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16.12.02



ACMI Screen Lounges: Progress report on design

From Crowd Productions: A report on progress and outline of research, design and construction work to 16.12.2002

01.] Report on Design Progress: Visualisation of a camera eye view of a Memory Grid Lounge Pod user.

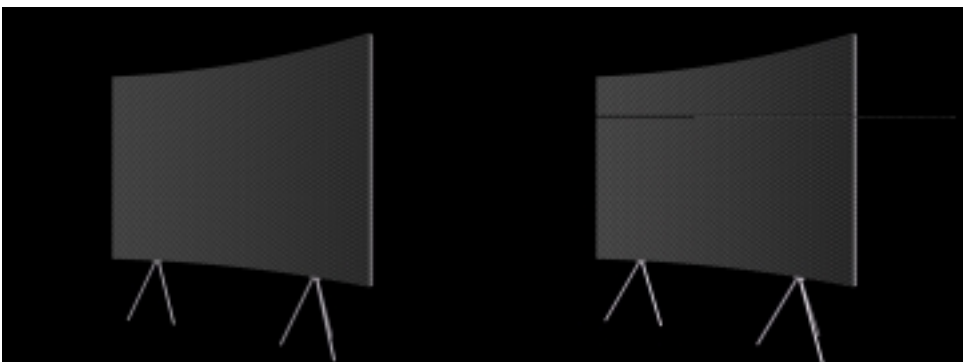
Further to the development work on the Memory Grid Lounge Pods discussed in reports 22 and 23 and the questionnaire presented in report 22 we have developed a visualisation to indicate how a camera mounted above the plasma monitor in the Memory Grid pod would capture the user. This camera is proposed as part of the production facility set up within each Memory Grid Pod. Concern has been expressed as to the camera angle in the proposed set up and the possibility that this would give rise to an awkward appearance in the portrait of the user. We have modelled a user in 3D seated in front of the Memory Grid blue screen and specified a lens of the type we imagine the proposed camera type is most likely to have. We feel the result is very good. The model and visualisation suggest that problems of angle and issues such as foreshortening are not significant factors in the images that the set up would produce.



Left: Three visualisations of the proposed camera set up as part of the production facility within the Memory Grid pods. The images reflect possible croppings we imagine would be used.

02.] Report on Design Progress: Development of the Acoustic Partition Screen.

As a result of testing the Acoustic Partition Screen on the rubber tiles on site in the Memory Grid lounge at Federation Square, we have widened the base diameter of the tripod legs from 500mm to 600mm. While we believe the original base provided great stability, we feel adding to it will give us a greater margin of safety with regard to any possibility of a screen being knocked over by an impact from a fast moving child. There had been concern about the slight sponginess of the rubber tiled floor surface creating a sense of potential movement or instability in the partition screen. Further broadening of the base will overcome this.



Left: Two visualisations of the Acoustic Partition Screen. The left image shows the partition screen with the original tripod base with a 500mm diameter footprint. The right image shows the partition screen with the new tripod base with a 600mm diameter footprint to achieve greater stability.

03.] **Report on Design Progress: Development of the Scissor Arm touch screen delivery system.**

