Software Requirements Specification
For
Cow Panic!

Instructor:	Marcello Balduccini
Team Members:	Jake Carfagno Hugo Armella Drew Graham Daniel Sipes Joshua Karmel Jonah Musto
Cycle:	1
Date Submitted:	April 6, 2016

Grading Rubric - Requirements Specification
This rubric outlines the grading criteria for this document. Note that the criteria represent a plan for grading. Change is possible, especially given the dynamic nature of this course. Any change will be applied consistently for the entire class.

Achievement	Minimal	Exemplary	Pts	Score
Content (80)	Section(s) missing, not useful, inconsistent, or wrong.	Provides all relevant information correctly and with appropriate detail		

Introduction
      Scope
      Definitions
			10	

User Profile			20	
Functional Requirements			30	
Performance & Design Requirements			10	
Data Requirements			10	
Writing (20)				
Grammar and	Many serious	Grammar, punctuation,	10	

Spelling	mistakes in grammar or spelling	and spelling all correct		
Expression	Hard to follow or poor word choices	Clear and concise. A pleasure to read	5	
Tone	Tone not appropriate for technical writing	Tone is consistently professional		
Organization	Information difficult to locate	All information is easy to find and important points stand out	5	
Layout	Layout is inconsistent, visually distracting, or hinders use	Layout is attractive, consistent, and helps guide the reader		
Late Submission			-10 -25	
Total			100	

1 1 Introduction

This section provides an overview of *Cow Panic!*. Scope provides a short description of the product and how it is useful; Definitions explains terms with which a reader may not be familiar; and User Profile identifies the ways different groups of people would make use of *Cow Panic!.*

1.1 1.1 Scope

Cow Panic! is currently a *PC game with plans for an Android version in the future* ~~Android-exclusive mobile game~~ in which the player controls a UFO abducting cows as they move across the screen. The game features ~~two game modes: Campaign and~~ *one game mode: Endless.* ~~In the Campaign, the player progresses through increasingly difficult levels and may upgrade the UFO between levels using a points system integrated into the player's performance during a level;~~ in Endless mode, the player must simply abduct cows until a certain amount have escaped. The primary purpose of *Cow Panic!* is to provide players with a casual way to obviate boredom while waiting, such as for food at a restaurant or for a friend to arrive at a meeting spot.

1.2 1.2 Definitions, Acronyms, and Abbreviations

FPS – frames per second; the amount of times in a second that a display screen refreshes
HUD – Heads-up display; the overlay on which all information for the player is displayed in-game

GUI – Graphical user-interface; the visuals through which the user interacts with the program, such as buttons and tooltips

1.3   1.3   User Profile

The two main audiences for *Cow Panic!* will be casual and hardcore audiences.
The casual audience is likely to make up the majority of Cow Panic's player base. This audience will play the game to fill in gaps in their daily schedule, not looking to invest their time in anything large-scale or long-term. The game's bright and silly aesthetic will attract the audience, and the game's mechanics will be simple enough for them to easily learn the game's rules and start playing. The Endless mode will be the most appealing to the casual audience because it will best fit into times in which the casual audience has time to kill: players will be able to launch Endless mode with the press of a single button in the title screen, and the game will last until the player is unable to keep up with the increasing difficulty or until the player must quit the game to continue his or her day. Automatic saving of the player's Endless progress will allow the casual player to close the game without worrying about having to start over later, so the player does not have to worry about having to restart at a slow beginning with each play session. Overall, the casual audience will prefer *Cow Panic!* to boredom but will not choose *Cow Panic!* over other activities.
The hardcore audience will not simply play the game to kill time but will actively attempt to create time in their schedule to play. ~~The hardcore audience will likely enjoy Campaign mode, which will allow the player to progress through a multitude of levels and UFO upgrades between levels. The hardcore audience will invest the time and effort into strategizing and managing upgrades to maximize efficiency. As the player progresses through the Campaign, new mechanics and upgrades will be introduced that encourage the player to continue playing by providing new challenges and opportunities.~~ The player may even play simply out of curiosity at what he or she may discover next, relying on the game's quirky delivery for an interesting spin on the game.

2   2   External Interfaces

This section identifies ways in which *Cow Panic!* interacts with people and other systems.

