Notes: This document will need to be downloaded and saved to github regularly.

* How often?
* Who will be responsible?

# Introduction

## Purpose

Independent developers [startup name] have displayed a viable game development concept as part of an international contest. As part of a government initiative to support growth of the game industry in [this region], an award of local and national government funding has been granted to [startup name] as a startup fund. Prompted by the need to develop a quality product under a limited budget and with the New Zealand Public as significant stakeholders; this study was commissioned to recommend the best software development approach. The report covers an explanation of several suitable approaches, their advantages, disadvantages, risks and benefits; and recommends a particular approach as the most suitable for this product.

The report as-delivered also includes a Practice Guide, as well as Tool Guides and a Learning Package. These additional artifacts are provided to enable the [startup name] to put the recommended approach into practice.

## Product Context

### Scope

[game name] is projected as primarily a PC (Windows) game, although other platforms such as linux, iOS and Android are also considered. The project lifecycle has been initially scoped for two years to market release and the workforce is anticipated to grow from a current team of four into a team of 45 - 50 people. This indicates a highly dynamic and fluid environment, requiring robust change management and communication.

The game concept, though juvenile, is already formed and has been accepted as the premise for government funding. Development is expected to adhere to this concept as far as reasonably practicable and any approach which risks deviation or scope-creep must include processes to mitigate these phenomena.

### Stakeholders

[startup name] will be accountable to the New Zealand public and must be able to show positive progress throughout development. It is expected that proof of progress will need to be provided at regular intervals. As of the writing of this report, New Zealand Government has not issued any regulations for game development, other than publication classification requirements (New Zealand Legislation, n.d.).

* Criticality
* Linear or sandboxed

## Agile vs Plan-driven Development

There are considered to be two main philosophies which drive software development - ‘traditional,’ plan-based development and agile development (Boehm & Turner, 2009). Both ideologies have their merits and drawbacks, described by Boehm and Turner as the difference between discipline and rigour of process and project adaptability respectively. Any software development project must assess the suitability for either of these main concepts and determine if one, the other or a mixture of both are required.

Plan-driven development evolved out of environments such as aerospace and commercial industries where a focus on documentation and processes and a change-averse environment are valued (Boehm & Turner, 2009). The advantage of this philosophy is an holistic plan for and view of a complete project and its expected outcomes - plan-driven development is predictable and can be bound by regulations and industry standards.

Comparatively, the agile philosophy eschews an upfront plan and makes smaller, feature-based, working modules of a product which is ultimately developed over several iterations (Meyer, 2014). Agile development environments are change-aware and are inherently more adaptable to evolving requirements and shifting goalposts.

In the case of [this study], an agile approach is favoured for the following reasons:

* Game development is not regulated,
* Dynamic development environment,
* Product criticality is low,
* No legacy code replacement/integration, and
* Product is not likely to require integration with external/custom systems

However, the projected size of the development team is not considered optimal for a fully agile approach. Boehm and Turner (2009) describe several scenarios where teams of 50 - 150, although successful, were not easily managed. It is for this reason the study does not completely rule out aspects of plan-driven development which may be beneficial in this case.

# Agile Development Approaches

This section outlines a collection of suitable development approaches, each drawing on the Agile philosophies of [insert philosophies with references].

## Crystal

### [Sez researching Crystal]

### “The Crystal Clear method covers smaller projects; Crystal Orange was the first to be developed and addresses larger projects.” (Meyer, 2014, p141)

### 

### Crystal Orange is for “up to 40 people, sitting in one building, working on a system that might cause loss of discretionary monies

### **seven principles**

### Practices and Requirements

### Advantages and Payoff

### Disadvantages and Risk

### Suitability

# Recommended Practice

According to Boehm and Turner (2009), “Analyzing the project risks is an effective way to help managers and practicioners determine the right weight of process.”

and

“Asking ‘*Is it riskier for me to apply (more of) this process component or to refrain from applying it?*’ and honestly evaluating the answer can lead to the definition of reasonable, practical and effective hybrids that balance discipline and agility.”

# Practice Guide

## Communication and Collaboration

## Requirements Engineering

## Planning and Tracking

## Change Management

## Quality Assurance

# Tool Guide

## Communication and Collaboration

## Requirements Engineering

## Planning and Tracking

## Change Management

## Quality Assurance

# Learning Package

## Goals

## Target Audience

## Plan

## Required Resources

## Activity

# Executive Summary

# Retrospectives

## Team Retrospective

## Individual Retrospective

### Gabby

### Sarah

### Wayne

# Bibliography

Boehm, B. & Turner, R. (2009). Balancing agility and discipline. Addison-Wesley.

Meyer, B. (2014). Agile!. Zurich, Switzerland: Springer.

New Zealand Legislation. (n.d.) Retreived from http://www.legislation.govt.nz/