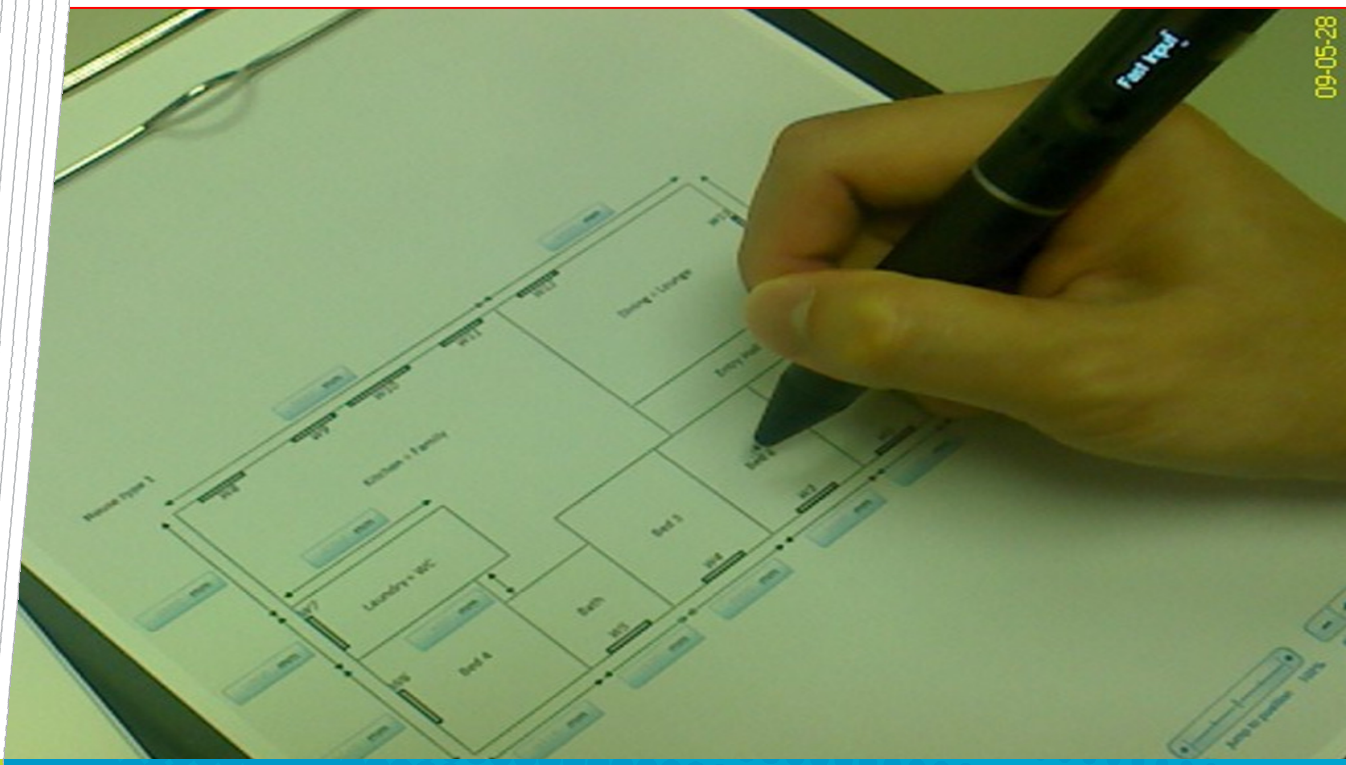
AccuRate Sustainability Tool

Green Loans Program
Fast Input Mechanism

CSIRO Climate Adaptation Flagship



User guide

Report number: R-555-49-7b

Yong Bing Khoo

May 2009

Enquiries should be addressed to:

Yong Bing Khoo
CSIRO Sustainable Ecosystems
37 Graham Road
Highett VIC 3190, Australia
Email: yongbing.khoo@csiro.au
Telephone: +61 3 9252 6051

Copyright and Disclaimer

Important Disclaimer

Contents

List of Figures

List of Tables

BEFORE YOU BEGIN

Welcome to the user guide for the Fast Input Mechanism software. In this user guide, you will learn how to use the features in the software, namely:

- Create house assessments for analysis, and
- Exporting assessments to the AccuRate engine.

The screen shots shown in this document are taken on the Microsoft Windows XP Professional SP2 platform. If you are using a different platform, you may see a slightly different view. However, the look and feel of the system has been carefully designed so that the differences are minute and have no consequence to the operation as well as output of the system.

Note – CSIRO is not responsible for the availability of third-party web sites mentioned in this document and does not endorse and is not responsible or liable for any content, advertising, products, or other materials on or available from such sites or resources. CSIRO will not be responsible or liable for any damage or loss caused or alleged to be caused by or in connection with use of or reliance on any such content, goods, or services available on or through any such sites or resources.

How this guide is organized

Chapter 1 describes the software requirements for the Fast Input Mechanism system, gives step-by-step installation instructions, and shows how to start Fast Input Mechanism. This chapter includes a descriptive list of the installed Fast Input Mechanism directories.

Chapter 2 provides step-by-step instructions for creating an assessment of a typical Australian house.

Chapter 3 presents a hypothetical case study and illustrates how Fast Input Mechanism can be used to manage the assessment process.

Chapter 4 explains troubleshooting techniques to common errors that may be encountered while creating information maps.

Typographic conventions

Typeface	Meaning	Example
`AaBbCc123`	The names of commands, files, and directories; on-screen computer output	Open the data file `data.fia`.
`AaBbCc123`	What you type.	Assessment name: **`House 1`**
AaBbCc123	Book titles, new words or terms, words to be emphasized.	This menu item creates a ***temporary assessment*** for the selected object.

CSIRO welcomes your comments

CSIRO is interested in improving its documentation and welcomes your comments and suggestions. Email your comments to CSIRO at this address: yongbing.khoo@csiro.au

Please include the title and version number of your document in the subject line of your email.

1. GETTING STARTED

In this chapter, you will be introduced to the software required to install and run the Fast Input Mechanism system. Furthermore, detailed step-by-step installation and operating instructions will be provided. This chapter concludes with a descriptive list of the files that you can find in the Fast Input Mechanism installation directory on your machine.

1.1 Software requirements

You will need the following software in order to operate Fast Input Mechanism.

- Microsoft Windows XP.
- Adobe Acrobat Reader.
- (Optional) Java Standard Edition (JavaSE) 6. Fast Input Mechanism setup packages are divided into two categories: with Java Virtual Machine (JVM) and without JVM. If you already have JavaSE, or an equivalent JVM, installed on your machine, then you can use setup packages that do not contain JVM. Otherwise, you must use the category of setup packages with JVM. Currently, the packages are only available for the Microsoft Windows platforms.

1.2 Hardware requirements

- PC with 2 gigahertz (GHz) or higher processor clock speed recommended; Intel® Core™ 2 Duo processor family, or AMD Phenom™ family, or compatible processors recommended.
- 1 gigabyte (GB) of RAM or higher recommended.
- 200 MB of available hard disk space.
- XGA (1024 × 768) or higher-resolution video adapter and monitor.
- Keyboard and Mouse or compatible pointing device.

1.3 Installing Fast Input Mechanism

If your machine does not have a JVM already installed, then you need to use the setup package that bundles a JVM in it. The packages are executables that can be run directly. The following instructions are for the installation of Fast Input Mechanism on Microsoft Windows. The installation process is similar for all other platforms except for the invocation of the setup package, which is platform dependent.

1. Double-click on setup.exe. The installer will extract the necessary files from the setup package and display a screen similar to Figure 1 when the extraction is complete.

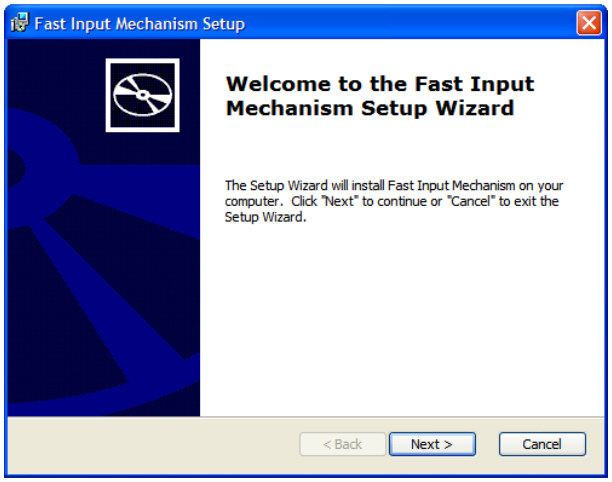


Figure 1 Start of the installation process.

2. Follow the installer's instructions to customize your Fast Input Mechanism installation. At the end of the process, you should see a screen similar to Figure 2.

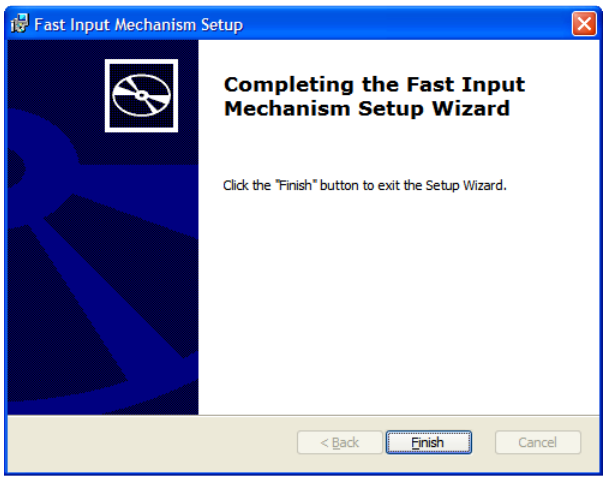


Figure 2 Completion of the installation process.

