

## PROJECT SCOPE

Thank you for your patronage engaging my services to provide advice on planning in order to develop your project.

This scope outlines a guide for you to direct your project and contains recommendations for delivery. This serves, as a starting framework with approximate costing's and specifications only. Prices and outcomes detailed in this scope, may vary dependant on supplier quotations, logistics and changing project needs during development. Recommendations contained in this document are provided to direct and support your project. Potential budget changes, project management and workflow activities may affect your outcomes however this should provide a ranging estimate progress planning.

Please let me know if you require further support with project management and workflow should you wish to develop your project further.

Best,



# PROJECT BANPRO2020

## PROJECT GOALS

- Install a permanent and interactive projection system in the gallery space at the Banyule Nillumbik Tech School
- Ensure the projector is connected to a Raspberry Pi and a PC at all times. The PC is to be loaded with Resolume and sit within the gallery space to allow for live mapping and audio-reactivity
- Ensure the system is equipped with a motion sensor and has audio-reactive capabilities

## PROJECT OUTCOMES:

- Showcase the potential of projection technology
- Provide students with the opportunity to learn and practice projection mapping
- Provide a platform for students to upload and exhibit still/moving image works via projection technology
- Have an 'always on' demo mode that is triggered by a motion sensor. The motion sensor will switch between two different demo modes
- Ensuring the projection aligns with Polytechnic IT requirements allowing for future maintenance, servicing, user control and accessibility

## POTENTIAL SCENARIOS

- *Motion sensor:* visitor walks into gallery space to see student work projection-mapped onto table-based objects. Visitor steps onto sign 'X' (on gallery floor) as projected artwork changes to a different work, projection-mapped onto a floor-based object
- *Audio-reactivity:* student wants to see a still or video image work animated to music. Student loads still image onto PC/laptop in gallery space, imports into Resolume and sets audio-reactive parameters to respond to their choice of music (these can be pre-set). Resolume registers audio through built-in microphone on PC/laptop so the music can be played through the PC/laptop speakers or an acoustic instrument. This can be as simple as a hand-clap.
- *Projection-mapping:* student wants to projection-map an existing work onto table or floor-based objects. Student loads work onto PC/laptop in gallery space and imports into Resolume. Student has a clear view of the projected image and table/floor-based objects in order to do live mapping via the 'advanced output' feature in Resolume.

## TECHNICAL GOALS

- Projector in foyer that can overcome daylight in short throw space
- Be able to be triggered by motion, audio or other sources
- Ready for projection mapping use
- Integration with existing IT and AV infrastructure

## AREAS FOR POTENTIAL ACTIVATION

- Foyer gallery furniture structures and moveable plinths
- Floor space
- Elevated tables

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## INFRASTRUCTURE /UTILITIES BUDGET

This document attempts to give recommendations to meet project criteria. It is recommended that costs contained are approached as a starting point for project installation as costs may vary dependent internal departmental costs and project development\*.

Further costs may incur from planning, facilities services, site preparation, infrastructure integrations as well as specification variations of the final implementation. It is recommended that proper Investment in system design and planning will pay dividends. This is in order to deliver a high quality system that will be more stable, require fewer ongoing maintenance costs as well as have an operational longevity in the long term.

To deliver this project for use by students, further site consultation, engagement and direct support from the following internal departs is required:

- IT Services
- Learning Spaces
- Electrical Contractors
- Preferred AV suppliers

**\*Please Note:** As more specific installation information is required to give exact quotes this scope gives an approximation of costs as close to the supplied budget as possible whilst still delivering on the goals and requirements of this project brief.

## ADMINISTRATION/ MAINTENANCE SCHEDULE

This system will require a degree of ongoing annual technical maintenance and support once installed/ implemented. This may range from servicing to user training as well as annual system checks and repairs. A maintenance schedule should be organized internally. This is dependent on configuration and recommend to be implemented by the client once the project is up and running.

It is advisable that a maintenance and support budget be established within this project budget to staff and support this system as part of a strategic plan for 2- 5 years. It is important to note that maintenance has not been included in this current scope.

## KEY VENUE RESTRICTIONS

The site proves to be challenging due to:

- Projecting in ambient daylight at a high enough lumen to be seen by audience at all times
- Direct access to the playback units for ongoing content upload by staff and students as well as experimentation by students in the space
- Security of equipment and proposed location of the AV control unit in a public thoroughfare
- High brightness of projector required and implementing design based solutions to allow projection whilst and mitigating hazards associated with ultra bright venue/ installation projectors
- Integration with pre existing AV systems, building infrastructure, operational standards and accessibility requirements in public space

## PROJECT RECOMMENDATIONS

Due to the available budget and taking into account existing school partnerships with preferred suppliers and internal processes, it is recommended that commissioning be undertaken internally for this AV system. This will allow for organizational standards to be met as well provide the best outcome to meet operational requirements for integration with the Polytechnic IT network.

