

Developing a Mobile Application for Safety Engineers for Detailed Hazard Analysis

Fay AlDallal, Nojoud AlMutairi, Mastourah AlRasheedi, Munerah AlShadad, Sarah AlShadad, and Suat Kasap

Industrial Engineering Department
College of Engineering and Technology
American University of the Middle East, Kuwait
suat.kasap@aum.edu.kw

Abstract

A hazard is any source of potential damage, harm or adverse health effects on something or someone. Hazards have big impact on individuals and the community, where hazards are the main reason behind accidents and safety problems. Hazards have a high probability of happening in workplaces. Subsequently, hazard analysis techniques are methods that reduce or monitor hazards in our daily life and workplaces. Workplace environment have different types of hazard such as ergonomic, physical, biological, chemical, and others. Hazard analysis requires a process of observation, data collection and writing a report to identify and analyze hazards. The occupational hazards can be reduced through using detailed hazard analysis techniques such as Failure Mode and Effects of Analysis (FMEA), Hazard and Operability Review (HAZOP), and Risk Assessment. Since hazard analysis requires statistical data collection and writing report while safety engineers is observing the hazards, a tool such as a mobile application will reduce the time and the paper work by converting safety engineers' observation to a report immediately. Therefore, it is important to develop mobile application that will help safety engineers to assess detailed hazard analysis in a quick and systematic way. In this project, we are developing mobile application for hazard analysis for safety engineers, which will be considered as a tool ready to use during risk assessment.

Keywords

Mobile application, hazard analysis, safety engineering, hazards, risk assessment

Biographies

Fay AlDallal holds a degree in Bachelor of Science in Industrial Engineering in American University of the Middle East-AUM.

Nojoud AlMutairi holds a degree in Bachelor of Science in Industrial Engineering in American University of the Middle East-AUM.

Mastourah AlRasheedi holds a degree in Bachelor of Science in Industrial Engineering in American University of the Middle East-AUM.

Munerah AlShadad holds a degree in Bachelor of Science in Industrial Engineering in American University of the Middle East-AUM.

Sarah AlShadad holds a degree in Bachelor of Science in Industrial Engineering in American University of the Middle East-AUM.

Suat Kasap has degrees in electrical-electronics engineering and industrial engineering. He received his Ph.D. in Industrial Engineering from the University of Oklahoma. His research interests are in human factors and ergonomics, occupational safety and health, work and process analysis, technology and innovation management, multi-criteria decision making, financial engineering, data mining, and modeling, analysis, and optimization of complex engineering problems. He worked in different Industrial Engineering Departments of the American University of Middle East, University of Turkish Aeronautics Association, Hacettepe University, and Çankaya University as an assistant

professor. He has taught courses on Work Analysis and Design, Ergonomic Work Analysis, Cognitive Ergonomics Work Analysis, Safety Engineering, Technology and Innovation Management, Management of Information Systems, Introduction to Optimization and Modeling, Deterministic Models of Operation Research, Project Management, Multi-criteria Decision Making.