1.4 Starting Fast Input Mechanism

Once the installation process has been completed successfully, a shortcut to the Fast Input Mechanism program will be added to your Programs menu (unless you choose not to install shortcuts). The default installation places the shortcut in the Fast Input Mechanism sub-menu as shown in Figure 3.

Figure 3 Shortcut to the Fast Input Mechanism.

1.5 Exploring the Fast Input Mechanism installation directories

Fast Input Mechanism's setup package will create files in the directories (relative to your selected installation directory) as shown in Table 1.

Table 1 Directories created during the Fast Input Mechanism installation process.

Directory	Purpose
\	Installation directory of Fast Input Mechanism.
\bin	Contains the libraries used by Fast Input Mechanism as well as the main executable file.
\bin\configuration	Contains the configuration file used to initialize Fast Input Mechanism.
\bin\jre	Contains the JVM needed to run Fast Input Mechanism. If you used the setup package without JVM, then this directory will not be created.
\bin\plugins	Contains the libraries that Fast Input Mechanism uses. These libraries include code as well as images.
\sample	Sample Fast Input Mechanism data files.

2. USING FAST INPUT MECHANISM

This chapter explains how common tasks, such as creating new maps, adding sub-processes, and editing object properties, are performed in Fast Input Mechanism. You can also refer to Chapter 3, “Troubleshooting common problems,” for other operations. Figure 4 shows a typical screen shot of the Fast Input Mechanism system.

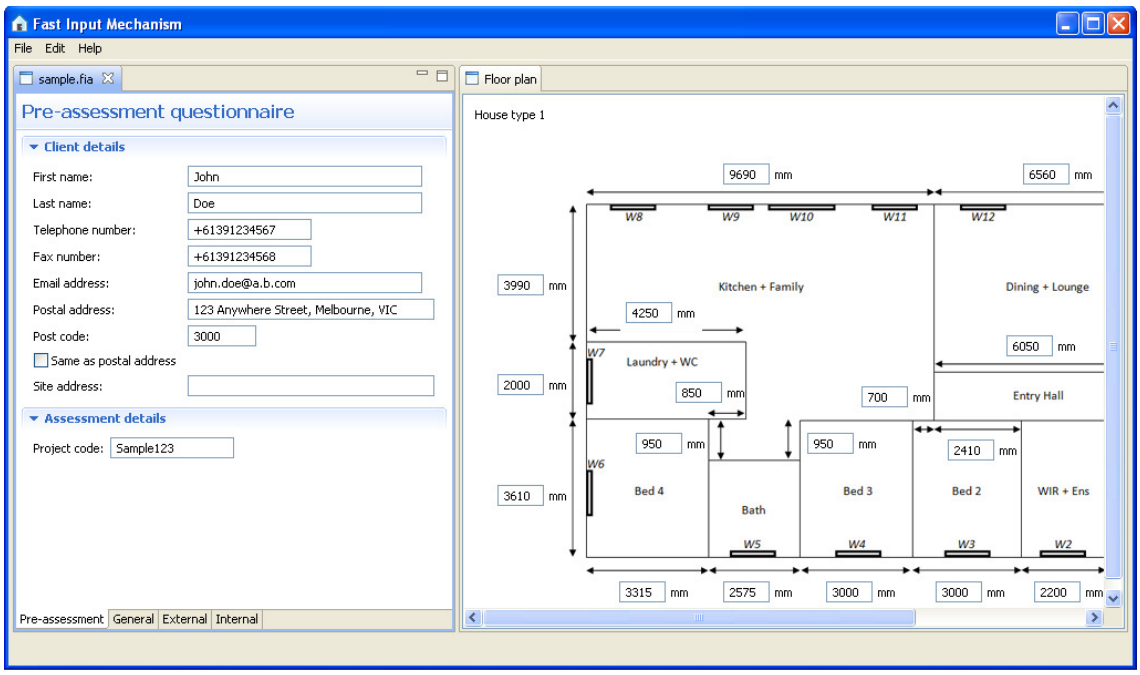


Figure 4 A typical Fast Input Mechanism screen.

2.1 Creating a new assessment

The create new assessment function can be activated in two ways:

1. The `File` menu (Figure 5).
   - Click on the `File` Menu (or press **`Alt-F`**).
   - Click on the `New` menu item (or use the cursor keys to move the highlight bar to the menu item and press **`Enter`**).

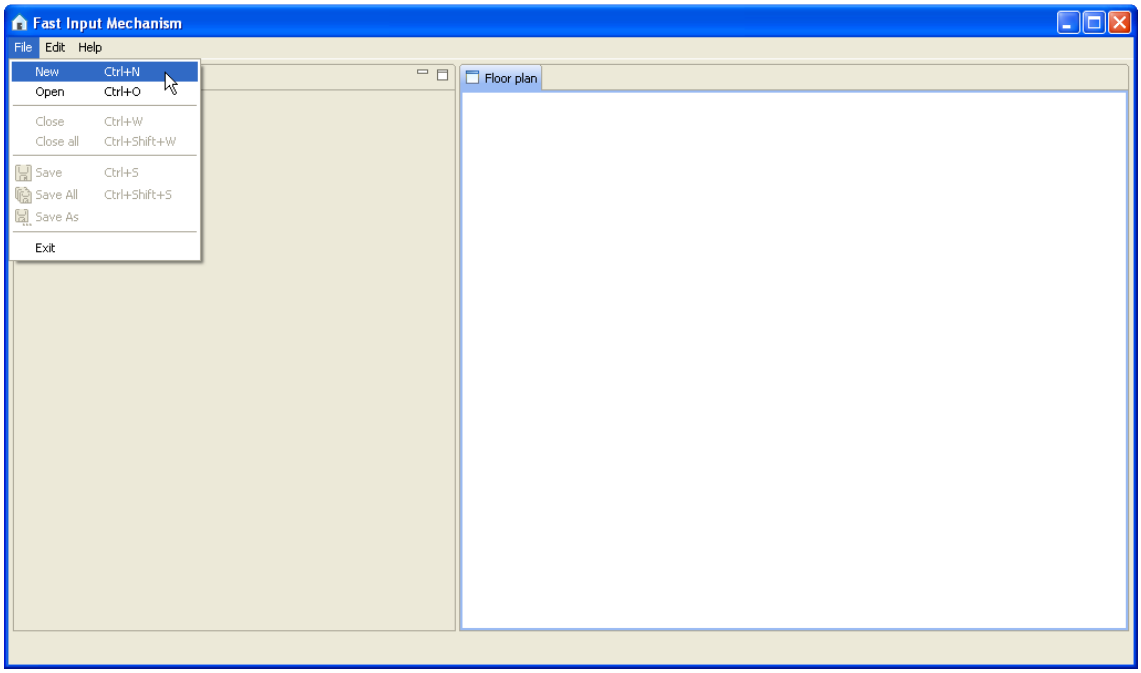


Figure 5 The create new assessment function in the `File` menu.

2. Keyboard hot key.
   - Press **`Ctrl-N`**.

Using one of the above methods, a new embedded window for the newly created assessment will be displayed. The window will be added as a tabbed area to the left of the main window. This new window will look similar to Figure 4. New assessments are created as temporary files (with the extension `.tmp`). After you make changes to the assessment, you will be able to save it as a Fast Input Assessment (`.fia`) file.

2.2 Saving a currently-opened assessment

Similar to the create new assessment function, the open existing assessment function can be activated in two ways:

1. The `File` menu (Figure 6).
   - Click on the `File` Menu (or press **`Alt-F`**).
   - Click on the `Save` menu item (or use the cursor keys to move the highlight bar to the menu item and press **`Enter`**).

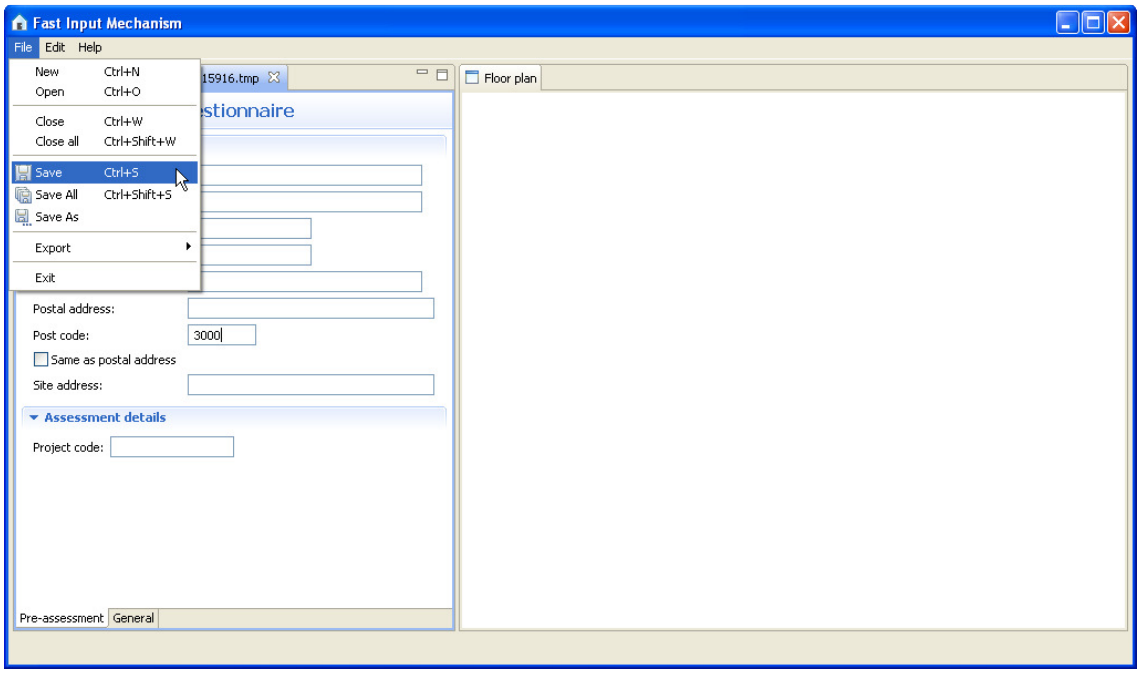


Figure 6 The save assessment function in the `File` menu.