Allowing for the commissioning process to be undertaken internally will reduce costs, provide access to dedicated support services and allow greater control over system outcomes.

To facilitate this project the following is recommended:

- LPC will provide broad scope recommendations to serve as a project guide for Banyule Nillumbik Tech School to support internal project management and development
- The projection system final design and equipment to be selected by the Polytechnic AV team and IT to allow for effective integration with existing systems meeting organization standards and lower project costs
- Commissioning process, project management and ticket requests for works be undertaken internally by Banyule Nillumbik Tech School to account for established processes, existing partnerships and insurance purposes
- Installation of the existing laser cathode Epson projector and short throw lens supplied by the school to overcome daylight brightness and throw distance in the venue respectively
- IT/ AV to setup and establish a remote management WebUI access control system to align with internal AV standards using NodeRED open source control
- LPC to provide workshop training and orientation once system is installed and signed off by Banyule Nillumbik Tech School
- LPC to develop three core use case templates for student use:
  - *Motion sensor*
  - *Audio-reactivity*
  - *Projection-mapping:*

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## RANGING BUDGET

Approximate costings for project equipment and commissioning based on attached recommended system schematic design.

### BANYULE NILLUMBIK TECH SCHOOL: Existing equipment

- Epson EB-L1505UH projector and ELPLU03 lens \$0

### IT SERVICES: Services and equipment purchasing

- Vertical projector ceiling mount rated for 40KG \$400
- AV cabinet lockable \$300
- Management PC for projector control \$700
- Raspberry Pi unit and power system \$200
- Raspberry Pi AV control and power system \$200
- Android control tablet Pi unit and power system \$500
- HD BaseT HDMI baulns x 2 \$800
- Sundries cables/ Triggers \$650
- PIR system triggers \$200
- Power and data installation \$TBC quotation
- IT System integration \$TBC quotation
- IT Control programming \$TBC quotation
- Projector and AV cabinet installation \$TBC quotation

**TOTAL \$3750\***

**\*NOTE:** Final project Budget TBC – Existing school contractors and departments will be required to quote internally. Costs above are based on similar AV integrations and supplier costs. Quotations will vary dependent on preferred suppliers, logistics, site issues and changes to project brief

### CONSULTANCY

- Site assessment, research, scoping and project roadmap \$600
- Project support during commissioning \$200

**TOTAL \$800**

## COMMISSIONING KEY TASKS

### IT Services

- AV design and supplier/ contractor quotation
- AV commissioning and installation contractor management
- AV equipment and hardware purchasing
- PC Imaging and OS installation
- Network configuration and setup
- AV control and VLAN
- AV control system programing

### Electrician

- 4 x Ethernet Cat6 data lines run from Server room on ground floor to AV control rack
- 2 x Ethernet Cat6 data lines run from projector to AV control rack
- 1×15 amp power run in roof to projector location
- 1×10 amp power run for AV control rack
- Audio cable runs from projector to AV control rack
- Network cabinet lockable for AV control rack

### Building Services

- Engineering clearance for installation of projection mount through soffit with rated bolts
- Confirmation with machine/ plant technicians regarding suitability of location
- Security cable sign off projector and bracket
- Fire alarm isolation for installation

## PROJECT ROADMAP

This roadmap serves as guide framework for technical services with specifications and outcomes to support installation. Timeframes and logistics will vary dependant on logistics and changing project needs during development.

### PREPARATION

- LPC generation of recommendation scope and planning guide
- IT/ AV department system design
- IT/ AV quotation and supplier engagement
- Banyule internal tech school project budget/ cost confirmation
- Banyule and LPC final sign off on AV schematic
- Banyule internal project approval and delivery schedule

### COMMISSIONING

- Banyule lodges service ticket requests for infrastructure installation (IT Services, Learning Spaces and Electrician)
- IT Services, Learning Spaces and Electrician assess and approve infrastructure requests
- Assessment of roof location for projection bracket location suitability by Building Services
- Electrical Services run power, trigger and data lines in roof at projection location to AV rack
- IT Services images PC and 2 x RaspberryPI units
- TBC Installation of Network AV rack and projector bracket
- IT services installs AV and IT equipment
- IT/ AV AV control system programming and installation
- Banyule Tech sign off on installation

### IMPLIMENTATION

- LPC prepares and pre-tests Resolume configurations and setup for projector, Raspberry Pi media triggering
- LPC test fire of system in space with triggers and final projection trials on site with content
- LPC delivers workshops
- Banyule soft launch of projection system

### SUPPORT DOCUMENTATION

- AV schematic\*

**\*Please note:** This schematic is supplied as a starting point for system configuration and development of the project. This will change as commissioning development and system integration progresses