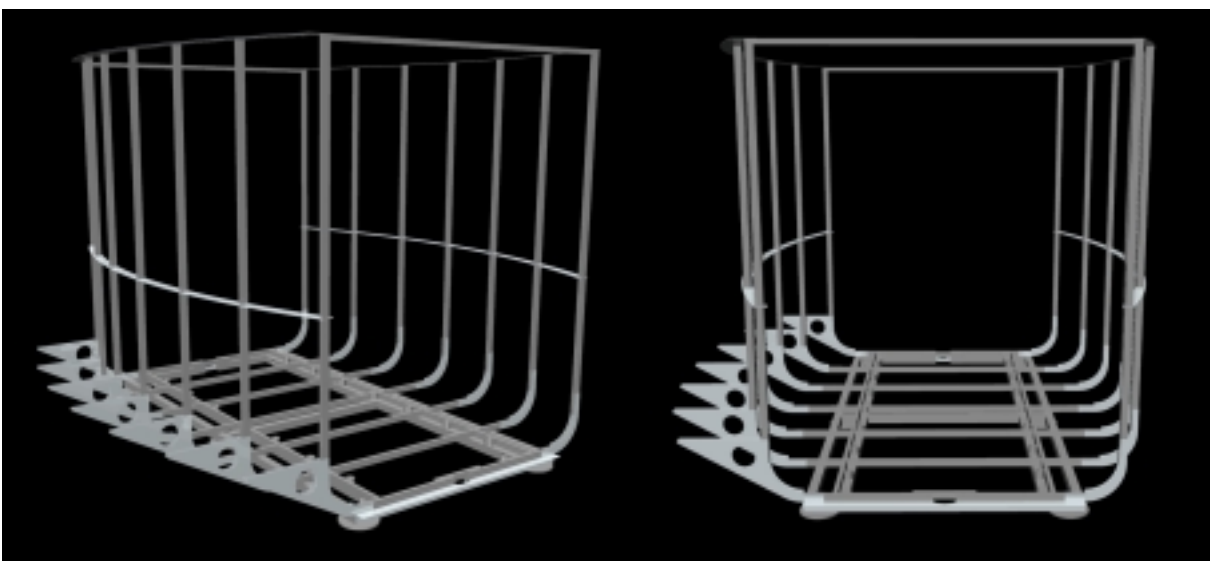
Work continues on developing the design of the Scissor Arm touch screen delivery system. Subsequent to rendering the new design, featuring a sled based first stage, we have made a balsa maquette to further study the characteristics of the design proposal. The model and design proposal will be assessed by a mechanical engineer shortly and we shall then proceed to construction drawings and fabrication of a full scale working prototype. We will also begin to model the cable within the structure to assess how it performs and the requirements for it's proper deployment. Michael Parry from PiVoD has provided all the necessary cable reticulation data. Further consideration will need to be given to whether it will be possible to spring load the arm or the door behind which it is stored in order to facilitate it's use.



Sequence of the proposed Scissor Arm control console delivery arm model in balsa wood showing the extension sequence from storage [top left] to full extension and horizontal pivot to right and left hand users.

04.] **Report on Design Progress: Further development of the Screen Lounge Fame/chassis.**