2. Keyboard hot key.
   - Press **`Ctrl-S`**.

2.3 Opening an existing assessment

The open existing assessment function can be activated in two ways:

1. The `File` menu (Figure 7Figure 7).
   - Click on the `File` Menu (or press **`Alt-F`**).
   - Click on the `Open` menu item (or use the cursor keys to move the highlight bar to the menu item and press **`Enter`**).

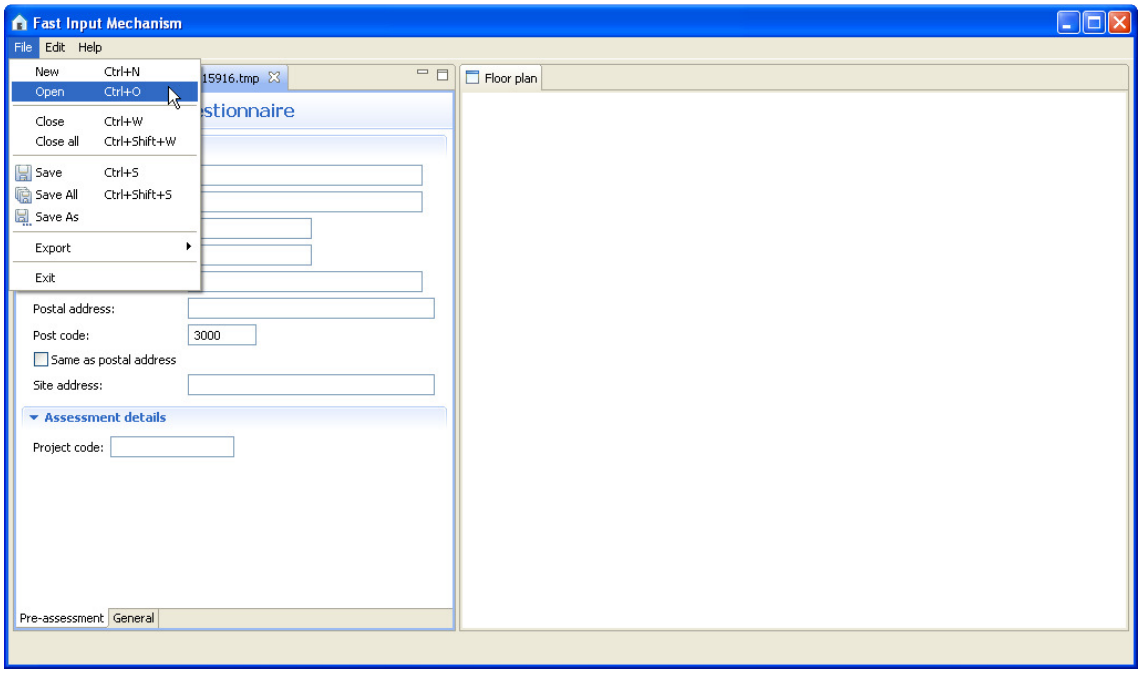


Figure 7 The open existing assessment function in the `File` menu.

2. Keyboard hot key.
   - Press **`Ctrl-O`**.

2.4 Setting your details as an Assessor

You can customize Fast Input Mechanism by setting your details as the Assessor in the `Preferences` dialog box. The dialog box can be accessed by:

1. The `Edit` menu (Figure 8).
   - Click on the `Edit` Menu (or press **`Alt-E`**).
   - Click on the `Preferences` menu item (or use the cursor keys to move the highlight bar to the menu item and press **`Enter`**).

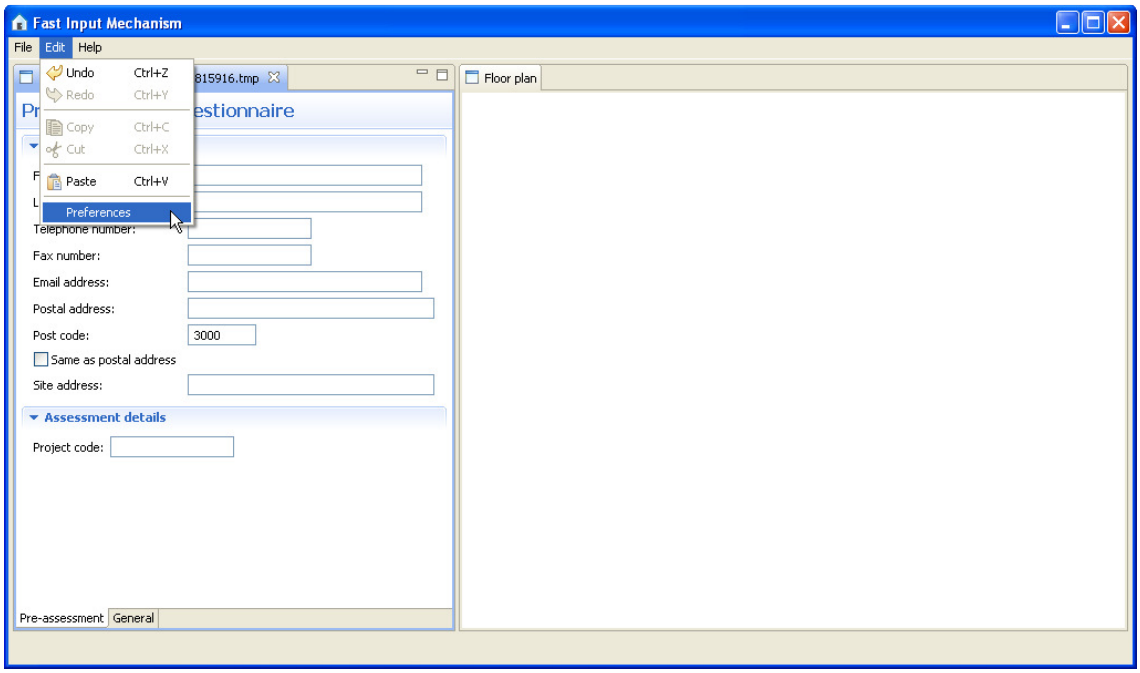


Figure 8 The edit preference function in the `Edit` menu.

2. The `Preferences` dialog box (Figure 9).
   - Click on the `Fast Input Mechanism` item to expand it (or use the cursor keys to move the highlight bar to the item and press the **`Right cursor key`**).
   - Click on the `Assessor` item to select it (or use the cursor keys to move the highlight bar to the item).

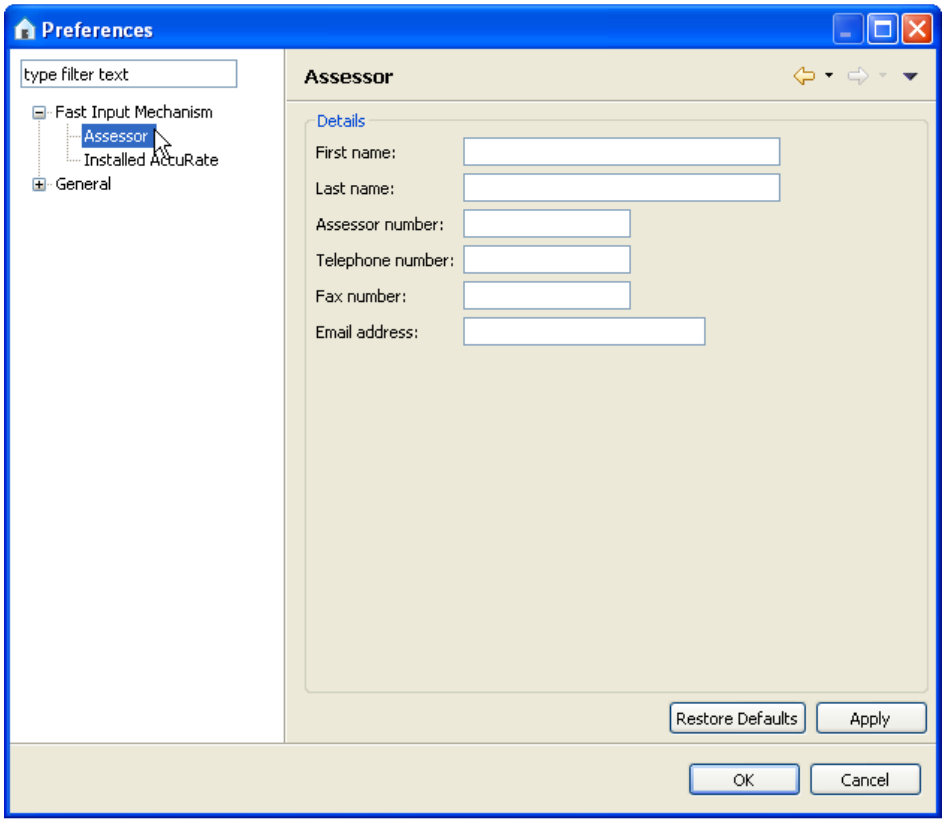


Figure 9 The `Assessor` preferences dialog box.

