

Activity Report

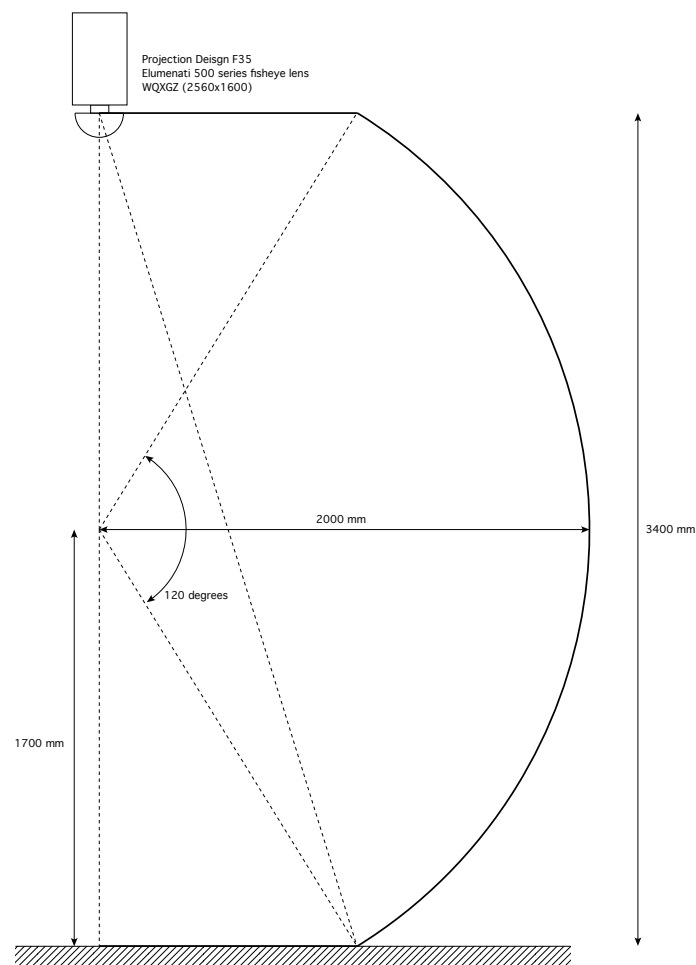
Paul Bourke, iVEC@UWA

The following is a summary of fulldome activity by Paul Bourke and the iVEC facility at the University of Western Australia. Unlike last year where there were a number of planetarium style installations in India, Malaysia and Australia, this year mainly concentrated on immersive experiences in the iDome and fisheye or 360 degree video capture for cultural heritage.

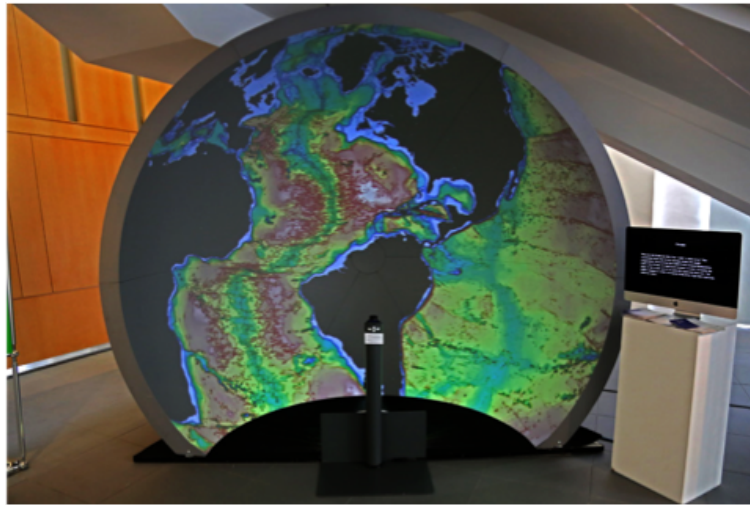
Dark, the fulldome production completed late 2012 has seen good uptake. In 2013 it was picked up by 87 planetariums in 18 countries. Dark was never intended to be a show for the younger audience, as such most uptake has been in University based planetariums. Plans are progressing for the next production.

