

SSAPP01 3D Garment Visualisation Specialist

Disclaimer

These Occupational Frameworks and Skill Profiles have been developed as workforce planning, occupational mapping and skills reference resources for the Australian textile, clothing and footwear (TCF) industry. They are intended to describe the typical functions, responsibilities, skills and capabilities associated with occupations across the industry.

These documents are not intended to replace or override industrial instruments or employment arrangements, including awards, enterprise agreements, employment contracts, position descriptions, classification structures, licensing or regulatory requirements, or other statutory obligations. Where differences arise, the relevant industrial, legislative or regulatory requirements take precedence. The Skill Profiles should be used as complementary reference documents to support workforce planning, career development, training and skills recognition.

1. Job role

TCF sub-sector	Apparel
Functional area	Product Design and Development
Job role	SSAPP01 3D Garment Visualisation Specialist
Job role description	The 3D Garment Visualisation Specialist leads the creation of technically accurate digital garment prototypes that support apparel product design, engineering and development. The role combines expertise in body measurement, anthropometry, human anatomy, body morphology, patternmaking, garment construction, textile materials and specialised 3D garment simulation software to create virtual garments that accurately represent physical products. This role bridges traditional apparel technology and digital product engineering by transforming design concepts and production patterns into realistic digital garments for design review, technical evaluation and virtual product approval. Accurate digital avatars are created using validated body measurements and anthropometric data to enable realistic garment fit assessment across a range of body shapes and sizes. The specialist analyses garment fit, balance, ease, silhouette, construction and functional performance within a virtual environment, identifying technical issues before physical sampling. Recommendations are provided to designers, patternmakers and product developers to improve fit, construction, manufacturability and product performance. Working collaboratively across product development teams, the role contributes to shorter development cycles, reduced sampling costs, improved product quality and more sustainable product development practices through effective digital product engineering.
Performance expectations	- Develop technically accurate digital garment prototypes. - Create validated digital avatars from body measurement and anthropometric data.

	• Accurately simulate fabric drape, stretch, recovery and movement. • Identify garment fit, balance and construction issues before sampling. • Support virtual design reviews and product approvals. • Maintain digital assets and product development records. • Improve product quality while reducing physical sampling and development time.
Specialisation	Digital garment simulation, avatar development, digital fit analysis, virtual sampling, digital product engineering.
Application in other TCF sectors	• Footwear product visualisation and digital prototyping. • Technical textile product simulation. • Uniform and workwear product development. • Outdoor and performance apparel design. • Digital product development across consumer goods industries.

2. Key tasks and critical work functions

Key tasks	• Interpret technical packs and design specifications. • Take, validate and apply body measurements. • Develop digital body avatars. • Import, modify and validate digital patterns. • Assign digital fabric properties based on physical material testing. • Evaluate garment fit, balance, silhouette and construction. • Assess garment functionality including movement, comfort and wearability. • Identify fit faults and recommend corrective actions. • Produce realistic digital samples, renderings and animations. • Maintain digital libraries and integrate outputs with PLM systems.
Critical work functions	• Supporting digital product engineering. • Reducing physical prototype requirements. • Improving garment fit before manufacture. • Supporting collaboration across product development teams. • Accelerating product development while maintaining technical accuracy.

3. Technical skills

3D garment design software	Develop realistic virtual garments using platforms such as CLO3D, Browzwear or similar.
Human body measurement and anthropometry	Create accurate avatars using validated measurement data.
Human anatomy and body morphology	Understand body shape and fit relationships.
Patternmaking	Interpret and modify digital garment patterns.
Garment construction	Evaluate construction methods and assembly.
Fabric behaviour	Translate physical properties into digital simulation parameters.

Digital garment fit analysis	Identify and resolve fit issues.
Functional garment evaluation	Assess movement, comfort and dressing characteristics.
Digital asset management	Maintain digital libraries and PLM integration.

4. Generic Skills

Creativity	Translate design concepts into realistic digital garments.
Attention to detail	Ensure visual and technical accuracy in simulations.
Communication	Present digital garment prototypes to development teams.
Collaboration	Work with designers, patternmakers and developers.
Problem solving	Resolve digital simulation issues.
Time management	Deliver digital prototypes within development timelines.
Creativity	Translate design concepts into realistic digital garments.
Attention to detail	Ensure visual and technical accuracy in simulations.

5. Emerging skills

Emerging skills	• Digital twin garment development. • AI-assisted garment simulation. • Digital body scanning. • Integration with automated manufacturing systems. • Advanced digital fabric physics modelling. • Virtual product approval environments.
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6. VET Qualifications and Skill Sets

Entry-level preparation	MST50122 Diploma of Apparel, Fashion and Textiles or equivalent
Advanced development	MST60122 Advanced Diploma of Apparel, Fashion and Textiles or equivalent or Degree in Apparel, Fashion, Textile Technology or Product Development and specialised training in anthropometry, patternmaking, garment fit analysis and 3D garment simulation.

7. Job progression

Possible job progression	Digital Design Assistant → 3D Garment Visualisation Specialist → Senior Digital Product Developer → Head of Digital Product Development.
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8. Classification

Australian Qualifications Framework	AQF Level 5–6.
Australian Bureau of Statistics (ABS) Skill Levels	3

Open Source Classification of Occupations for Australia (OSCA)	399434 Garment Technician.
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Skills Insight is a Jobs and Skills Council funded by the Australian Government Department of Employment and Workplace Relations.