Abstract

Today gaming is an inherent part of the lives of all people and the focus has shifted from fixed display gaming to Mixed Reality, leaving a gaping hole for secure software engineering approaches addressing both technical and human factors; along with the limitations of the current practices which shadow the outlook of the overall gaming experience. In this paper, we...
propose solutions to overcome the drawbacks of currently implemented software solutions for
development of Mixed Gaming Systems. As stated above, in the absence of secure software
engineering approaches addressing both technical and human factors, the proposed solution
needs to give equal priority to developers as well as users to overcome the setbacks. By using
software engineering principles, methodologies as well as a new architecture, the features /
focal point of Mixed Reality can be created for new and enhanced games with better user
functionality, a smoother and robust development process. To lay the foundation for the
development of newer games created for a better, more holistic and realistic game experience,
the Software engineering principles need to be incorporated on all levels, ranging from abstract
standards to operational development, to integration of user centered design activities. To
achieve the desired result, implementation of the agile methodology for the software
development life cycle is a proposed solution with emphasis on the creation of architecture
MVCE (Model – View – Controller – Environment). The MVCE Architecture encompasses the
common MVC (Model – View – Controller) pattern with an additional component named
Environment to address the specific requirement of mixed reality interfaces.

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Index Terms

Computer Science
Software Engineering
Using Re-Usable, Secure Software Engineering Principles for Designing user Focused Mixed Reality Systems

**Key words**

Augmented and Mixed Reality  
Agile Development

User Centered Design

Prototyping

Adaptive

Usability Engineering

Software Engineering

Development Processes