

## ABSTRACT

Motivation is one of the important things in learning programming. Intrinsic motivation is a motivation arising from pleasure or challenge, without expecting to get any reward. To increase the intrinsic motivation in the learning process, gamification technique can be used. Gamification is a technique of inserting game-elements into an activity that is not a game. The methods of applying gamification in learning have been proven to increase intrinsic motivation. But there is still limited gamification, the application of one-size-fits-all in the application of learning contents.

It is necessary to have an adaptive system that can adjust the needs of the student, so that the material presented to the students can be in accordance with the ability of the students and in accordance with the needs desired by the students themselves. Adaptive navigation support can be implemented to support this. Implementation techniques such as direct guidance, link hiding, link annotation and link generation are methods and techniques of adaptive navigation supports. From the experiments that have been done by adopting the technique of adaptive navigation support into a learning gamification, it has been proven to increase intrinsic motivation from students, and the learning process that occurs looks varied according to the needs of the students themselves. The use of badge system, timing and leaderboard ranking, which is part of game-element, is still proven to increase intrinsic motivation of student in learning.

**Keywords:** intrinsic motivation, gamification, adaptive navigation support, learning application