

JBox2D is a game engine simulating the physics of solid objects and liquids in a 2D space. This project provides a JBox2D library extension that allows for fracturing of objects after their collision. The presented algorithm prioritizes its smooth running in real time, low processing power requirements and a natural flow of the fracturing processes. The algorithm also provides a possibility to define the materials of the objects to be fractured and set their properties, which in turn determine the outcome of the simulation process of fracturing these objects. A simple programming interface based on the logic of the library is provided. In order to demonstrate the usability of the solution, the project also contains a simple framework with test scenarios simulating fracturing of objects. This project provides new possibilities for developing 2D games for mobile devices and personal computers.