2.5 Setting the location of your AccuRate engine

In order to help you analyse the results of your assessment, the Fast Input Mechanism needs to know the location of your AccuRate analysis engine. The location can be customized in the `Preferences` dialog box:

1. The `Edit` menu (Figure 8).
   - Click on the `Edit` Menu (or press **`Alt-E`**).
   - Click on the `Preferences` menu item (or use the cursor keys to move the highlight bar to the menu item and press **`Enter`**).
2. The `Preferences` dialog box (Figure 10).
   - Click on the `Fast Input Mechanism` item to expand it (or use the cursor keys to move the highlight bar to the item and press the **`Right cursor key`**).
   - Click on the `Installed AccuRate` item to select it (or use the cursor keys to move the highlight bar to the item).

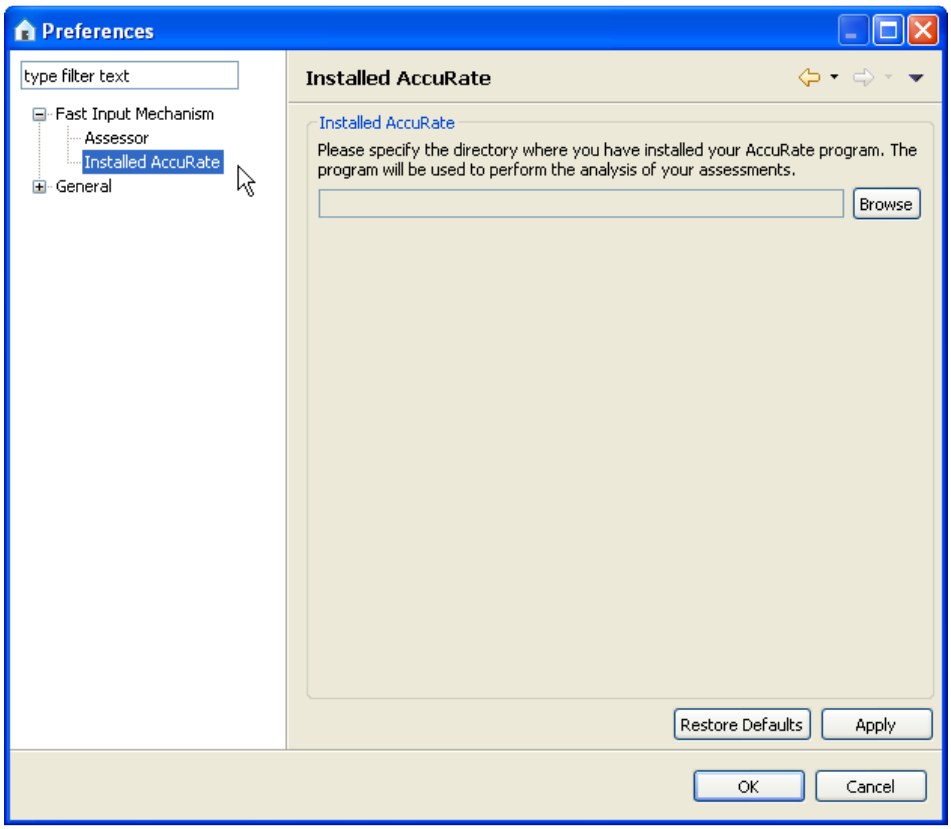


Figure 10 The `Installed AccuRate` preferences dialog box.

2.6 Entering data in the Pre-Assessment page

When a new assessment is created, Fast Input Mechanism generates a temporary file and displays two tabbed pages in the left side of the main window. You are recommended to fill in details of the pages in sequence (from left to right). The first page is the `Pre-Assessment` component of your assessment (Figure 11).

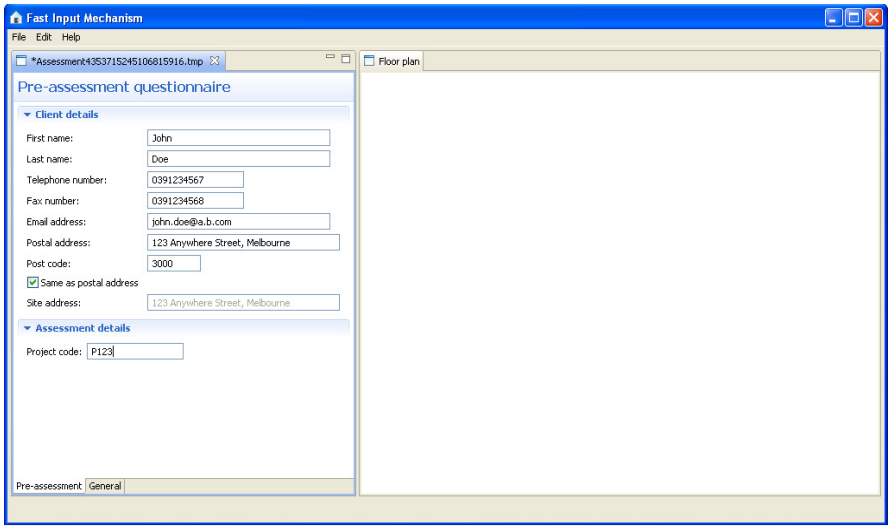


Figure 11 The `Pre-Assessment` page in a new assessment.

The post code is a mandatory field in this page. You have to fill in a valid Australian post code for the analysis engine to use the appropriate climate information. A small red cross will be displayed at the top left corner of the post code text field if an invalid (or no) post code is detected. To get more information about correcting the error, move your mouse cursor over the red cross (Figure 12).

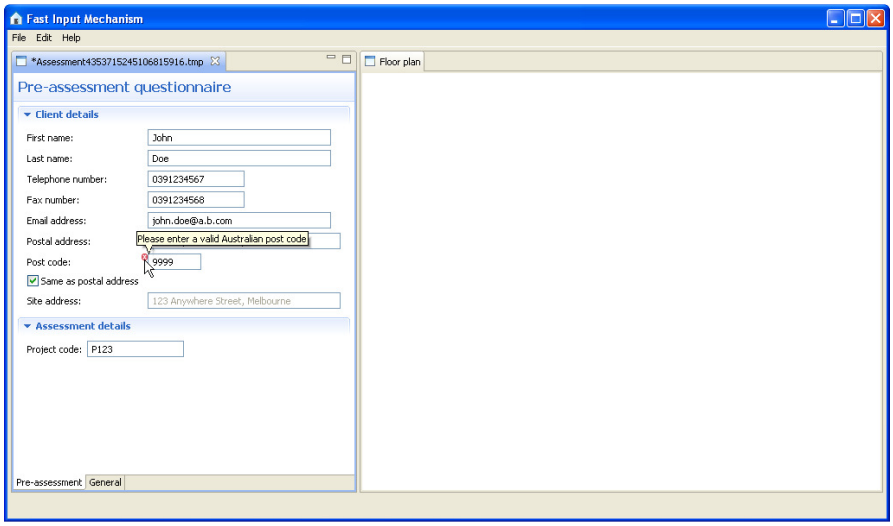


Figure 12 A tooltip containing possible resolution to the error in the `Pre-Assessment` page.

2.7 Entering data in the General Assessment page

The second page of your assessment is the `General Assessment` component (Figure 13).

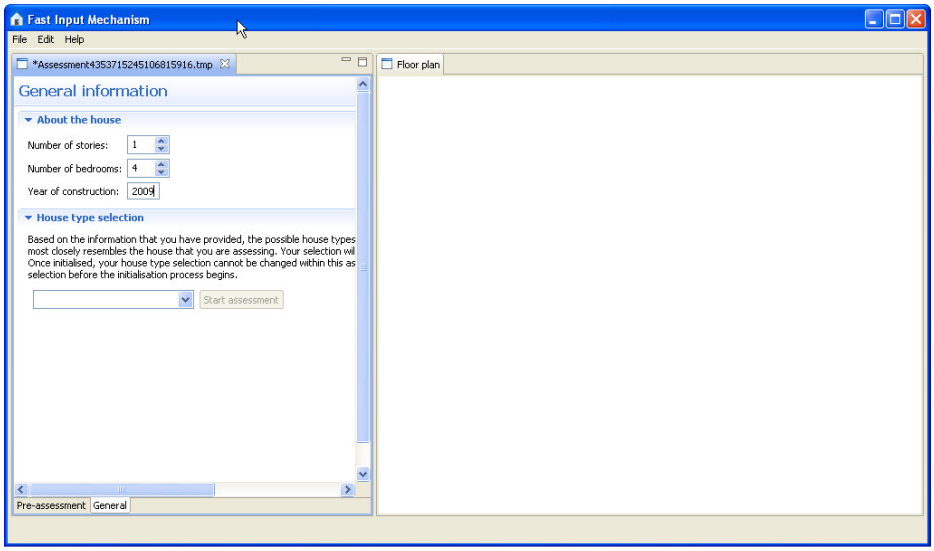


Figure 13 The `General Assessment` page in a new assessment.

The houses that may be assessed in your assessment (Figure 14) are changed according to the values that you enter into this page. The library of supported houses is revised in new versions of the Fast Input Mechanism software. Early versions of the software may contain limited number of houses.

