



High-school software development project helps increasing students' awareness of geo-hydrological hazards and their risks

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In Italy, inundation and landslides are widespread phenomena that impact the population and cause significant economic damage to private and public properties. The perception of the risk posed by these natural geo-hydrological hazards varies geographically and in time. The variation in the perception of the risks has negative consequences on risk management, and limits the adoption of effective risk reduction strategies. We maintain that targeted education can foster the understanding of geo-hydrological hazards, improving their perception and the awareness of the associated risk. Collaboration of a research center experienced in geo-hydrological hazards and risks (CNR IRPI, Perugia) and a high school (ITIS Alessandro Volta, Perugia) has resulted in the design and execution of a project aimed at improving the perception of geo-hydrological risks in high school students and teachers through software development. In the two-year project, students, high school teachers and research scientists have jointly developed software broadly related to landslide and flood hazards. User requirements and system specifications were decided to facilitate the distribution and use of the software among students and their peers. This allowed a wider distribution of the project results. We discuss two prototype software developed by the high school students, including an application of augmented reality for improved dissemination of information of landslides and floods with human consequences in Italy, and a crowd science application to allow students (and others, including their families and friends) to collect information on landslide and flood occurrence exploiting modern mobile devices. This information can prove important e.g., for the validation of landslide forecasting models.