



اُونِيُوَرَسِيْتِي تِيكْنُوْلُوْجِي مَارَا  
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**MEC 332 MECHANICAL ENGINEERING DESIGN**

**FINAL YEAR PROJECT**

**PROJECT: AIO TRI-WHEELY**

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## **ABSTRACT**

Our product, the AIO Tri-Wheely machine as the name implies the function is to help people with disable legs to move from one location to another location easily. It offers an array of benefits over the original wheelchair. After some research, We have encountered the major problem that most handicapped people face today is they find it hard to use their wheelchair because it is not easy enough for them to get on it and to move wherever they want, anytime they want. Based on this, we would say that this problem is worrying because as it become increasing day by day and no sign of action taken to overcome this problem. A part of that, day by day, the amount of handicapped people increase and the amount of people who use wheelchair also increase. As it increasing, the demand for usage of wheelchair also increase. In this case, we really want to help them by inventing a more advance wheelchair so that the production of wheelchair is not limited and we also want produce a product which really are affordable for all kind of people. From the problem statements and the objectives stated, we have come up with a simple mechanism and easy to be operated product. Only a simple push towards the lever needed just to move the wheelchair. This wheelchair is using full mechanical support and there are no motors and electrical supply used to move this wheelchair. Moreover, we are using a really comfortable chair so that the user will not hurt their back while using this machine because we really want people who used our product to enjoy the moment and fully used our product to ease their routine life. For our wheelchair, we really want to make this project portable and do not depends on other source to make it move. So, in that case, we put sprocket and lever which will be connected by a bicycle chain. By pushing the lever, bicycle chain will rotate the sprocket which will rotate the shaft. Hence, the shaft will rotate the both tyres. This features really make our product affordable because we do not use electrical source which will cost us a little high value of money. So, in that case, we succeed to achieve our objective which to produce an affordable product. Moreover, this product is recommendable for those who are not rich and not afford to buy an automatic wheelchair. But, with its lower price, we still can move easily more likely like the automatic wheelchair. For people who wants to buy a wheelchair, AIO Tri-Wheely is a perfect partner for them as this machine will surprise you.