Title of the Product/ Project

FIQH ROBOTIC MODEL



FOR ARTIFICIAL INTELLIGENT IN HUMANOIDS USED FOR THERAPY, SERVICES AND **OTHER SOCIAL ACTIVITIES: AN INTEGRATION OF ARTIFICIAL INTELLIGENCE (AI) AND** MAQASID SHARIAH





PRODUCT ID 100

ABSTRACT

INTRODUCTION

Humanoid is part of the Social Assistive Robotics (SAR) which has been designed with a comprehensive artificial intelligence system that is widely used for elderly care, rehabilitation for people with physical disabilities as well as the intervention of individuals with cognitive impairment. Nowadays, with the advance of this technology, the world is also utilizing these humanoids for social activities and services. Consequently, some controversial questions amongst religious scholars, academicians, clinicians, services and societies arise on the urgency to use humanoid robots for therapy of the intervention in the brain-impairments, elderly care, rendering general services or for social companions when the world seems to adapt that humanoid is one of those modes, which shows potential in giving better outcomes. Therefore, there is an urgency to develop the model of Figh Robotic in order to help the nation at large on the permissible of using humanoids used for social activities, services and rehabilitation. This model is designed to provide insights on the use of humanoid robots particularly discussing the measurement Humanoid Robot Interaction (HRI), Magasid Shariah Principles, Islamic Legal Maxims and the permission of using this approach in Islam. To provide this solution, fundamental research with qualitative design method using content analysis, interviews, focus group discussions and adapting the Design and Development Research (DDR) approach in developing the Figh Robotic Model as the outcome. With this solution, it is to ensure that every person has the chance to live in peace and a healthy environment and to avoid the social destruction and crime which can subsequently lead to the collapse of civilization.

Robots are normally used for industrial work, but hardly for therapy. Robots have been used to substitute human way back in the 19th century. They are beneficial to society regardless of the fields that they are being utilized. The health sector has been identified as one of the fields that benefit most as a result of using robotics. For decades, people fascinated with the technology's fiction of robots that look and act like a human (Salleh et.al, 2014).

A human like autonomous robot which is capable to adapt itself with the changing of its environment and continue to reach its goal is considered as Humanoid Robot. These characteristics differs the Android from the other kind of robots. A study done by Torta et al (2014) on a short-term and a long-term evaluation of a small socially assistive humanoid robot in a smart home environment. Eight elderly people tested an integrated smart-home robot system in five real-world scenarios. Six of the participants experienced the system in two sessions over a two-week period; the other two participants had a prolonged experience of eight sessions over a three-month period.

PRESENTATION OUTLINE



PROBLEM STATEMENT

Humanoid is part of the Social Assistive Robotics (SAR) which has been designed with a comprehensive artificial intelligence system that is widely used for elderly care, rehabilitation for people with physical disabilities as well as the intervention of individuals with cognitive impairment. Nowadays, with the advance of this technology, the world is also utilizing these humanoids for social activities and services

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Results showed that the small humanoid robot was trusted by the participants. A cross-cultural comparison showed that results were not due to the cultural background of the participants. The long-term evaluation showed that the participants might engage in an emotional relationship with the robot, but that perceived enjoyment might decrease over time.

PRODUCT BENEFIT

Given the speed with which robotics technology advances, ethical challenges such as these will continue to multiply. Thus, there is a clear need for explicit consideration of ethics and Fgih of Robotics for the usage, development and marketing. One wants to avoid as much as possible situations in which ethical problems are noticed only after the fact. One also wants to discourage the idea that ethics is a form of expertise wholly detachable from scientific, engineering, and business practice. One especially wants to avoid giving the impression that it is the responsibility of the ethicist to instruct scientists and engineers on what they may and may not do.

Ethics and Fiqh should be understood as making a constructive contribution. This guiding Fiqh Robotic Model is the guiding principles. We deliberately avoid, for now, all questions about the ethics of human treatment of robots, recognizing that those guestions will have to be addressed in a future, more comprehensive treatment of HRI ethics and Figh.

PRODUCT DESCRIPTION/ INNOVATION IN BRIEF USABILITY



This model is designed to provide insights on the use of humanoid robots particularly discussing the measurement Humanoid Robot Interaction (HRI) Magasid Shariah Principles, Islamic Legal Maxims and the permission of using this approach in Islam.

With this solution, it is to ensure that every person has the chance to live in peace and a healthy environment and to avoid the social destruction and crime which can subsequently lead to the collapse of civilization. (For the details of this model, kindly refer to the Shariah Compliant section)

Research, development and marketing for humanoid robots should heed the overall principle of respect for human persons, including respect for human autonomy, respect for human bodily and mental integrity, and the affordance of all rights and protections ordinarily assumed in human-human interactions.