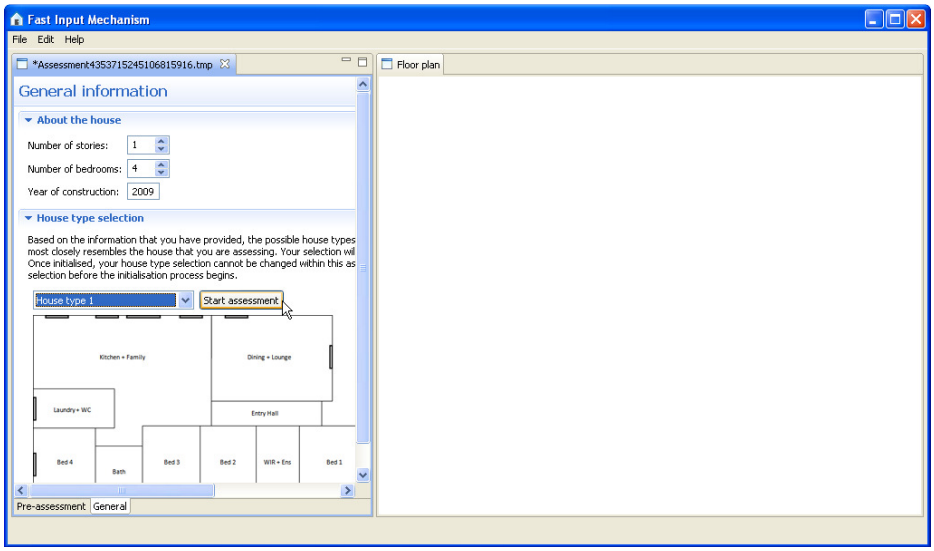


Figure 14 Choosing a house type to assess.

2.8 Entering data in the External page

The third page of your assessment is the `External` assessment component (Figure 15). In this page, you can fill in the details of the external components of your house under assessment. These details include the azimuth, exposure, ground reflectance, external wall properties, and roof properties. Default values of these details will be filled in for you.

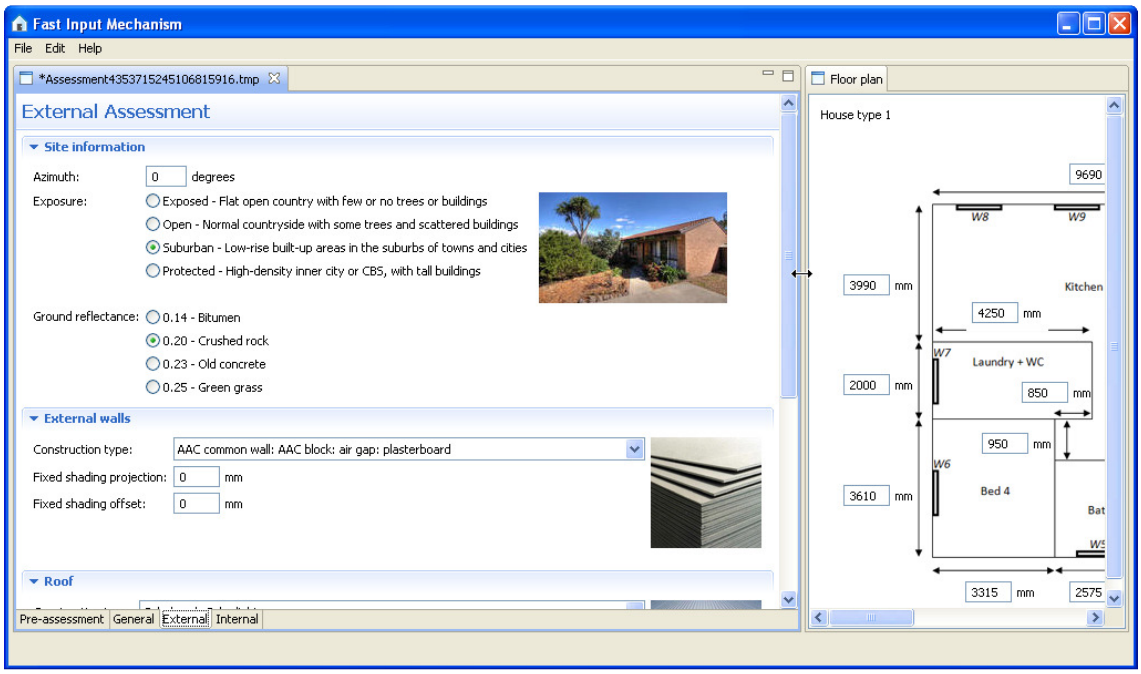


Figure 15 The `External` assessment page in a new assessment.

2.9 Entering data in the Internal page

The fourth page of your assessment is the `Internal` assessment component (Figure 16). In this page, you can fill in details of the internal components of your house under assessment. These details include the properties of the ceiling, floor, internal wall, and rooms. Default values of these details will be filled in for you.

In addition to using the text boxes in the Zones section (e.g. Length of Bed 4), you can also use the corresponding text boxes in the Floor plan on the right of the Fast Input Mechanism window. (Fast Input Mechanism defines the length as the “vertical” distance and width as the “horizontal” distance between two distinct points.) In Figure 16, the length of Bed 4 is 3610 mm. Its width is 3315 mm.

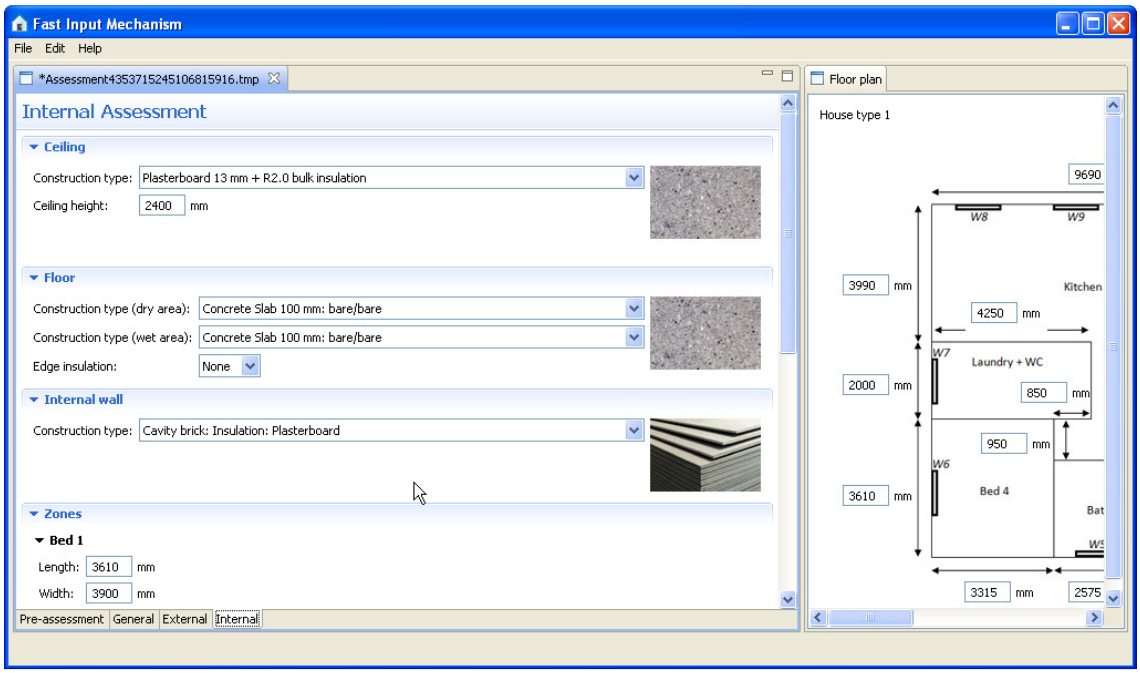


Figure 16 The `Internal` assessment page in a new assessment.

2.10 Exporting data to the analysis engine

1. The `File` menu (Figure 17).
   - Click on the `File` Menu (or press **`Alt-F`**).
   - Click on the `Export` sub-menu (or use the cursor keys to move the highlight bar to the sub-menu and press **`Enter`**).
   - Click on the `To AccuRate XML` menu item (or use the cursor keys to move the highlight bar to the menu item and press **`Enter`**).

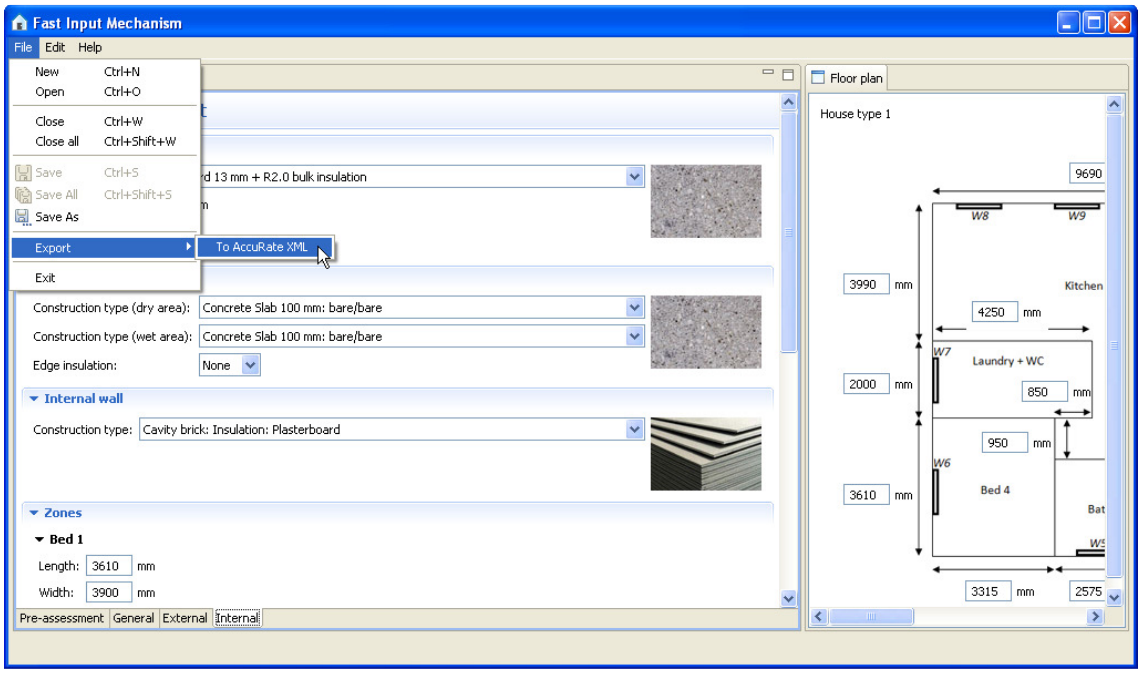


Figure 17 The Export to AccuRate XML function in the `File` menu.

