QUT Capstone Artefact Agreement for CAE Australia

QUT | IFB399 | T002

Document Version	3
Document Creation Date	30 September 2024
Project ID	P009
Project Title	AR Aircraft Briefing Tool
Industry Partner	CAE Australia
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Project Goal

The goal of this project is to evaluate the effectiveness of an AR Briefing Tool as a supplementary tool for CAE's aircraft maintenance operations, briefings and trainings. This tool aims to:

- Enhance learning and briefing engagement from interactive elements
- Decrease operational errors due to in-depth aircraft visualization
- Reduce staff training time and cost by providing a low-cost virtual alternative to "real-world training"

Project Scope

The QUT Capstone Team T002 will develop a prototype of an AR Briefing Tool. The main functionalities to be developed include:

- Model Interactions – Which includes Move, Rotate, Zoom (Scale), Pull Apart Individual Parts
- Cross Section View
- Collaboration Features

A Proof-of-Concept (POC) will be developed to assess:

- The feasibility of developing the AR Briefing Tool (Feasibility Assessment)
- Its capability to support intended business operations (Functionality Assessment)
- The value it provides to its end-users (User Value Assessment)

Based on these assessments, the project will determine the effectiveness of the AR Briefing Tool and outline considerations for its future development (Future Development Recommendations).

Project Artefacts

The following outlines all deliverables in this project.

1.0 AR Briefing Tool Prototype

- **1.1** Conceptualisation Design
  - **1.1.1** Storyboards
  - **1.1.2** Medium Fidelity Mock-Ups
  - **1.1.3** High Fidelity Mock-Ups
- **1.2** Prototype Deliverables
  - **1.2.1** Base-Level, Enhanced and Stretch Deliverables [refer to Figure 1 in Appendix]
- **1.3** Technical Guide
  - **1.3.1** Prerequisites and Technical Requirements
  - **1.3.2** Unity Environment Set Up Guide
  - **1.3.3** Unity Development Guide
  - **1.3.4** 3D Model File Access
  - **1.3.5** Code Access

2.0 Proof-of-Concept (POC) Documentation

- **2.1** Development Feasibility Assessment
- **2.2** Functionality Alignment Assessment
- **2.3** User Value Assessment
- **2.4** Future Development Recommendations

Artefact Handover

Artefact ID	Artefact Name	Handover Type
1.1.1	Storyboards	PDF / .jpg
1.1.2	Medium Fidelity Mock-Ups	PDF / .jpg
1.1.3	High Fidelity Mock-Ups	PDF / .jpg
1.2.1	Base-Level, Enhanced and Stretch Deliverables	Unity File / zip folder / Github
1.3.1	Prerequisites and Technical Requirements	PDF / .txt (README) / Markdown
1.3.2	Unity Environment Set Up Guide	PDF / .txt (README) / Markdown
1.3.3	Unity Development Guide	PDF / .txt (README) / Markdown
1.3.4	3D Model File Access	Zip folder
1.3.5	Code Access	Unity File / Git / zip Folder
2.1	Development Feasibility Assessment	PDF
2.2	Functionality Alignment Assessment	PDF
2.3	User Value Assessment	PDF
2.4	Future Development Recommendations	PDF

Table 1

Additional Artefact Handover Notes

1. A PDF Document titled “AR Briefing Tool Development” will include the details of both the conceptualisation (all items listed under 1.1) and technical guide (items 1.3.1, 1.3.2 and 1.3.3)
2. Note that the *Prototype Deliverables* (1.2) involves the actual development of the AR Briefing Tool prototype
3. A PDF Document titled “AR Briefing Tool POC” will include the details of all items listed under 2.0

Artefact Handover Details

Handover Procedure

Procedures for the handover are as follows:

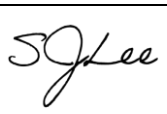
- The ownership of the team’s Github Repository “mr-aircraft-tool” will be transferred to the project owners through Github’s *Transfer Ownership*
- The finished product will be built into the headsets through Unity’s “Build and Run” setting. The built application will be stored in the headsets when they are handed back to the project owners.
- All files listed in *Table 1* including the raw Unity file will be stored in a zip file. This will be stored in the Github Repository which is then handed over to the project owners

Handover Date

The team agrees that all project artefacts listed in this document must be handed over to our Capstone Industry Partners **18 October 2024 (Friday) by 11:59pm.**

Artefact Agreement Signature

By signing, the Capstone Industry Partners agrees to all the project artefacts listed in this document, which includes their handover procedures and handover date.

Name	Signature (Initials)	Date of Signature
Sung-Jun Lee		9 October 2024
Chris Schuster		9 October 2024

Appendix

Requirement			Priority (MoSCoW)	Artefact Agreement
Feature	**REQ ID**	**Requirement**	**Business Priority**	**Deliverable Type**
App Models	9	View Added Model	Must	Base Level
	12	Add Models To Application	Must	Base Level
	16	Import Models	Won't	-
	19	Store Models	Won't	-
Switch Models	29	Switch Between Models	Should	Base Level
	31	Show A List Of Models	Should	Base Level
	8	Delete Models	Won't	-
	28	Edit Model Details	Won't	-
Interactions	5	Zoom In & Out of Model	Must	Base Level
	15	Rotate Model	Must	Base Level
	20	Move Model	Must	Base Level
	22	Pointer	Should	Enhanced
	24	Pull Apart Individual Parts	Should	Stretch
	32	Toggle Various Features	Should	Enhanced
	21	Maintenance Manuals	Could	Enhanced
Passthrough	17	View Model In Mixed Reality	Must	Base Level
	30	Model Has Collision With Environmen	Should	Enhanced
	27	Model Has Depth With Environment	Could	Enhanced
Collaboration	7	Join Session	Must	Enhanced
	23	Synchronised Model Position	Must	Stretch
	26	Synchronised Model Interactions	Must	Enhanced
	18	Invite To Session	Won't	-
Cross-Sections	3	Move Cross Section	Should	Enhanced
	10	Single Cross Section	Should	Stretch
	2	Different Axis Cross Sections	Could	Stretch
	11	Multiple Cross Sections	Could	Stretch
Exploded View	13	Explode Model	Could	Stretch
	4	Explode Specific Parts	Won't	-
Refined Parts	1	Associate Refined Part With a Model	Could	Stretch
	6	Switch Between Refined Parts	Could	Stretch
	14	Edit Refined Part	Won't	-
	25	Delete Refined Part	Won't	-

Figure 1 (Note – Grades for each Deliverable Type are: Base Level = 4 | Enhanced = 5 | Stretch = 6+)