# UNIVERSITI TEKNOLOGI MARA

# ASSOCIATING CHARACTER PERSONALIZATION THROUGH SOCIAL HUMANOID DESIGN


## FATIN AMIRRAH BINTI ZAINAL ABIDIN


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# ABSTRACT

Personalization design character is commonly applied in the product design category specifically during new product development. It is highly desirable in a situation where users are not provided with a one-fits-all solution to fit their needs. The design challenge upsurge while special needs required attention in which, and personalization for disabled or special needs category users requires similar acceptance with the ordinary user. Facing the design situation, the designer's intuitive thinking made it hard to integrate the data into a design form. Especially during the architectural form of personalisation in design approaches. This research attempt to discover the most prioritized facial character element design preferences which can interact with Autism Spectrum Disorder (ASD) children. A humanoid robot is used as subject matter to analyse the character of patterns for the correlation between ASD children's behaviour and the visual design appearance. The research design applied both qualitative and quantitative approaches. Designer with experience in creating the character in animation specifically selected in the Design Protocol Analysis (DPA) method. The designer who acts as a participant undergoes design sketches of abstraction level were used to evaluate the context of design thinking. This experiment attempted to profile the design strategy during the New Product Development (NPD) process for the personalisation of social product design. To identify the ASD children's preference for the emotional character as social interaction, this research includes qualitative design methods (techniques) for data collecting in design thinking parallel with interviewing and observing designers, setting the design protocol, all data collected set to integrated design pattern between the behaviour response and the visual element during design thinking. Based on the results, characterizing the design form of the subject (humanoid robot) specifically focuses on the facial expression based on the form, colour, and emotional arrangement. All respondents agreed on the combination of colour and simplified emotion is important in the creation of the humanoid character. It is highlighted by the consistent design outputs (colour) in character building. In addition, the influence factor of intuitive design character mostly came from the reference panel given. The similarities and differences of design character are basically on the colour and the face features. In this context, associating the character for social humanoid design requires design thinking in order to achieve the form development character building to enhance the interaction between the user and the product. Therefore, this research can be concluded that the character of personalization design in humanoid robot's product category in the NPD process was successfully profiled.

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