Project Five: Texture Packing

Date: 2020-05-02

# Chapter 1: Introduction

### Problem Description

Texture Packing is a strip-packing problem and is a common topic explored in the area of Approximation Algorithms. Unlike the *Bin Packing problem*, two dimensions (width and height) instead of one are taken into calculation.

Given a set of rectangles with dimensions width and height where , we are expected to pack them into a larger shape with pre-specified dimensions width and a minimum height . We want to pack as many rectangles as possible into the larger one, but with the objective of minimizing the height and maximizing the total area. This can be accomplished in polynomial time, with the use of approximation algorithms.

### Input and Output Specification

* Input
* Output

# Chapter 2: Algorithm Specification

* 1. Data Structures
  2. Algorithm Specifications

# Chapter 3: Testing Results

* 1. Test Cases
  2. Correctness Testing
  3. Performance Testing

# Chapter 4: Analysis and Comments

* 1. Time Complexity
  2. Space Complexity
  3. Approximation Scheme

# Conclusion

# Appendix: Source Code

# Declaration

*We hereby declare that all the work done in this project titled “Project Five: Texture Packing” is of our independent effort as a group.*

# Duty Assignments

**Programmer:**

**Tester:**

**Report Writer:**