## TSC Category
Design

## TSC
Digital and Physical Prototyping

## TSC Description
Construct design concepts, either digitally or physically, to develop deeper understanding of the designs and test their usability and functionality

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<th>TSC Proficiency Description</th>
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<td>Simulate and validate the real world performance of prototypes to measure success and assess how the prototype components interact</td>
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<td>Manage the design and creation of prototypes, ensuring compliance to tasks identified in user research and established safety requirements</td>
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<td>Establish guidelines and standards for prototyping, and initiate the design and creation of design solutions through close partnership with stakeholders</td>
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### Knowledge

- Interface design
- Concepts in user and usability testing
- Techniques for physical and/or interface prototyping
- Principles for interaction design
- Prototyping software tools

- Interface design
- Principles of user and usability testing
- Techniques for physical or interface prototyping
- Principles for interaction design
- Prototyping software tools
- Proficiency in motions and animations

- Latest developments in interface design
- Principles of user and usability testing
- Latest techniques for physical or interface prototyping
- Use of digital models for prototyping
- Trends in digital and physical prototyping
- Leading prototyping skills and tools in the industry
- Techniques to stimulate creativity
- Techniques to manage prototyping experiences, sessions, feedbacks and events
- Management of senior stakeholders and management team

### Abilities

- Develop blueprints, document specifications and technical standards of prototypes
- Develop prototypes’ visual specifications for evaluation by designers and/or developers

- Evaluate the relevance of tools and design elements needed for prototyping
- Oversee the development and production of prototypes using high-visibility and high-functionality design methods and techniques

- Drive the overall development of prototypes for design projects
- Plan tools and design elements for prototype creation, based on budget and resources available
| • Develop prototypes using required visible and functional design methods and techniques |
| • Test concepts, through review sessions with stakeholders, to gather feedback on prototypes’ usability and design |
| • Determine potential risks and odds in usage, to address safety compliance before production |
| • Facilitate review sessions to test concepts, identify design flaws and gather feedback on concepts’ usability, functionality and design |
| • Manage debugging and diagnostics on issues faced during the creation of the prototypes |
| • Provide possible risk management solutions to ensure compliance to safety standards prior to production |
| • Establish goals and standards for prototyping in close collaboration with stakeholders |
| • Lead research on trends in prototyping to introduce innovative methods to produce prototypes |