An Automated Calculation System for Long-Range Marksman in Sri Lanka

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Abstract. A sniper is a highly trained soldier who specializes in shooting targets from a long distance with modified firearms. The primary duty of a sniper on the battlefield is reconnaissance. Military snipers use lethal shots that kill without warning to weaken the enemy's will and ability to fight. Then, snipers must get the correct target every time in a short period of time. The taken target depends on facts like gravity, wind speed, spindrift, and temperature. Also, to get the target snipers must calculate the minute of angle, MRAD measurement, inches, scope click adjustment, and distance using the above-mentioned facts. There are automated systems exist in the world to perform these calculations. But in Sri Lanka, snipers do these calculations manually and it is quite a complex task because wind speed, temperature, and distance can be changed from time to time. Due to that reason, snipers take some time to get the target on the battlefield or in training and sometimes miss the target.

Strategies for gathering requirements and analyzing data, such as surveys, interviews, and literature studies, clearly convey ideas about existing systems, methods and techniques used. According to the gathered and analyzed data, the best solution for the problem is to develop a mobile application to measure the distance and perform the calculations. The paper describes the mechanisms of automatic calculation systems to improve the performance of snipers. The calculation mechanism allows snipers to get the right information to take the right aim. The purpose of this paper is to provide a concept to develop an automated calculation system for Long-range Marksman in Sri Lanka using image processing.

Keywords *– Calculation system, Wind speed, Distance, Automated system*