Primitive learning method is not effectively applicable as it would result a stress condition if the process of learning is not enjoyable. There must be a tool which can deliver the message of knowledge in more fun and interesting way. Math is basic of all knowledge, math is important. Maze is a puzzle which is basically good to train the logical thinking. Facebook is a well known social networking website which has become a popular game platform. Therefore, social educational web based casual game in Facebook about math and maze is becoming the objective for solving the problem of learning with fun.

Empiricism is chosen as the theoretical framework for generating the solution. Inside that methodology, game development life cycle is attached in the process of design, implementation, and testing the system.

Mathze is a social educational web based casual game which is implemented as Facebook Application. Mathze has elements of math as the core of the game and maze as the game environment. Mathze is proven fulfilling Math, Maze, Social, Web based, and Casual game components from the result of beta testing which is conducted after the game is deployed on Facebook.

In short, the scope of this thesis research project which is generated from the problems that are analyzed, has been covered by Mathze. Therefore, Mathze may become a fun learning tool which offers lesson about math and provides puzzle environment to improve logical thinking.

**Key words**

Social game, Education game, Web based game, Casual game, Math, Maze, Facebook, PHP, Flash, MySQL, AsUnit, Deployment, Beta testing.