2. The `Save File` dialog box (Figure 18).
   - Navigate to the folder in which you wish to save your exported assessment.
   - Enter the file name of your exported assessment. The file name must end with the extension `.xml`.
   - Click on the `Save` button.

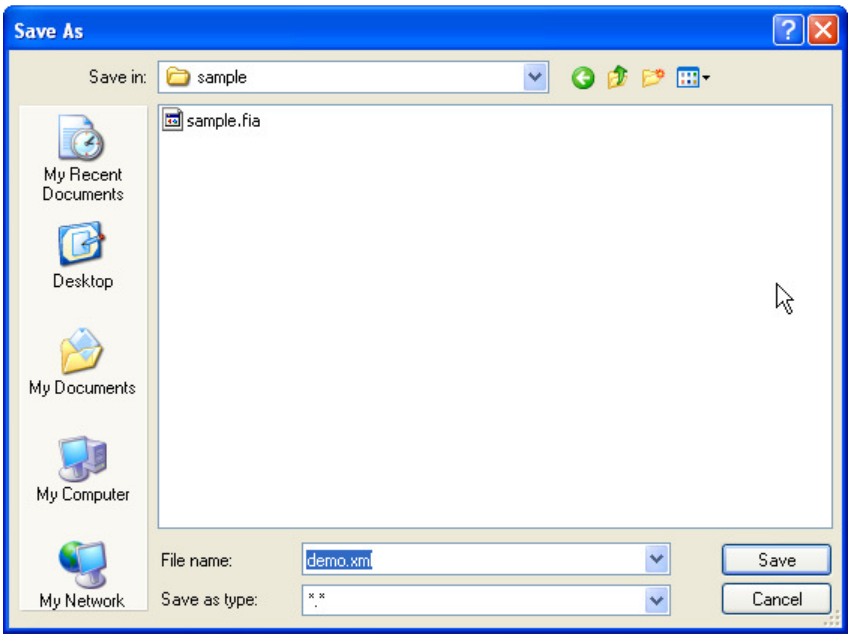


Figure 18 The `Save File` dialog box that is displayed when your assessment is exported.

   - Click on the `OK` button in the dialog box after the export is completed (Figure 19).

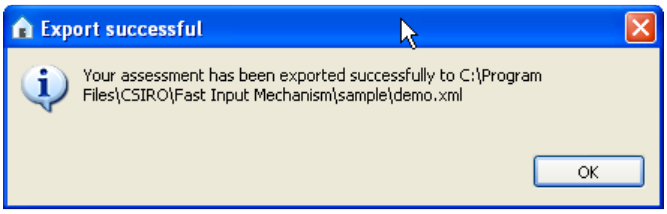


Figure 19 The `Export` completion dialog box.

3. The `Analysis` dialog box (Figure 20).
   - If you wish to perform an analysis of your assessment, click on the `Yes` button.

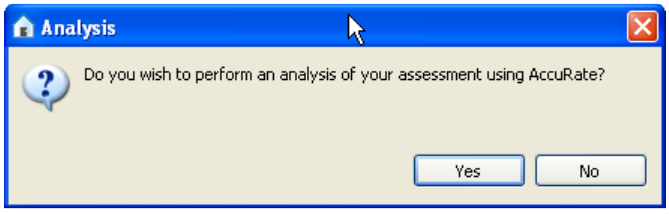


Figure 20 The `Analysis` dialog box.

   - A window will be displayed briefly when the analysis is being performed. Upon completion, click on the `Yes` button in the dialog box (Figure 21) to view results of the analysis (Figure 22).

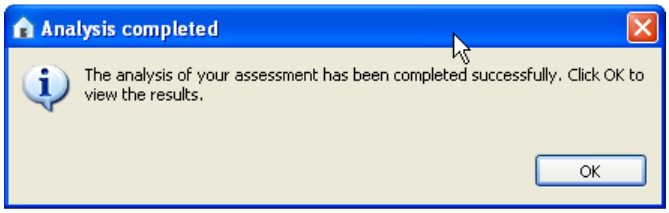


Figure 21 The dialog box that is displayed when the analysis is completed.

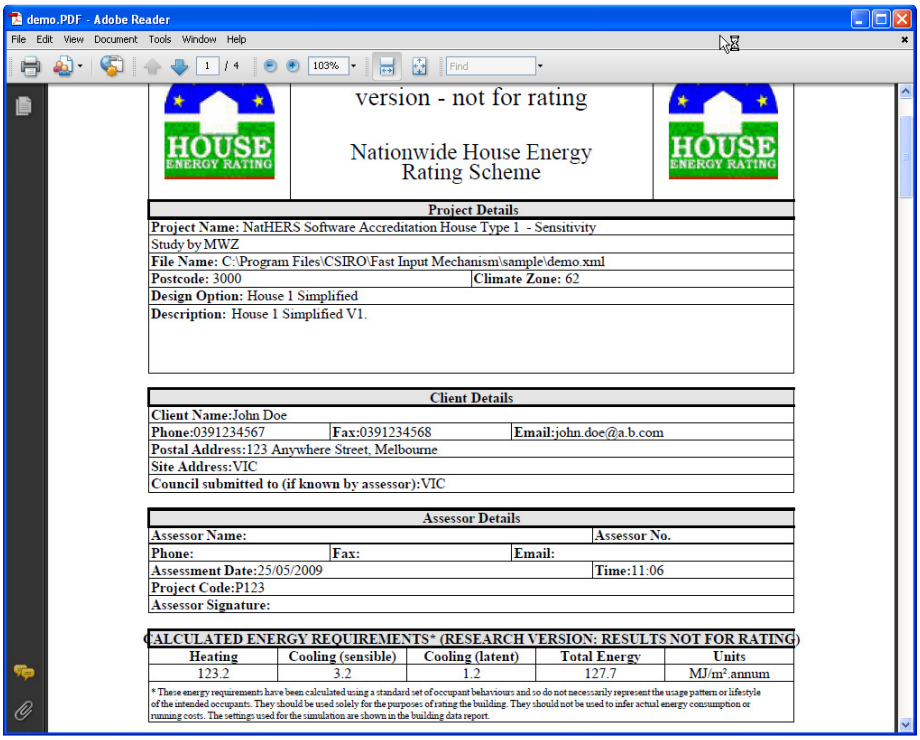


Figure 22 Results of the analysis of your assessment.

4. The `Analysis` dialog box (Figure 20).
   - If you ***do not*** wish to perform an analysis of your assessment, click on the `No` button.
   - A dialog box will appear to ask if you wish to open your assessment in AccuRate. Click the `Yes` button to see the window in Figure 23.

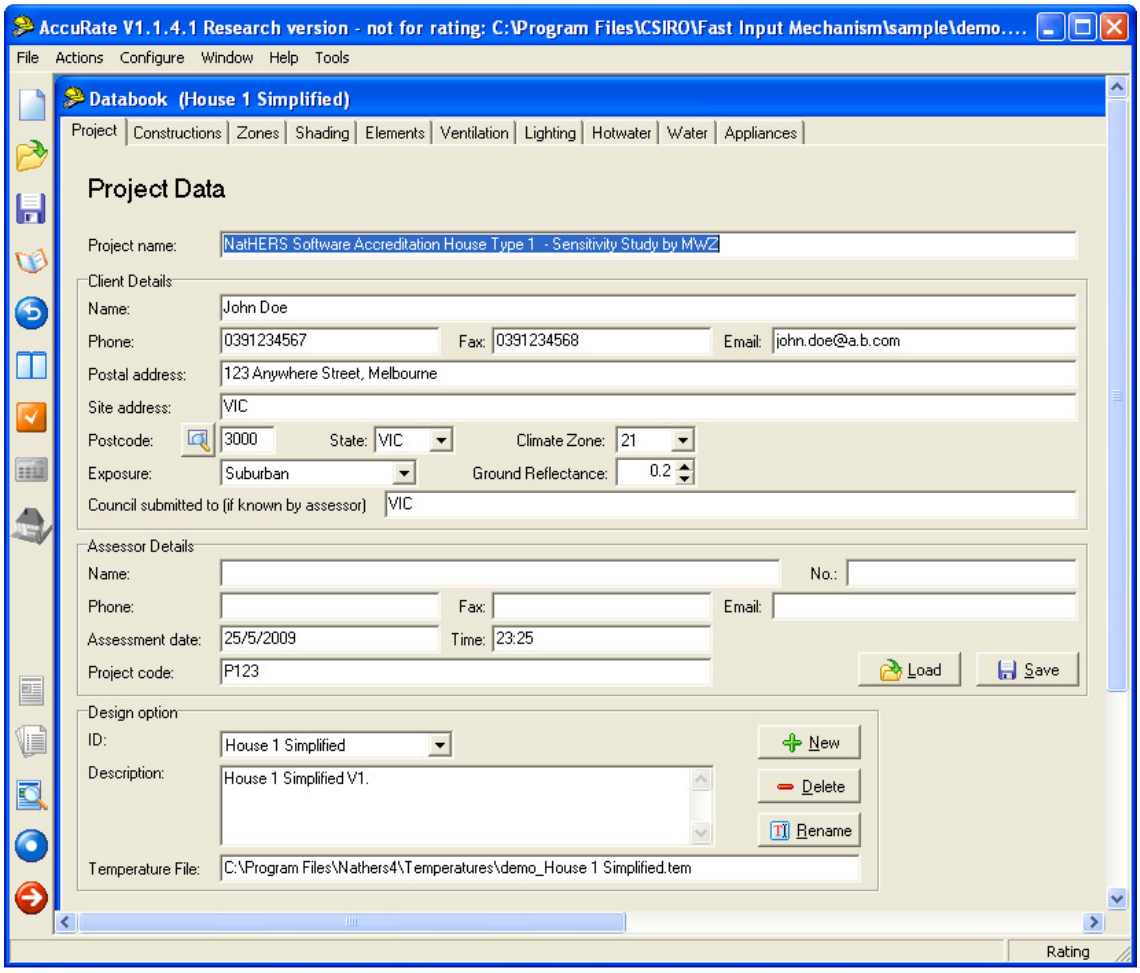


Figure 23 Opening your exported assessment in AccuRate.

