23 18.11.02

ACMI **Screen Lounges**: Progress report on design

From Crowd Productions: A report on progress and outline of research, design and consruction work to 21.10.2002

01.] **Consultation with ACMI Stakeholders: Meeting with John Smithies, Simon Banks, Max Goode, Michael Parry from PiVoD and CMR.**

04.11. 02. On Monday we met with ACMI stakeholders and CMR to discuss the development of the Screen Lounge design and the Memory Grid Screen Lounges. We presented the presentation made to Gael McIndoe, Kim Montgomery, Andrew Garton and Michael Parry from PiVoD for the design of the Memory Grid Lounge Pods on 01.11.02 and the responses and issues discussed. John raised the requirement to be able to store games controller devices in the Screen Lounge Pod Mantle Piece units. Crowd stated that the key Memory Grid Stakeholders have signed off on the Memory Grid Lounge physical environment, such that the proposed environment appears to accommodate the various technical and functional requirements and although the exact technical solutions and equipment has not yet been specified the shell designs have taken various alternative solutions into account. John and CMR have asked Crowd to prepare the Memory Grid Lounge Pod brief for the Memory Grid Stakeholders to sign off on. John Smithies and CMR have asked Crowd productions to produce working drawings of the Screen Lounge Pods for presentation to the next building committee meeting for sign off on construction to commence in order to meet the clients deadline for delivery in late March 2003. Max raised concerns about the safety of the proposed scissor arm delivery system and the danger of it catching children's fingers in the mechanism. He also strongly dismissed the ball joint proposal for tilting the touch screen control console as one that would only cause potential damage to the touch screen by being floppy and causing the touch screen to fall or tilt over and crash into other fixtures etc. Max insisted that the tilting mechanism should only tilt in one axis, towards the user. John suggested that the touch screen control console was cable tethered to the mantle piece, padded to prevent damage, like a cushion, and not on an arm at all but able to passed from person to person and sat on the lap. It could even be electronically tethered although this might make it easy to steal. David Poulton raised the issue that from the beginning of the project the brief had clearly required that a communal control console system be incorporated and that any form of remote control be avoided because of the attendant social interaction etc. CMR requested a materials board. John concluded that the main outstanding issues for consideration were:

01. An audio test with the speakers proposed by Graeme McGeorge from PiVoD using a single seat from the prototype, to be done at Vecci

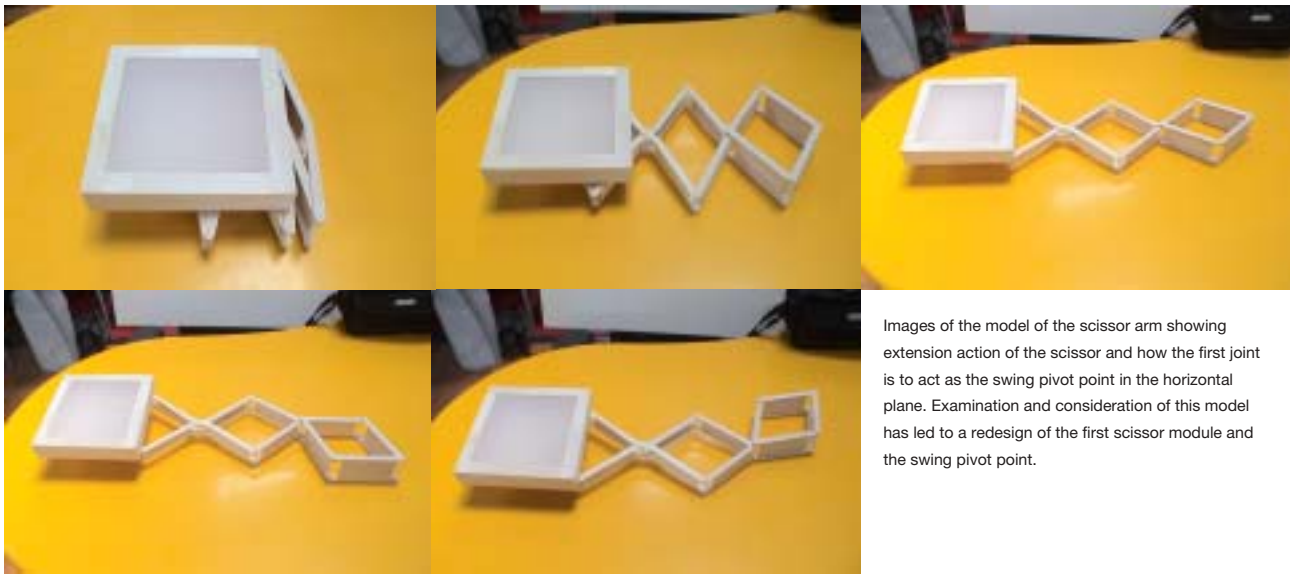
02. A viewing angle test to test the proposed viewing angles and dimensions for the six seater Screen Lounge pod. This will be done at Vecci also with a single seat and the setting up of an appropriate plasma screen at the correct height and distance to test viewing comfort etc.

