

PAEWEB

Introduction

The WEB-EAP (Web Emergency Action Plan – PAE-WEB in Portuguese) is a system which goal is to monitor the various state variables (such as instruments readings, visual inspections, among others) regarding dams state of operation. Its intent is not only to provide valuable information regarding the dam operational state, but also to support users during emergency events. The way the WEB-EAP achieve these goals is by both its user interface and the expert models that run underneath this interface:

User interface (UI):

- Provides a rich chat-like interface with features such as picture/audio/video/location attachment that the users can interact during events.

Expert models:

- A fuzzy inference system automatically detects any state variable that might be off its fuzzy limits and interacts with users through the UI by suggesting possible changes in the dam operational state signal (Leone-Filho, et al.);
- A rule-based system with a semantic analyzer detects possible occurrences of words in the chats that might be related to actions of the Emergency Action Plan - EAP (a written document that establishes how to react during events) that need to be carried out to mitigate the associated risks, and interacts with users through the UI;

Potential

The WEB-EAP is a system that might be used under the following scopes:

- Monitor dams during crisis events;
- Help users to interact during crisis events, speeding up the communication process;
- Monitor any sort of process which state variables are uncertain.



Figure 1 - the WEB-EAP front-end.

Reference

LEONE-FILHO, M.; BALBI, D. A. F.; TOSCANO, A. E.; BARBOSA, P. S. F.; SALGADO, R. M.; VIANNA, L. F. V.; BARRETO, M. N. EXPERT SYSTEM FOR DAM ASSESSMENT AND EMERGENCY DETECTION. In: 6th International Conference on Flood Management - ICFM6, 2014, São Paulo, SP. Proceeding of the 6th International Conference on Flood Management - ICFM6, 2014.