3. CASE STUDY

One of your clients, John Doe, has asked you to perform an energy efficiency assessment of his house. In response, send him an email asking for his particulars and details of his house (Figure 24).

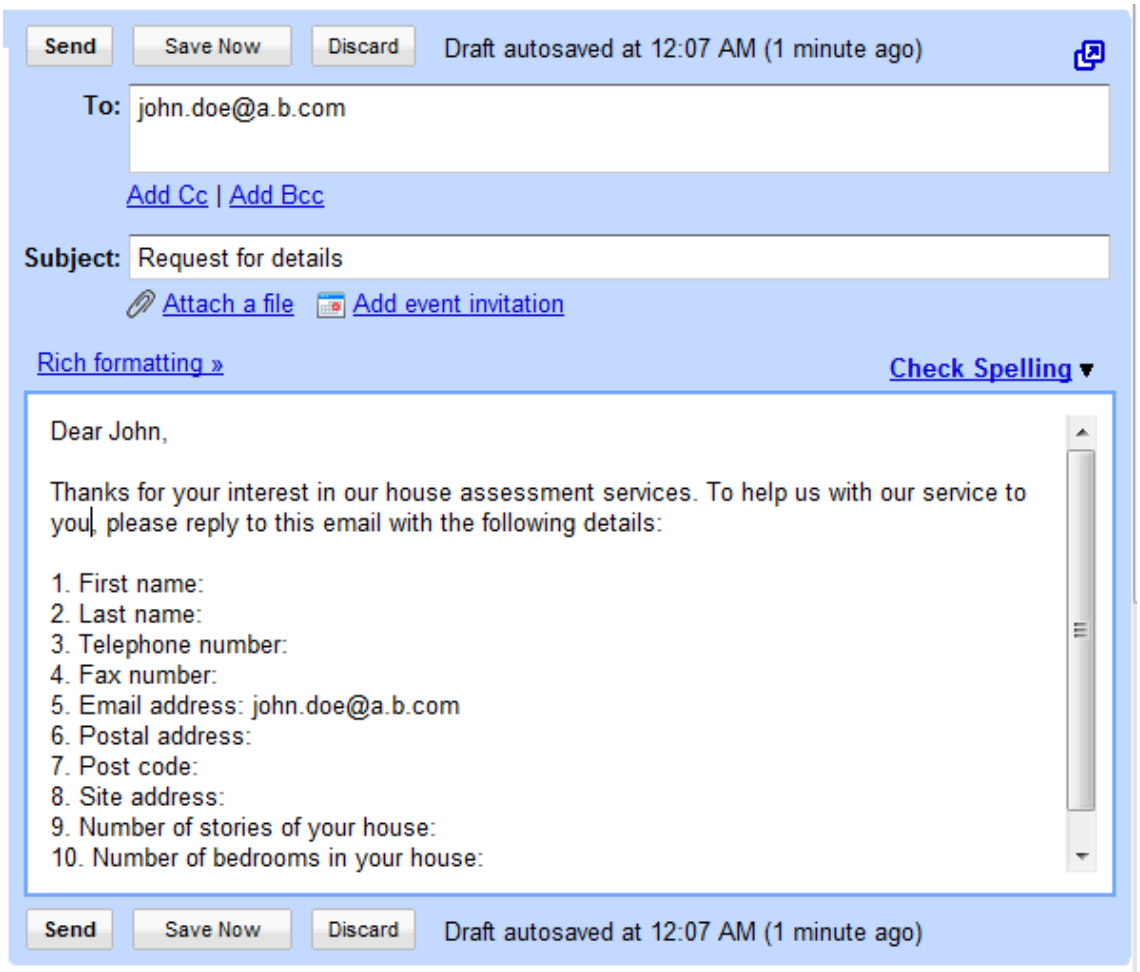


Figure 24 Sending an email to your client to request for information.

Upon receipt of John's reply, create a new assessment in Fast Input Mechanism and populate the `Pre-Assessment` and `General` pages. Your assessment will look similar to Figure 25 and Figure 26.

Leave the `House type selection` field empty.

Save your assessment as a `.fia` file.

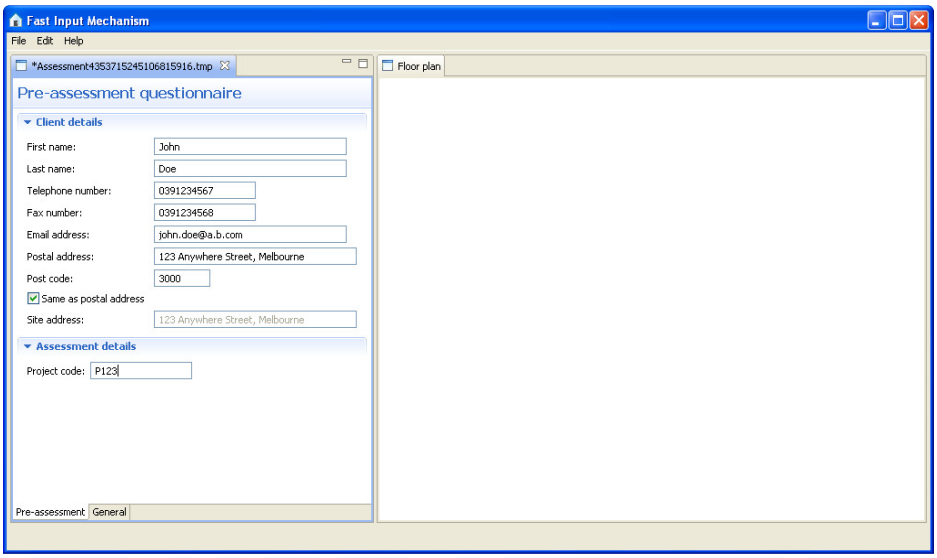


Figure 25 The `Pre-Assessment` page for John Doe's house.

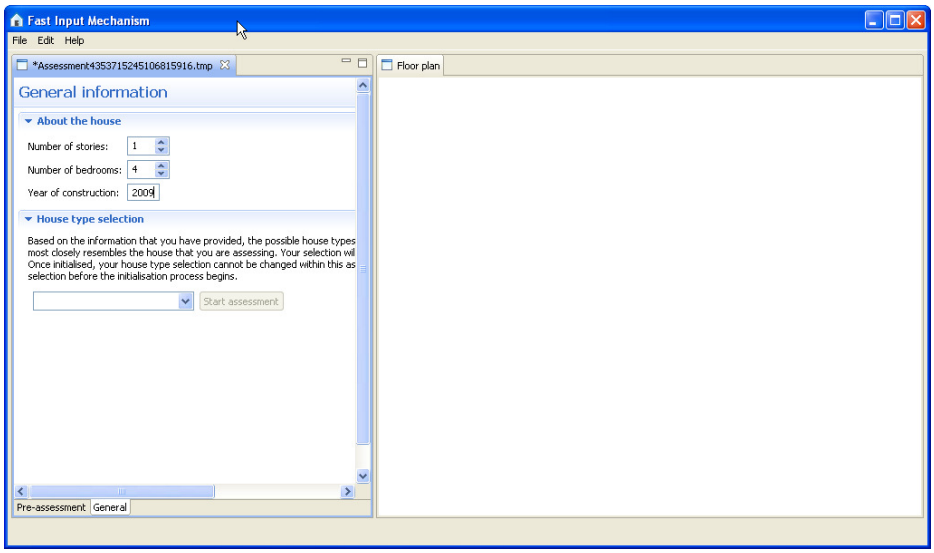


Figure 26 The General Assessment page for John Doe's house.

Arrange a time with John to visit his house. After arriving at his house,

- Verify with John that the layout of his house matches House 1.
- Select House type 1 from the drop box of the `House type selection` field.
- Click on the `Start assessment` button. Two more tabbed pages will be created for your assessment and the corresponding Floor plan will be drawn on the right side of your Fast Input Mechanism window (Figure 27).
- Assess the external parts of the house to sequentially fill in the `External` assessment page.
- Save your assessment.

