

Random mind dump for meshmapper below....

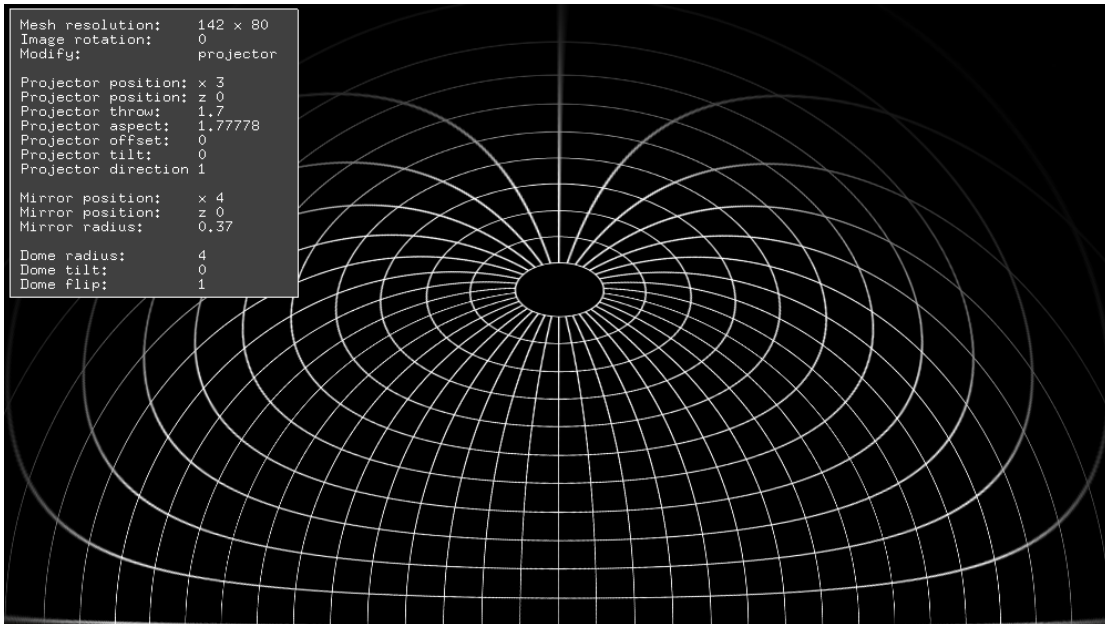
Have a play until you are comfortable with the controls ... see some more details here but which may be out of date on some points.

<http://paulbourke.net/dome/meshmapper/>

Run meshmapper fullscreen, mirrored displays, with a computer display set to the same as the projector

```
meshmapper -f -i radialgrid.tga
```

Look at the information on the top left of the display.

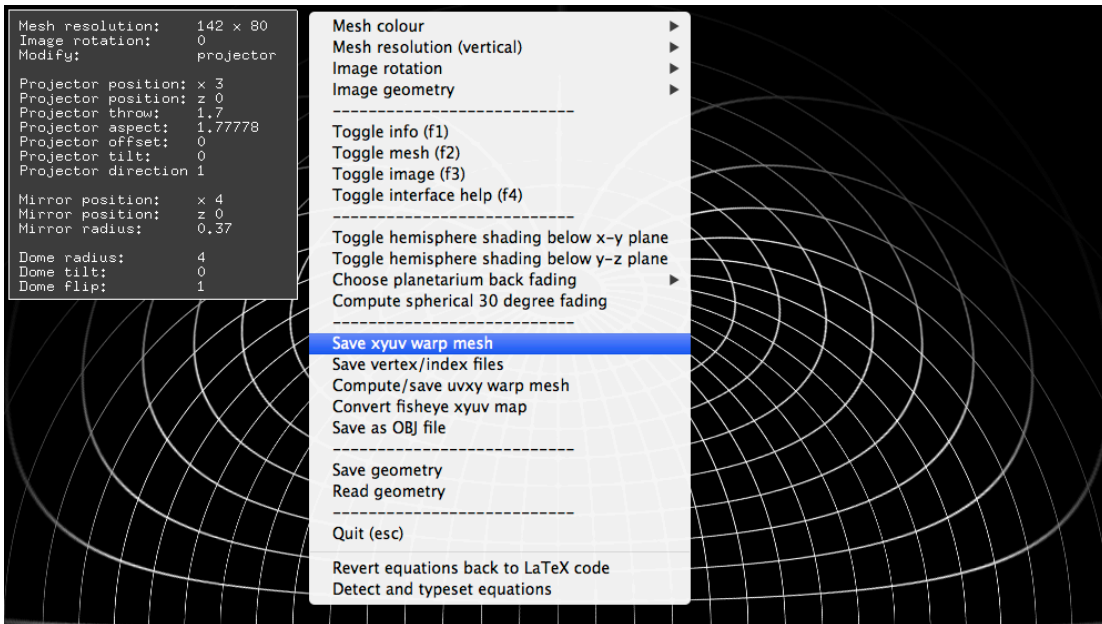


Basically if you type the letter "p", "m", or "d" you are controlling the projector, mirror, or dome respectively. The "modify" line will change accordingly from "none" to the mode you select.

