Friends of the Sea

# Design Document

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Section 1: Introduction

# 1.1: Foreword

Conquer the Seas is the first game being developed by the in-house software team LIFDOFF for the McGill University Software Engineering Project course.

# 1.2: This Document

The purpose of this document is to describe the software design of the Conquer the Seas game and to explain how and why these designs were chosen. This document will detail the design, specifications, programming management, and test cases and testing procedures of the game. **Section 2** will start with the architectural considerations, then move to design considerations, and finally go in-depth into describing the high-level design of the game. This includes the discussion of the design pattern, the final domain model, and the final deployment diagram. **Section 3** will detail the actual software organization, including a view of the subsystems in both text and drawing. This will contain a detailed breakdown of one specific subsystem, with UML class diagrams and a list and explanation of class variables for this subsystem. There will also be a critical section which contains algorithm selection, critical code snippets, a state chart, and calling sequence diagram. **Section 4** discusses programming management by outlining the directory structure and programming tools, software building method, coding agreement, mitigation procedures, installation procedures, and training guidelines. **Section 5** will describe the test cases and testing procedures used for this project. This includes a description of test-driven development, functional test cases, the error logger, and how we built classes for auto-testing. **Section 6** is the appendix, which contains definitions and other useful information.

# 1.3: The Audience

This document can be read from several different perspectives. It assumes a rudimentary knowledge of computer games and ideally some experience in software development. Regardless, the types of readers and which sections apply most importantly to them are as follows:

## 1.3.1: Game players

For the reader whose main focus is playing the game,