The iDome style installations in 2013 are as follows

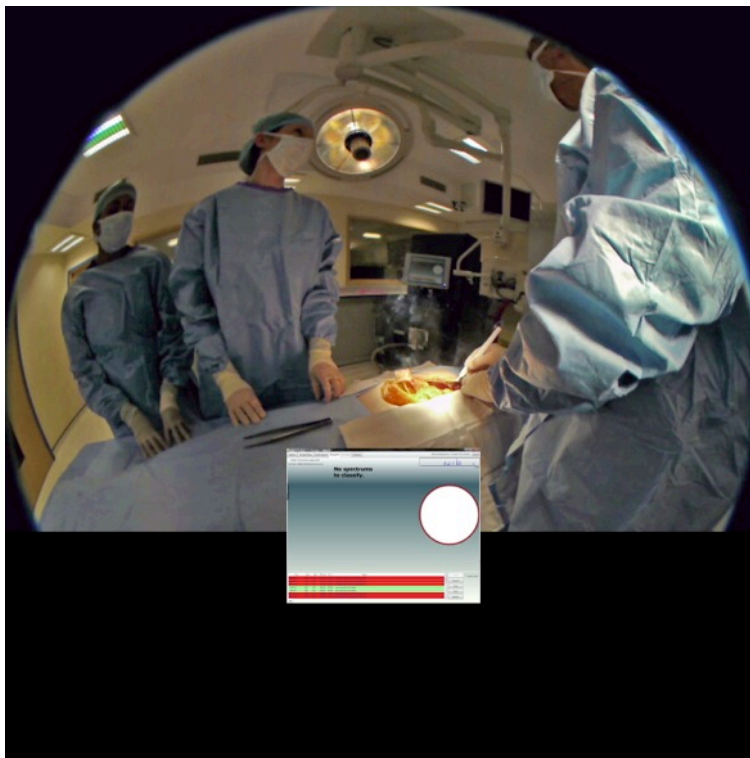
- The John Curtin Gallery installed a 4m fiberglass dome, truncated top and bottom and driven from a Projection Design 2560x1600 pixel projector and the Elumenati fisheye lens. This gives a 2500 pixel circle. The John Curtin installation is managed by the humanities at Curtin University, in particular Architecture and the Arts. For those not familiar with this lens, it is 180 degrees by 112 degrees, using a combination of lens shift and image warping it can be installed out of the way in the ceiling.



- The City University in Hong Kong installed an iDome for the opening of the innovation Campus. For the opening event a range of science visualisation content from researchers at iVEC@UWA was presented. The content was interactive using the 6 DOF SpaceMouse mounted on a thin podium in front of the dome.



- An iDome was installed at the World Innovation Summit on Health (WISH) located in Doha (<http://www.wish-qatar.org>). While a range of medical content was assembled for the event the main piece was fisheye filming of an operation using the iKnife, a hot wire surgical knife that feeds the burnt-off fumes through a mass spectrometer that analysis the composition and informs the surgeon within seconds what type of tissue he/she is cutting through. This is a key new capability in knowing whether one is removing all of a cancer.



- An iDome was installed for the education department at Edith Cowan University. This will be used for a range of projects but the initial one involves 360 recording teacher-student interactions

within a classroom, the results are experienced, annotated and evaluated within the iDome where one can “look around” the entire room. (Unfortunately due to privacy and ethics constraints actual classroom content cannot be shown here).



Some full 360 video recording projects targeting presentation on an iDome are as follows

- Mah Meri is a remote tribe in West Malaysia with interesting ceremonies for curing illness within the tribe. This ceremony was recorded with the LadyBug camera from the centre of the area where the ceremony occurs. Of course if one captures 360 degree video then any orientated fisheye can be synthesized, indeed standard perspective views can be created as well.



- Ngintaka is an Australia indigenous story that is told across the landscape culminating in a cave, Ngintaka belly after he has been killed to recover the grinding stone he stole. Video of the traditional dance in the cave was captured as 360 degree video which can be interactively explored in the iDome. In addition to the video the whole cave system is mapped out as 360x180 degree bubbles, a small selection of these can be found at this link <http://paulbourke.net/fun/Ngintaka/>



- Beacon Island is the location of the Batavia ship wreck in 1629, 322 people were washed ashore on the island which has no natural water or food source. The island currently hosts 14 small fisherman shacks, these will soon be removed and are expected to provide access to grave sites from the shipwreck horrors. The goal of this project will be an interactive experience based upon the Unity3D engine, chosen because of ready fisheye and warped fisheye support. The experience of the island and the archaeology and forensics that are about to be conducted will be able to be experienced on the web, desktop, and iDome.

