

- This system is compatible with any device that can run Java 21. You may need to download the latest JDK that is able to run the latest java features. Here is the link to get the official java 21 JDK: <https://www.oracle.com/java/technologies/javase/jdk21-archive-downloads.html>

5. *Can anyone import/export or is that specific for certain access levels for security?*

- Due to security restrictions, only users with the admin access level can import Airport and Obstacle Data. This is to protect the integrity of the software and the airport data. Viewers and Editors can both recalculate, edit the obstacles, and perform all the tasks, whereas Viewers, Editors and Admins can export the data as a PDF, JPG, etc...

6. *What Accessibility features are available to users, and how can they be accessed?*

- The system has an incorporated and versatile colour scheme, for people with eyestrain, and difficulties in vision. Light/Dark mode as well as different colour schemes are incorporated, simply go to “Settings” in the menu bar, then -> “Change Colour Scheme” or “Light/Dark Mode” to have the changes take effect.

7. *If I need any additional help, and my question hasn't been answered, who do I contact?*

- If you need any additional assistance, please check the “Help” -> “Contact Us” section in the application’s menu bar.