03. A comfort test on a single seat from the Screen lounge Prototype to test the comfort of the new head rest proposal, to see if it requires further refining

Michael Parry from PiVoD presented the budget to implement the desired functionality into the Screen Lounge pods. As an initial response John proposed that technology could be gradually introduced into the Screen Lounges providing the fundamental Video on Demand was available from the outset.

02.] **Report on Design Progress: Constructing an initial study model of the Scissor Arm for the Screen Lounge Pods.**

A balsa wood study model of the proposed scissor arm touch screen delivery system has been constructed to examine what problems the design may have. We have concluded, working with our engineering consultant, Anthony Kitchener from Cash Engineering Research, that the core scissor arm, beyond the main pivot point will work very well. The section of the scissor arm that carries the complete mechanism and the touch screen beyond the front edge of the mantle piece storage space will pose significant technical difficulties. This results from the torsional and lateral loads we expect this part of the mechanism will take and that the current design will flex to readily from left to right and act as a double joint. Crowd is now working on a new mechanism, a sliding platform to carry the scissor arm out to the Screen Lounge user. This slide will be designed to carry the anticipated loads that the scissor will deliver back to its anchor. In developing the scissor arm and constructing the model our other key consideration was to ensure that our calculations were correct with regard to the scissor arms safety. The design has been developed so that whether extended or folded the key joint spaces or gaps between the moving components remain constant, so that a finger placed in the joint will not be crushed or compressed irrespective of position or movement. The model has confirmed this aspect of the design. The only lever parts of the scissor arm that close together are the two end components that join under the touch screen. These two levers act as the buffer or brake to limit the scissor arm action. These ends will be capped with thick rubber pads to cushion the limit of travel for the arm. These same buffers will provide a protection and cushioning, spreading the point loads of the arm lever ends across a large surface area. In developing the single axis joint to rotate the touch screen towards Screen Lounge pod users we are also looking at creating a protective shield under this joint to further protect users from any possibility of getting their body parts in between the moving scissor arm components.



Images of the model of the scissor arm showing extension action of the scissor and how the first joint is to act as the swing pivot point in the horizontal plane. Examination and consideration of this model has led to a redesign of the first scissor module and the swing pivot point.

03.] **Report on Design Progress: Developing a design strategy to identify the Memory Grid Lounge Pods.**

In discussion with the Memory Grid stakeholders it is clear that it will be important to readily identify the Memory Grid Pods from the Screen Lounge Pods. We have been developing a unique partition screen to help both in organising the space within the Memory Grid space and specifically identify where and when Memory Grid activities have been scheduled. In addition to this we are keen to employ the Memory Grid logotype on the Memory Grid Pods, carefully integrated into the overall design of the Lounge Pods. The Screen Lounge Pods are proposed to have large and clear numbers to aid users and ACMI staff in identifying specific Screen Lounge Pods for scheduling purposes etc. Crowd's proposal is to carefully link the Memory Grid logotype to these numbers as this is the zone on the Screen Lounge Pods for identification.

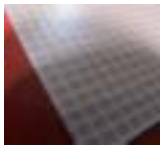

memory grid

04.] **Discussion with consultants on fabrication techniques: Further development of the Soona.**

Three *Soonas* and two cushion prototypes have been fabricated specifically for the Memory Grid Lounge Pods. The three *Soonas* have been fabricated in a royal blue *Insuede* fabric to test the proposal that *Soonas* for the Memory Grid Pods should be upholstered in a non-reflective material that matches the employed chroma key colour background for the production system to help achieve an expanded background area and one that might allow more flexibility in using the Memory Grid production facility. Two cushions have been prototyped for use in the Memory Grid Lounge Pods principally by small children where seating for more than three people is required in a pod or where the users require further cushions when seated on the standard to achieve the right elevation to access the touch screen control interface. Testing of these cushions and the *Soonas* will proceed, working with Memory Grid stakeholders. Veronica Saunders, our interior design coordinator, has been consulting with Peter Galley from Elisa Upholstry to discuss refinements to the fabrication of the *Soonas*. Currently Dacron is being used to finish the foam upholstry component, but it is contributing to a slight lumpiness in the finished prototypes. In order to achieve a cleaner and sharper product we will delete the Dacron and slightly increase the size of the foam inserts. Additionally we have been experimenting with the stitching details for the *Soonas* to improve the cleaness and uniformity of the finished product's appearence.

