The opensource tool Dia can be used to draw many different kinds of diagrams. It currently has special objects to draw ER diagrams, UML diagrams, flowcharts, network diagrams, and many other diagrams. It supports many common formats to store diagrams such as jpeg, png, eps, etc.  
  
Dia can be installed and run as follows:

* Install dia using the Ubuntu software center or by running the command 'sudo apt-get install dia'.
* Start dia by running 'dia' from the terminal or through the Applications > Graphics > Dia diagram editor menu item.
* Dia opens with two windows, one is the tools window and one is the diagram window (canvas).

Simple ER diagrams can be drawn in Dia as follows:  
  
Creating Entities:

* 1. In the tools window, select the "Database" sheet from the dropdown below the tools.
  2. We use the Database "Table" component to represent entities. Click on the 'Table' component and click on the diagram window (canvas). An empty entity appears. Double click on the entity to edit its properties to open the properties window.
  3. Enter the following in the properties window:
     1. Table Name: enter the entity name
     2. Navigate to the attributes tab
     3. Click 'New'; Enter the name of the attribute. Check/uncheck the checkbox for primary key as necessary.
     4. Repeat step 3 for every attribute.
     5. Click Ok.
  4. In the sample ER diagram, the entities User, ShoppingCart and Item have been created this way.
  5. Older versions of dia don't have the Database toolkit. As an alternative, you can use the Class construct in the UML toolbox to create entities, with attributes in a manner similar to the Table component above. In this case you will have to make the visibility of attributes implementation dependent to ensure they are not prefixed with # or +; you can mark an attribute as class scope to get it underlined. You should turn off show methods, so only attributes are shown.

1. Adding relationships:
   1. In the tools window, select the "ER" sheet from the dropdown below the tools.
   2. Click on the "Relationship" component and click on the diagram window(canvas). A relationship shape appears. Double click on it to edit properties.
   3. Enter the name of the relationship eg. "Belongs to".
   4. Clicking on the button named "Identifying", indicates that one end of the relationship is a weak entity (Item in our example).
   5. Click Ok.
2. Adding Connectors (arrows):
   1. In the tools window, select the "Line" tool.
   2. Click on the border of the entity from where the arrow has to start, and drag till the destination. Once the mouse has been released, the arrow appears.
   3. Double click on the arrow to edit its properties. The "End arrow" dropdown can be used to change the style of the arrow head, or remove the arrowhead completely (eg. The line from the user entity to the "has" relationship has no arrowhead)
   4. To show total participation using a double line, instead go the ER tooset, and choose the double line "participation" link. Edit its properties to set participation to total.

These shapes can be cut, copied and pasted and dragged around as necessary to make the diagram clean and easy to understand. Clicking on any component and pressing the "Del" key deletes that component.   
Once it is done, the ER diagram can be exported using the "File > Export" menu item. It can be exported to various forma