This model is designed to provide insights on the use of humanoid robots particularly discussing the measurement Humanoid Robot Interaction (HRI), Magasid Shariah Principles, Islamic Legal Maxims and the permission of using this approach in Islam. With this solution, it is to ensure that every person has the chance to live in peace and a healthy environment and to avoid the social destruction and crime which can subsequently lead to the collapse of civilization

For the Humanoid Robot Interaction (HRI), from the literature review, the criteria for a robot physical therapy system are described below:

- Humanoid robot is used for repetitive physical exercise
- 2. The scenario is one-to-one, and the robot and child faces one another during the interaction
 - The robot conducted the exercise system and provided real time feedback
 - The human-robot interaction was measured based on participant responses to the robot

PROJECT SIGNIFICANCE

Based on our 5 years study on humanoid and brain impairment with the NRGS of RM5 Millions (2013-2018), and with the advancement of robotics and artificial intelligence, we move on (2018-2020) to study on the social companion robots which has started to take shape: these human or animal shaped, smaller or bigger mechanic creatures can carry out different tasks and have interactions with humans and their environment.

In the future, they might become every parent's little helper in the kitchen, might support the guard dog in keeping the house safe, might teach the children and be their companion and support the elderly from reminding to take their medication until keeping them company when they feel lonely.

Due to the problem, there is an urgency to develop the model of Figh Robotic in order to help the nation at large on the permissible of using humanoids used for social activities, services and rehabilitation. This model is designed to provide insights on the use of humanoid robots particularly discussing the measurement Humanoid Robot Interaction (HRI), Magasid Shariah Principles, Islamic Legal Maxims and the permission of using this approach in Islam.

> Provision of new theories of embodied spirituality related to HUMANOID ROBOTS based on the Islamic Legal Maxims and the **Objectives of Syari'ah (Magasid Shar'iah)**



SHARIAH COMPLIANCE



All studies did not include physical contact between the child and the robot.

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Maqasid Shariah, Islamic Principles on humanoid for therapy and social	Maqasid Shariah refers to the objectives of shariah to protect the welfare to mankind. There are five elements consist of the preservation of religion, life, progeny, intellect and wealth. Treating individuals with cognitive impairment by using humanoids can be done as the preservation of both progeny and intellect is related to the healthcare as well. Therefore, treating a patient through medication and therapy is accepted in Shariah and its Objectives (Fatahiyah & Hanapiah, 2017). Indeed, Objectives of Shariah enables a better appreciation of Islam as well as a comprehensive appreciation	In order to preserve the five basic intents, it should be done in following the Islamic Principles. The statement of " The Ends Justify The Means" is not been practised in Muslim Community. In Islamic perspective, we should use the correct way to achieve the correct objectives or achievements by adhering to the Islamic Principles. In the medical and health care aspect, there are seven major principles to be followed: In line with the teachings of Islam; The treatment should be based on the Islamic Legal Maxims; Focus on the prevention and cure (al-wiqayah); Avoid doing destructions (sad al-zarai'): Believe in the power of Allah to cure	these maxims are taken from the al-Quran and Sunnan. Islamic scholars compiled and developed it into a simple format which can be applied to various cases that come under the common rulings (Mohamad Akram, 2006). These principles are usually used by many Islamic scholars who treat them as a branch of the Shariah objectives (Mohammad Hashim, 2009). Islamic Legal Maxims are the guided rules and regulations to be fulfilled in order to measure the significant of implementing some actions. The rules are Matters shall be judged by their objectives; Certainty shall not be removed by doubt; Hardship shall bring alleviation (al- Masyaqqah	accommodated the incorporation of permanent features to adapt these changes. Maslahah, considering its benefits, are aimed to shape the human needs, hence is such a tool which allows creativity, dynamism and flexibility in terms of social policies (Al-Mubarak and Osmani, 2010). The levels of Maslahah which explains on the category of how to take care the five basic intents of Objectives of Shariah, consists of (1) Urgency (ad- dharuriyyat): guaranteeing their 'vital needs, (2) Necessity (al-hajiyat): catering for their requirements, (3) Additional Facilities or luxuries (at- tabsinivyat): allowing for 'betterment' enhancement or improvement	2 Spiritual aspect in instilling Island and the impacts on brain impairs of healthcare provision programs of HUMANOID ROBOT NOODE CONTRUMENTION NOODE CONTRUMENTION Spiritual aspect in instilling Island and the impacts on brain impairs of the impacts on brain impairs of the impacts on brain impairs of the impact of the impairment of the impact of t
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COLLABORATION & COMMERCIALIZATION & CONTRIBUTION					use of social robots and, more pre Committee of the National Council for On the other hand, in developing th
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> Ethics and theological implications of HUMANOID ROBOT to be used as social companion or rendering services in other social activities

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which has been specially designed as a main reference on the in humanoids used for social activities, services & Intervention Of nent.

oretically analyses the main insights of Islamic perspective on the precisely producing a new module to be submitted to the Fatwa cil for Islamic Affairs.

this model, we also refer to the Humanoid Robot Interaction (HRI) to represent each field of expertise.

- and the Objectives of Syari'ah (Maqasid Shar'iah)
- Spiritual aspect in instilling Islamic values and the impacts on brain impaired patient for healthcare provision programmed in the HUMANOID ROBOT
- Ethics and theological implications of HUMANOID ROBOT to be used as social companion or rendering services in other social activities