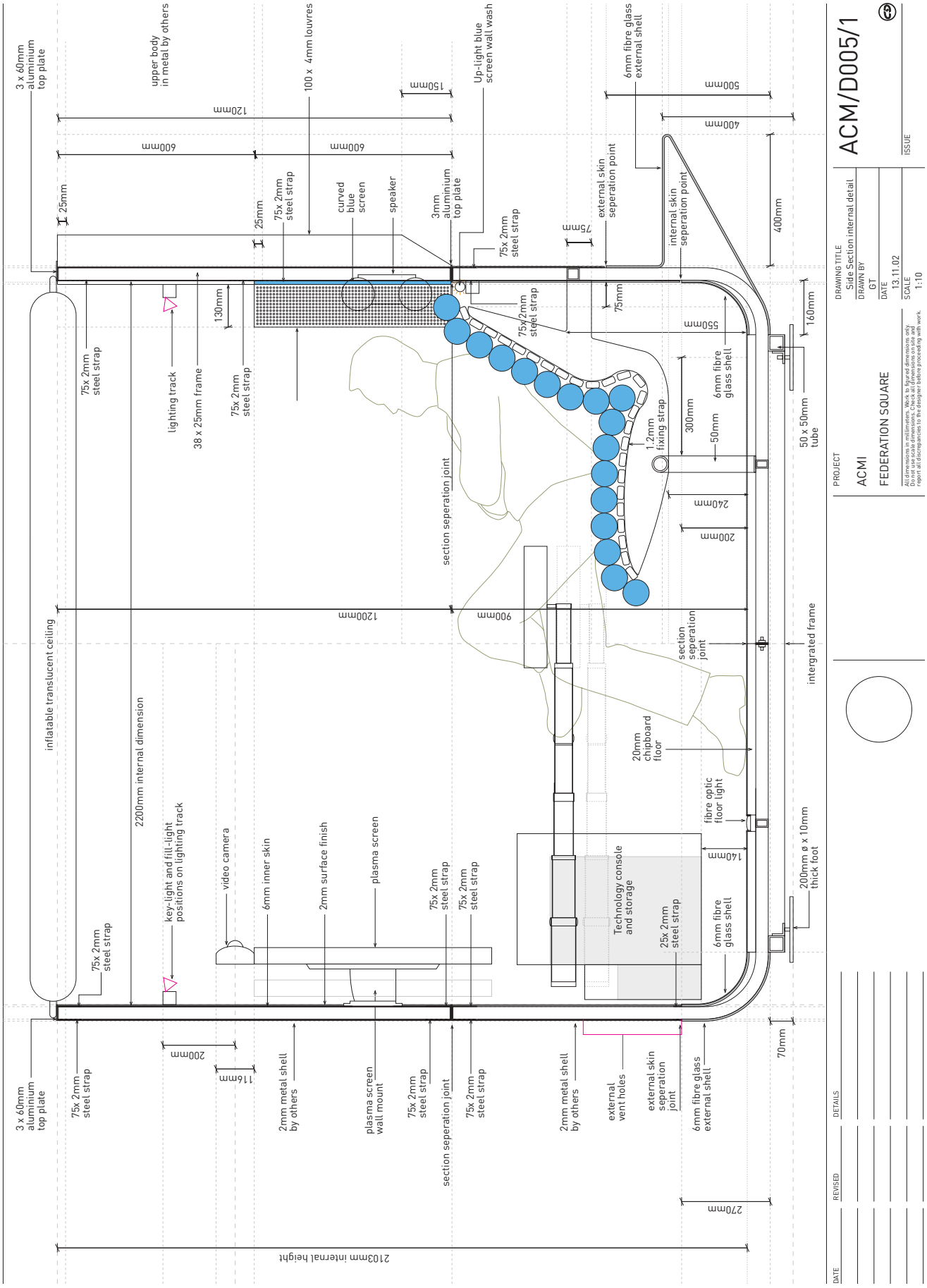
05.] **Report on Design Progress: Selection of a suitable material for the inflatable roof element.**

In consultation with Peter Lim from Skyspan we have been presented with a material option for the inflatable roof component for the Screen Lounge Pods. The material Polymar 8964-FR, by the German manufacturer Mehler Haku, is a PVC coated PES with a flame retardency rating to meet the German building standard: DIN 4102 BI. The material has not yet been imported into Australia and is mainly used in Europe as part of an acoustic installation process. A sample of this material is being shipped to Australia so that a test prototype can be made to check its performance with regard to welding, our preferred method of fabrication, light transmission and strength. In selecting this particular material we have sought to maintain all of the desirable qualities of our first test material including a high level of translucency and an even light dispersion with an ease of workability and the additional properties of effective fire retardation and great strength.



07.] **Report on Construction: Commencement of the construction drawings.**

Following approval by John Smithies on 04.11.02, Crowd Productions has commenced the preparation of working drawings in order to present these at the next Building Committee meeting on December 06, and to present our recommendation to proceed with a preferred fabricator of the Screen Lounge Pod frames to meet the proposed construction completion deadline of Friday March 28, 2003, set out in Crowd report 22 dated 04.11.02. Our principal concern has been to develop a set of details that both satisfies as far as we can, the various demands and modes of use proposed for the Screen Lounge Pods and to ensure that the finished products have a very high level of finish while being as robust as possible. A schematic drawing to indicate interior fit-out requirements and the associated frame attachment anchors is shown following.



DATE	REVISED	DETAILS	

PROJECT
ACMI
FEDERATION SQUARE

DRAWING TITLE
Side Section internal detail
DRAWN BY
GT
DATE
13.11.02
SCALE
1:10

ACM/D005/1

ISSUE

All dimensions in millimeters. Work to figured dimensions only. Do not use scale dimensions. Check all dimensions on site and report all discrepancies to the designer before proceeding with work.