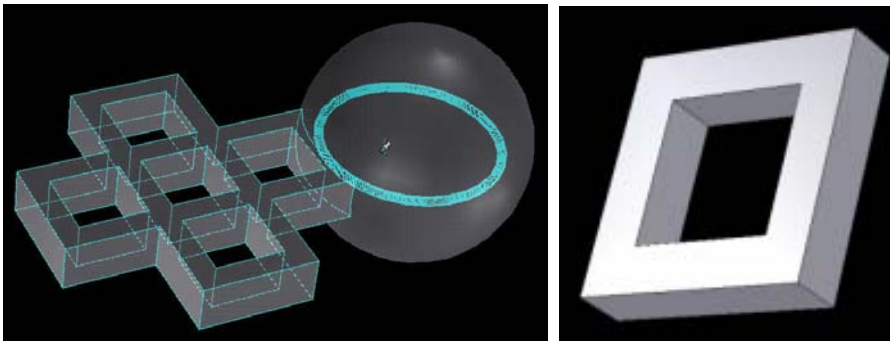


## Ang Lee CS6491 Project3a WriteUp



I created my model using IronCAD. Create two boxes, one big and one small. Make them intersect and remove the intersection part from the big one.

The result is in fig 2.

Make three copies of this (totally 4) and align them as the cross part. Make a Union

Then create a sphere intersect it with the cross. Make a Union.

Make a torus. Set its action to be remove. Move it to be totally contained in the sphere part. Do boolean.

I found it hard to align the components (parts, in IronCAD terminology) precisely. Though we can set the specific values of movements (rotation and translation), to adjust the orientation and location is difficult. I feel like to have an easier way setting the components' orientation and translation, for example set the location using (x y z) relative to global coordinate system (or relative to other part's local coordinate system). Also, the orientation, for example, could be made to align with the global base axis by one click or let the user explicitly specify two angles ( $\theta, \Phi$ ).

(on 11/07/2005):

Later when working on part B, I found IronCAD did a very poor job. The Boolean operation makes the STL file to not form a solid object, and thus the genus number is incorrect.

I redo this model in 3ds max 7, which is a lot easier to use. The steps are identical as described above.

In 3ds max 7, user can specify the position and rotation and scale...etc. precisely by entering numbers. And the Boolean operation is very easy to use. This is why HCI matters!!