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ペトロナス
工科大学

Nurul Insyirah MUHAMMAD AMIRUL CHANG,
Nuraina Fathinie FAHRURRAZI,
Ahmad Izuddin ZAINAL ABIDIN（教員）

1. Introduction

Our software is designed to fill up puzzle pieces of irregular shape onto a designated frame. The software aims to find a solution with the most efficient way to solve the puzzle within an acceptable time limit. In matching each piece, we analyze the shape and use a method to detect corners with each piece is being approximated with a polygon.

2. Software Details

2.1 Technical Specification

Our solution uses Python that is lightweight, yet it efficiently supports multithreading features. The version of Python that is used is Python 3.5.2. The IDE that we used is NetBeans IDE 8.1 that is also used for editing purposes.

2.2 Requirement

For functional requirements, whenever a set of inputs (*e.g.* puzzle pieces) are received, our solution will arrange the pieces so that they will fit into the designated frame. The non-functional requirements would prevent any invalid input based on the pre-defined conditions to ensure no runtime error occurs.

2.3 Performance goals

In our implementation, we aim to minimize the processing time by applying multithreading, allowing a task to be divided into smaller tasks. Our software is expected to complete the puzzle at minimum possible time.