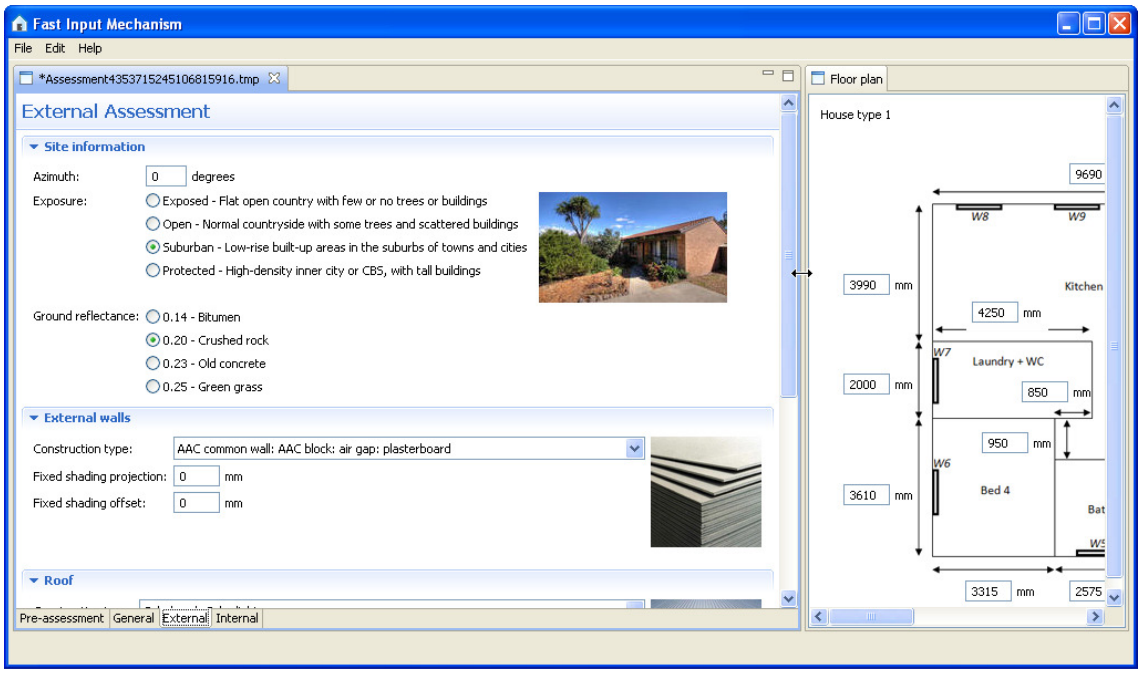


Figure 27 The `External` assessment page for John Doe's house.

After you have finished entering the data fields in the `External` assessment page, enter John's house to assess the internal parts:

- Click on the `Internal` assessment page's tab.
- Enter the information relating to Ceiling, Floor, and Internal wall.
- Go to Bed 1 of the house.
- Measure the length and width of Bed 1.
- Enter the measured values using either:
  - The text boxes for length and width under Bed 1, or
  - The text boxes placed along the sides of Bed 1 in the Floor plan (Figure 28).
- Complete the rest of the `Internal` assessment page sequentially.
- Save your assessment.

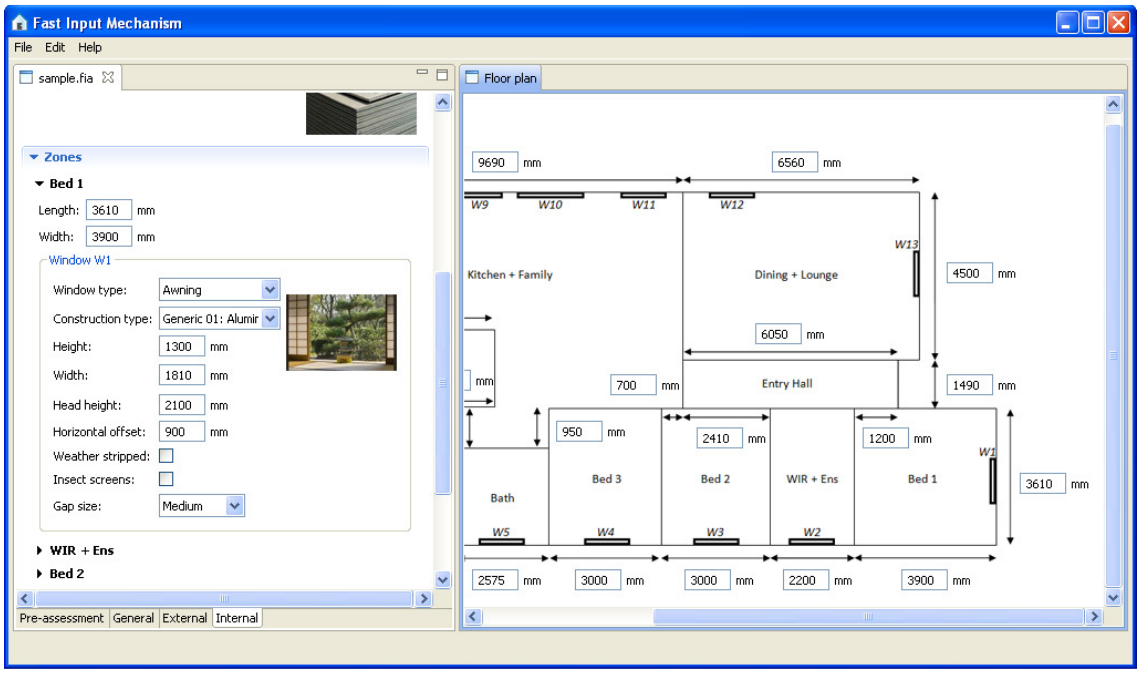


Figure 28 The `Internal` assessment page for John Doe's house.

At this stage, you have already gathered all the information that Fast Input Mechanism requires to perform an analysis of John's house:

- Export your assessment as an `AccuRate XML` file.
- Click on the `OK` button in the dialog box after the export is completed.
- Click on the `Yes` button in the `Analysis` dialog box to start the analysis of your assessment of John's house.
- Wait for the analysis to complete.
- Click on the `Yes` button in the `Analysis completed` dialog box to view the analysis results (Figure 29).

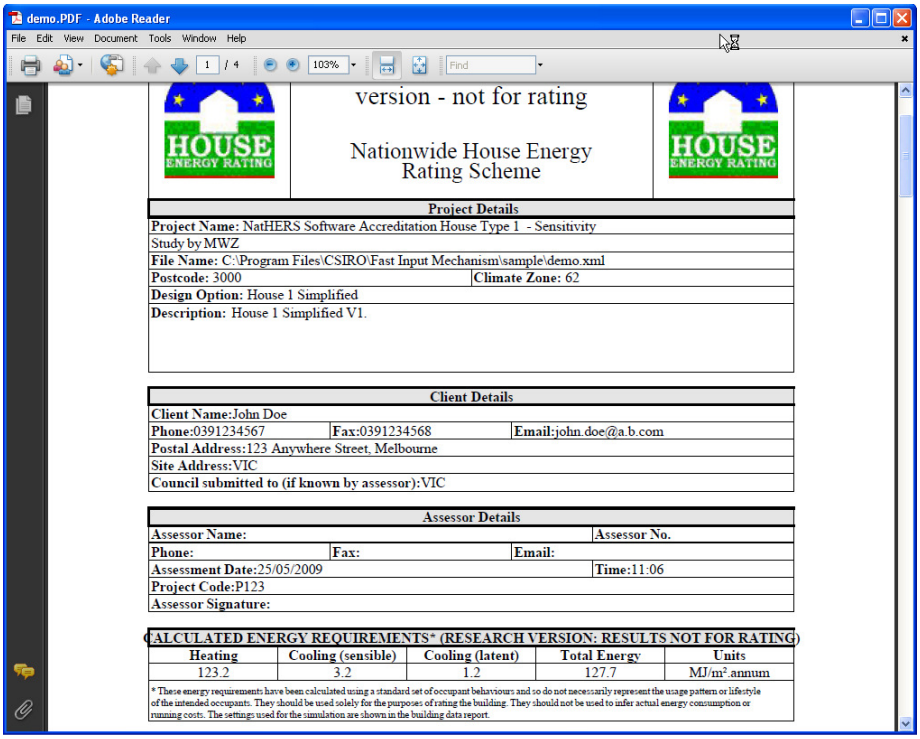


Figure 29 Analysis results of John Doe's house.

Congratulations! You have completed your first Fast Input Mechanism house assessment. We hope the process was enjoyable and productive for you.

Your comments and feedback are greatly appreciated.

4. TROUBLESHOOTING COMMON PROBLEMS

Check these questions first if you encounter problems when using the Fast Input Mechanism software. If you need additional help, please contact the Green Loans Program (GLP) support team at Department of the Environment, Water, Heritage and the Arts (DEWHA).

1. How do I save my new assessment as a `.fia` file?
   When assessments are first created, the Fast Input Mechanism software generates a temporary `.tmp` file. Once you edit this temporary file, the software will enable the `Save` function in the `File` menu.

2. How do I change specific features of the house (e.g. the ceiling height of Bedroom 1 only)?
   During the design of the Fast Input Mechanism software, common features of supported typical houses that may affect the analysis results significantly were identified. This was done so that you do not have to fill in trivial data (e.g. repetition of the same data such as the ceiling height which is usually the same throughout a house).

   Nonetheless, you may encounter cases where it is important for you to capture these special cases in your assessment. There are at least two possible solutions:

   - Contact the GLP support team to discuss the addition of your assessed house as a supported typical house. (This is useful when the house is encountered frequently in your assessment process.)
   - Edit your assessment in AccuRate which provides many features to support your requirements for fine-grained and precise house assessments.

3. Why is online help not available?
   We understand the importance of including help contents in Fast Input Mechanism. Regrettably, we are unable to include online help in this version. However, you are most welcome to contact the GLP support team for assistance.

Contact Us
Phone: 1300 363 400
+61 3 9545 2176
Email: enquiries@csiro.au
Web: www.csiro.au

Your CSIRO

Australia is founding its future on science and innovation. Its national science agency, CSIRO, is a powerhouse of ideas, technologies and skills for building prosperity, growth, health and sustainability. It serves governments, industries, business and communities across the nation.