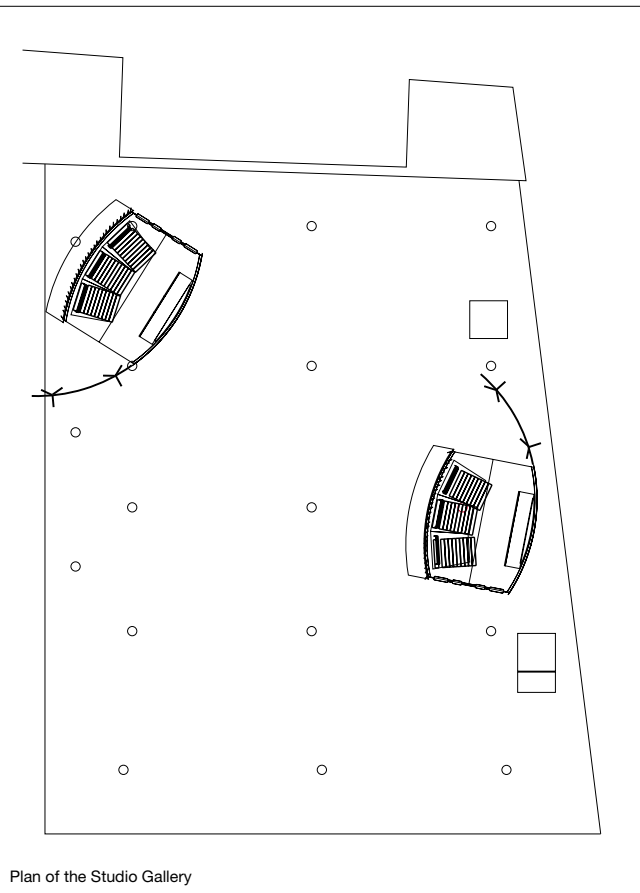
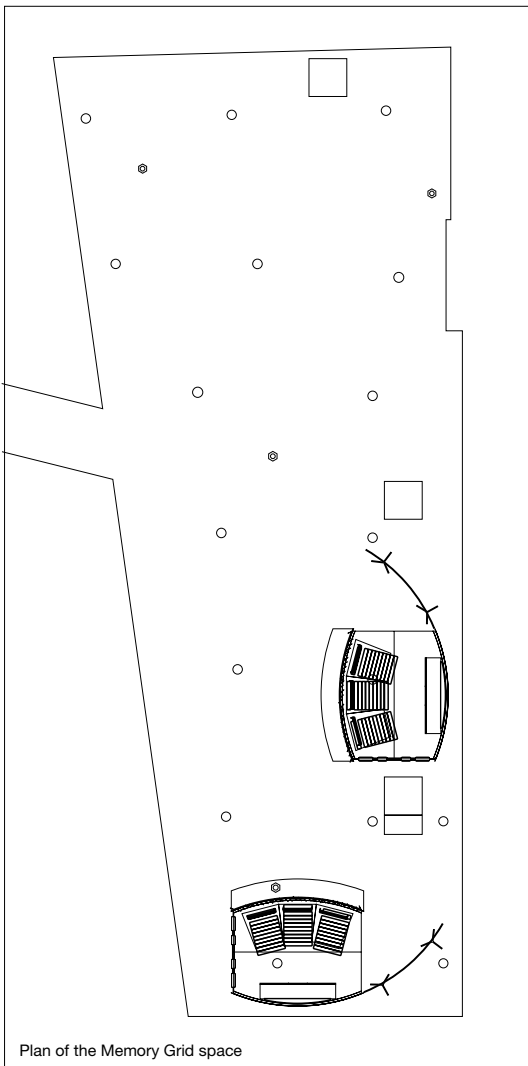
Through the process of commencing construction drawings we have refined the details of the Screen Lounge Pod/ Memory Grid Pod mild steel frame or chassis. We are using this detailing process to refine all the connection details and anchor points on the frame/ chassis to ensure that all the skinning and finishing components will fit easily but also to ensure that the frame/chassis can accommodate all the variations and reconfigurations now requested by the various ACMI stakeholder groups. This means that many of the connection details are multipurpose and a connector may in one scenario be an anchor point for beam seating and in another scenario be a socket for a light fitting. Special consideration has been given to the detailing of the ends of the frame which will accommodate the attachment of the Blisterpack Memory wall acrylic sandwich and the optical fibre loom which needs to ducted cleanly into the floor space of the Screen Lounge frame while accommodating the correct cable reticulation radius etc. To allow all possible orientations both ends must accommodate the cable. Therefore this gap also serves as the housing for the step-up safety light at the entry end.



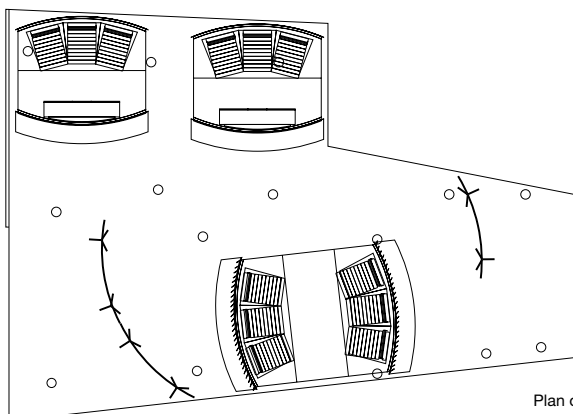
Above: Visualisations of the updated Screen lounge/Memory Grid frame/chassis developed from the current working drawings.

