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Staudamm – development of a serious game on reservoir management

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Serious games can be useful to teach students (and the general public) about real-world challenges. Here we present the first steps towards the development of the online game 'Staudamm'. In this game, each player operates a multi-objective water reservoir. The goal is to optimize the balance between flood protection, electricity production, and irrigation-water supply. For flood protection, an almost empty reservoir would be optimal, whereas for the other two objectives a fully filled reservoir is preferable for at least some time during the year. While there are predictable seasonal patterns in the inflows to the reservoir, achieving the balance between the different objectives is difficult, as one never knows exactly how much water will enter the reservoir and when this will occur. The game teaches students about these challenges as well as how to use probabilistic forecasts. In this poster, we present the basic game design and ask for suggestions for improvements and extensions of the game.