2.1   2.1   User Interface

Cow Panic! will utilize a minimal user interface that provides the player with a few buttons, but the player's primary method for interacting with the game will be through touch-based gestures, such as tapping and swiping.

2.2   2.2   Data Interface

There are currently no plans to use any external databases.

₃ 3   Specific Requirements

_{3.1} 3.1   Functional Requirements

The statements below define the functional requirements for the system.

touchControl - touch screen control
Allows the user to control the game using the touch screen

tutorial - tutorial
A tutorial that will teach the user how to play the game

pause - pause button
A button that allows the player to pause the game. The user will be able to leave the app, return to the app, and unpause the game, resuming play from the same place. After the user unpauses the game, there will be a 3 second delay, which will give the user a moment to prepare to jump back into the fast paced gameplay

~~*autoSave - auto save function*~~
~~*A function that will act as follows:*~~
~~*If the player closes the app while in the middle of endless mode, it will save their place so they can resume when they start the app again.*~~

modeEndless - Endless Mode
A game mode that will act as follows:
Cows will run across the bottom of the screen, and the user will control a UFO and attempt to abduct them.

menuMain - Main Menu
The main menu screen. When the app is opened, the user will be greeted with this screen, which will consist of a series of buttons (Play, Options, High Scores, etc.) which, upon pressing them, will open to another screen (usually another menu with more buttons)

menuOptions - Options Menu
The options menu, accessible from the main menu. It will consist of game settings that can be changed, such as music/sound volume, *cow puns*, etc.

ButtonPlay – Play button
The play button will replace the play menu since we only have one game mode now. It will launch endless mode when pressed.

~~***menuPlay - Play Menu***~~
~~*The play menu, accessible from the main menu. It will consist of two options: the Endless game mode and the Level game mode.*~~

~~***upgradeSystem - Upgrade System***~~
~~*System that grants the player "upgrades" to their UFO. As the player plays the Endless mode, occasionally a coin will spawn and move across the screen instead of a cow. If the player abducts this coin, they can use that coin towards purchasing an upgrade to their UFO (faster speed, faster abduction, etc.)*~~

4

3.2 **3.2 Performance Requirements**

The statements below define the performance requirements for the system.

resolution – Screen Resolution

The game must automatically detect the screen resolution of the device on which the game is played and scale the graphics accordingly to look clear on any device.

frameRate – Frame Rate

The game must run at a steady 60 FPS (frames per second). 60 FPS is a common target across games due to providing a smooth experience with reliable response to the player's actions.

loadTime – Loading Time

The game must take at most five seconds to load between each screen. Longer load times would detract from the amount of spare time the player has to play the game while waiting for something and would counter the game's purpose as a time-killer.

stability – Time Without Crashing

The game must be able to run stably, with only one crash happening every two hours of playtime at most. This requirement acknowledges that having an entirely bug-free game is impossible, particularly with such a small team working on quality assurance; however, it is imperative that the game can run with minimal frustrations for the player, as time spent dealing with crashes is time taken away from the entertainment the game is meant to provide.

3.3 **3.3 Design Constraints**

3.3.1 **3.3.1   Constraint:** ~~Cow Panic! will only be available on Android mobile devices.~~ *Cow Panic! will currently only be available on PC. Plans for an Android version are in development.*

Reason: *The game is originally being developed through Unity for PC, with plans to port it to Android mobile devices.* Android, unlike iOS, does not require specific licensing costs for development. In addition, several Android devices are at the team's disposal for testing purposes.

3.4 **3.4 Data Requirements**

Name	Type	Size	Comment
Player initials	string	3 characters	The game will have ten of these that store the initials of the top ten scoring players in Endless mode
Player scores	number		All ten of these scores will correspond to the initials of the player who achieved that score in Endless mode
Resolution width	number		The screen width in pixels of the device on which the game is being played
Resolution	number		The screen height in pixels of the device on

height			which the game is being played
Music volume	number		A number storing the volume of the game's music (0 being muted and 100 being max)
Sound volume	number		A number storing the volume of the game's sounds (0 being muted and 100 being max)
Highest level	number		The top level the player has achieved in Campaign (used to determine which levels the player can access)