05.] **Report on Design Progress: Siting Screen Lounge pods and Memory Grid Lounge pods.**

10.12.02 In consultation with Gael McIndoe and Kim Montgomery we developed floor plans siting the Memory Grid Lounge Pods in the Memory Grid space and the adjoining Studio Gallery in the most likely and useful positions. While it is anticipated that the Memory Grid Lounge pods will be moved quite regularly about these two areas we are required by Arup Fire to show how the pods will sit in relation to the overhead sprinkler system outlets. We have mapped this system in relation to all the rooms expected to be used by the Screen Lounge pods and Memory Grid Lounge pods. As Arup are ruling that the Screen lounge pods and Memory Grid Lounge pods are furniture, we are required to show how they will be sited in relationship to the sprinkler system. These plans need to then be signed off by the appropriate stakeholder groups at ACMI so that Crowd can lodge them with Arup Fire.



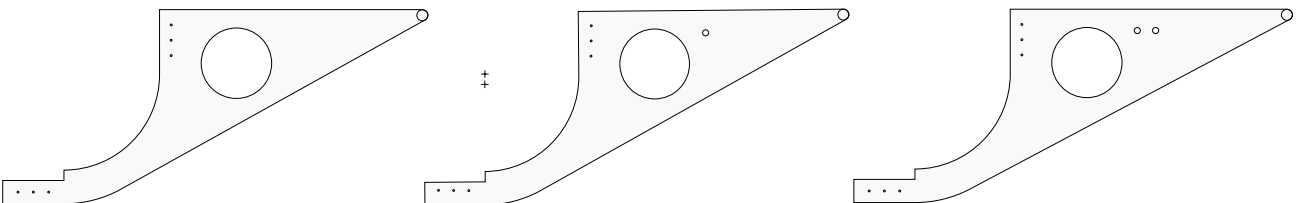
Left: Plan of the Memory Grid space showing the proposed initial positions of the Memory Grid Lounge pods. Above: Plan of the Studio Gallery showing the proposed positions of the Memory Grid Lounge pods when they are deployed to that space. **Please Note:** the small circular dots on the plan indicate the locations of the overhead sprinkler system outlets.



Left: Plan of the Screen Lounge space showing the proposed positions of the Screen Lounge six seater pod and the two open seater three seater lounge pods. All three of these lounge pods are without the inflatable ceiling element. This does not affect their status as Screen Lounge pods with regard to the fire code. It is understood that these lounges will remain fixed in the indicated positions. **Please Note:** the small circular dots on the plan indicate the locations of the overhead sprinkler system outlets.

07.] **Report on Design Progress: Further visualisations of the Memory Grid Lounge pods.**

In consultation with Kim Montgomery we have prepared a visualisation of a Memory Grid pod without the walls or ceiling in place. In planning the initial setup for the Memory Grid space Kim has specified that she wants one of the Memory Grid pods to be in the open or convertible mode, the other closed. Apart from using the open field of the convertible mode to advertise the presence of a new activity within the Memory Grid Lounge space, this arrangement allow allows Memory Grid stakeholders to experiment from the outset with the two principal modes of operation for the pods.



08.] **Report on Construction Progress: Laser and Waterjet cutting of the Screen Lounge pod frame components.**

CAD drawings have been prepared for the components which form part of the frame that need laser cutting or waterjet cutting. These components are the principal frame connecting elements and provide the compound curves of the Screen Lounge pod shape that provides it's strength while keeping the weight down. These components have been designed to also provide cable guides and ports for cable ducts to take a variety of audio wiring configurations and the fibre optic loom. Provision has been made for the possible inclusion of a lighting system inside the translucent fibreglass seat.