<div align="center">Use Cases</div>

Ready State = The XL program is initiated and is in the state as showed in Figure 1.
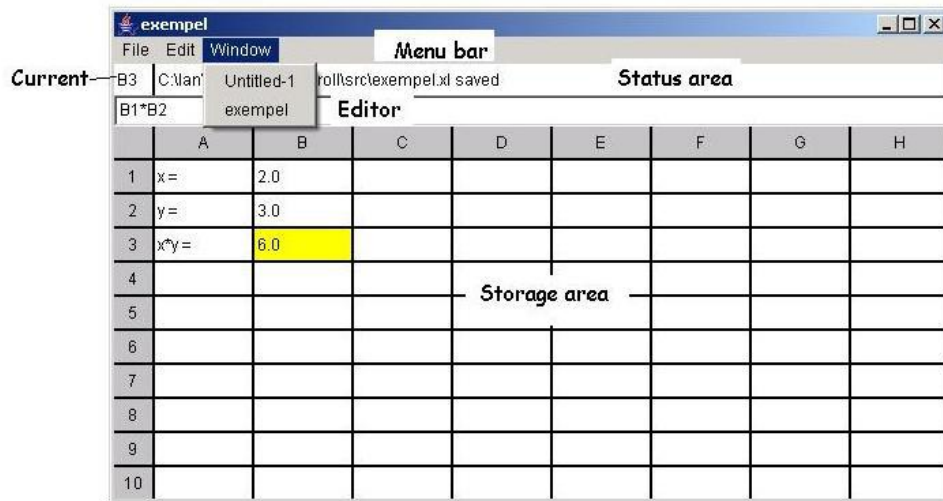

<div align="center">Figure 1</div>

Use Case 1
Creating a new sheet
In ready state a new sheet is created by first clicking the "**File**" pull down menu on the menu bar and thereafter clicking "**New"**.

A new XL frame is created. The title of the frame is Untitled- followed by a running number. Each new frame has its own menu bar, current slot indicator etc.

Alternative 1:
An error in the saving process
If the creating process wasn't successful, it is printed out as an error message and no action is taken.

Use Case 2
Saving a sheet
In ready state a sheet is saved by first clicking the "**File**" pull down menu on the menu bar and thereafter clicking "**Save"**.

Only the non-empty slots will be saved in a file as strings separated with new lines.

a1=#x =
a2=#y =
a3=#x*y =
b1=2
b2=3
b3=b1*b2

Alternative 1:
An error in the saving process
If the saving process wasn't successful, it is printed out as an error message and no action is taken.

Use Case 3
Loading a sheet
In ready state a sheet is loaded by first clicking the "**File**" pull down menu on the menu bar and thereafter clicking "**Load"**. Thereafter a specific file must be chosen to load, the file can be situated e.g. on the computers desktop.

The current sheet will be replaced with the loaded sheet.

Alternative 1:
An error in the loading process
If the selected file to load has an error or doesn't follow the syntax of the saving process, it is printed out as an error message and no action is taken.

Use Case 4
Printing a sheet
In ready state a sheet is printed by first clicking the "**File**" pull down menu on the menu bar and thereafter clicking "**Print"**.

The sheet will be printed.

Alternative 1:
An error in the printing process
If the printing process wasn't successful, no action is taken.

Use Case 5
Closing the current window
In ready state a sheet is closed by first clicking the "**File**" pull down menu on the menu bar and thereafter clicking "**Close"**.

The current XL window is closed and all information contained in the spread sheet is lost. Closing the last window will terminate the program.

Alternative 1:
An error in the closing process
If the closing process wasn't successful, no action is taken.

Use Case 6
Clearing slots

In ready state the current slot is cleared by first clicking the "**Edit**" pull down menu on the menu bar and thereafter clicking "**Clear"**. All slots are cleared by first clicking the "**Edit**" pull down menu on the menu bar and thereafter clicking "**Clear all"**

The current slot will be cleared or all slots in the sheet will be cleared.

Alternative 1:
An error in the clearing process
If the current slot is cleared and another slot refers to the current slot (a slot may not refer to an empty slot), it is printed out as an error message and no action is taken.

Use Case 7
Switching XL frames
In ready state the current frame is replaced by first clicking the "**Window**" pull down menu on the menu bar and thereafter clicking the corresponding frame to bring to the front.

The chosen frame will be brought to the front.

Alternative 1:
An error in the switching frame process
If the switching frame process wasn't successful, no action is taken.

Use Case 8
Changing the current slot
In ready state the current slot is B3, by moving the cursor to another slot and clicking it, the current slot will be changed to the clicked slot.

The current slot is marked with a yellow background color and its address is displayed in the current slot indicator. The contents of the current slot will be displayed in editor when a new current slot is selected. If the slot contains an expression then this expression is displayed without unnecessary parentheses.

Alternative 1:
An error in changing the current slot
If changing the current slot wasn't successful, no action is taken.

Use Case 9
Editing a comment in a slot
In ready state a comment is created by writing the comment in the editor, anything starting with a # character is considered to be a comment. To store the comment in the current slot is achieved by pressing the return key.

The comment is put in the current slot in the sheet.

Alternative 1:
An error in creating a comment
If the process of creating a comment wasn't successful, it is printed out as an error message in the status area and no action is taken.

Use case 10
Editing expression in a slot
In the ready state an expression is created by writing the expression in the editor. An expression can consist of the following: constants, slot addresses, additions, subtractions, multiplications, and divisions.

The expression is put in the current slot in the sheet.

Alternative 1:
An error in creating an expression so that a division by 0 or a comment occurs
The process of creating an expression wasn't successful, it is printed out as an error message in the status area and no action is taken.

Alternative 2:
An error in creating an expression so that it refers to an empty slot
The process of creating an expression wasn't successful, it is printed out as an error message in the status area and no action is taken.

Alternative 3:
An error in creating an expression so that the expressions value exceeds the floating point maximum value
The process of creating an expression wasn't successful, it is printed out as an error message in the status area and no action is taken.

Alternative 4:
An error in creating an expression so that the expression can't be parsed
The process of creating an expression wasn't successful, it is printed out as an error message in the status area and no action is taken.

Alternative 5:
An error in creating an expression so that it refers to itself directly or indirectly
The process of creating an expression wasn't successful, it is printed out as an error message in the status area and no action is taken.