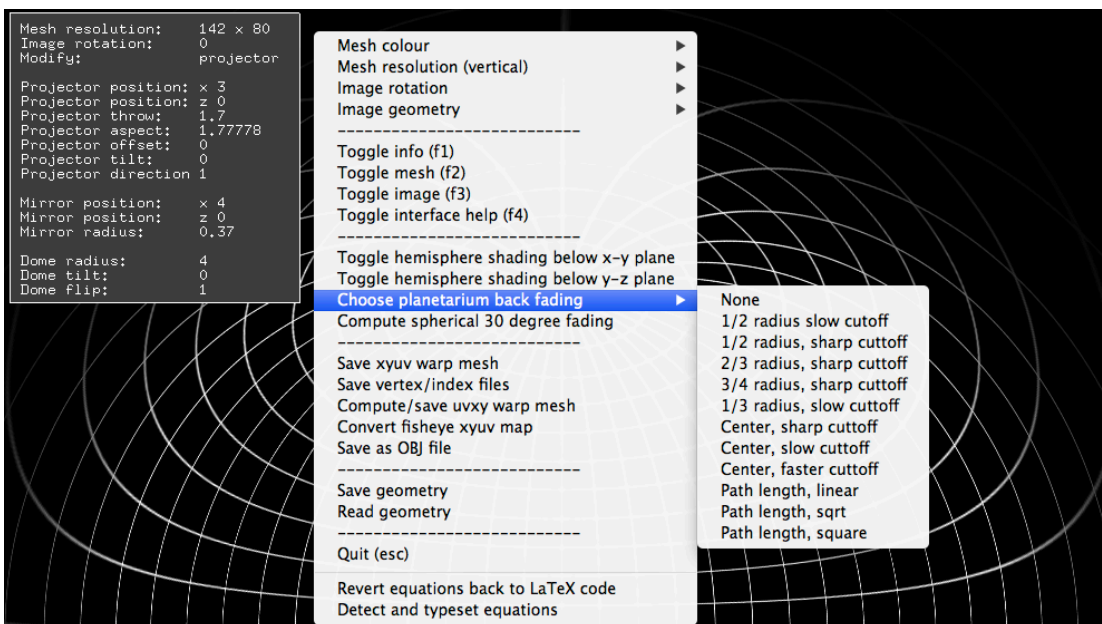
The projector aspect should say 1.7777778 for an HD projector, the recommended.

What you are going to do it adjust the optical/geometric parameters until you have a warping you are happy with. North pole in the centre of the dome, lines of longitude close to straight, lines of latitude circular ... both these only apply if you are standing in the middle of the dome. You will find it hard (although some people have) to get good results towards the back of the dome. By playing for a while you will learn what controls have what effect on the dome ... but it can be tricky.

You need a three button mouse, the right hand button gives you a popup menu, the item "save xyuv warp mesh" will create a warp mesh called "test_xyuv.data" which can be relocated and called "default.data" in the same location as warpplayer or QC patch.



You will also need the right mouse and popup menus to choose the back fading option. "1/2 radius slow cut-off" is the normal choice.



The web page describes the coordinate system, but in summary the origin is in the middle of the dome. x axis pointing in the same direction as the projector, z axis positive up. There is no y axis controls since the projector is assumed to be perpendicular to the rim of the dome.

The idea is that if the simulation parameters match the real world parameters then you will have a correct warping. Some of the parameters can be estimated with a tape measure, the distance of the projector from the center (well, measure from the rim and subtract from dome radius). Also the position to the mirror from the center, remember the center of the sphere from which the mirror is cut is further away than the back plane of the mirror).

If you hit the "x" key after hitting the "p" key you would will note the image changes since you are changing the x position of the projector. If you did this in

mirror mode ("m") you will be changing the x position of the mirror. Upper case "X" goes in the opposite direction, this upper/lower case works for all settings.

"z" to change z position of projector or mirror.

"t" for projector throw.

"o" for projector offset

"a" for projector tilt (angle)

Some parameters like aspect, dome orientation, mesh resolution, and image rotation can only be edited directly by opening the last.cfg file. Other parameters like dome flip, projector direction should not be changed.

To get started edit the file "last.cfg" with a text editor and type in some of your domes parameters, such as radius, aspect if not correct already, tilt should be 0. The starting point for an 8m dome might be as follows, the projector is typically around 1m back from the mirror origin but it obviously depends on the projector throw.

```
projector_pos 3 0 0
projector_throw 2.09
projector_aspect 1.77778
projector_offset 0
projector_angle 0
mirror_pos 4 0 0
mirror_radius 0.37
dome_radius 4
dome_angle 0
dome_flip 1
```

Projector throw depends on the model optics and the zoom value, it is defined as the width of the image divided by the distance from the projector. For commodity projectors and standard lenses it is usually between 1.8 and 2.6. If you want you can determine this by removing the mirror and measuring the image on the back wall. Projector distances are normally measured from the neck of the lens.

You can quit and resume, it will remember the last settings in the file called "last.cfg". Similarly if you have something "close" and want to dabble and still go back to the close settings, just make a copy of the last.cfg file and replace newly generated ones as required....do that while meshmapper is not running though.

ps: If you are using Lion, in system preferences - general please disable "restore windows when quitting ..."

