# Game Design Document Outline

A game design document is the blueprint from which a game is to be built. As such, every single detail necessary to build the game should be addressed. The larger the team and the longer the design and development cycle, the more critical is the need. For your purpose, the intent is to capture as much as possible of your design. I want you to think big…bigger than what you are able to develop. I also want you to be clear about what the software delivers and what the design entails. My recommendation is that you define the ultimate game and then clarify what it is that you have developed. If you are finding it too difficult to do that, you may produce too documents.

1. Title Page
   1. Game Name – Gagala
2. Game Overview
   1. Game Concept – This is a game similar to Galaga
   2. Genre 1980’s 2D
   3. Target Audience Galaga fans.
   4. Game Flow Summary – How does the player move through the game. Both through framing interface and the game itself – arrow keys navigate, space to shoot
   5. Look and Feel – What is the basic look and feel of the game? 2D arcade. What is the visual style? Pixelated 1980’s arcard
3. Gameplay and Mechanics
   1. Gameplay
      1. Game Progression – all aliens per level must be killed before advancing, upon advancing, speed of aliens increases, and amount of bullets.
      2. Mission/challenge Structure – beat high score.
      3. Puzzle Structure - none
      4. Objectives – What are the objectives of the game? Score high, beat high score.
      5. Play Flow – How does the game flow for the game player, from top to bottom.
   2. Mechanics – What are the rules to the game, both implicit and explicit. This is the model of the universe that the game works under. Think of it as a simulation of a world, how do all the pieces interact? This actually can be a very large section. The aliens shoot bullets or dive-bombs the ship, the ship shoots bullets.
      1. Physics – How does the physical universe work?
      2. Movement in the game – screen scrolls from top to bottom, ship is limited to bottom 20% of screen, aliens start from one initial point in the top right, assemble into attack configurations, then attack and fire.
      3. Objects – how to pick them up and move them. Extra life object may be available for pickup, rapid fire token may be available.
      4. Actions, including whatever switches and buttons are used, interacting with objects, and what means of communication are used. See above.
      5. Combat – If there is combat or even conflict, how is this specifically modeled? See above.
      6. Economy – What is the economy of the game? How does it work?
      7. Screen Flow -- A graphical description of how each screen is related to every other and a description of the purpose of each screen. There is a single screen with messages displayed in the center, lives, level, and score are displayed at top.
   3. Game Options – What are the options and how do they affect game play and mechanics? Weapon choice may be available for a wider bullet which is slower, and a narrower bullet that is faster.
   4. Replaying and Saving - There will be no replay or saving of the game.
   5. Cheats and Easter Eggs
4. Story, Setting and Character
   1. Story and Narrative – Includes back story, plot elements, game progression, and cut scenes. Cut scenes descriptions include the actors, the setting, and the storyboard or script. Aliens are invading, messages may be displayed as game progresses.
   2. Game World
      1. General look and feel of world – the world is confined to one scrolling screen which is infinite with repeating tokens.
      2. Areas, including the general description and physical characteristics as well as how it relates to the rest of the world (what levels use it, how it connects to other areas) – not applicable.
   3. Characters. Each character should include the back story, personality, appearance, animations, abilities, relevance to the story and relationship to other characters. The hero ship was discharged from the space fleet training program for failure to follow unethical orders. He is called back after the base fleet is destroyed as the last protector.
5. Levels
   1. Levels. Each level should include a synopsis, the required introductory material (and how it is provided), the objectives, and the details of what happens in the level. Depending on the game, this may include the physical description of the map, the critical path that the player needs to take, and what encounters are important or incidental. The levels will contain different amounts of aliens with different formations, speeds, and firing frequencies.
   2. Training Level None
6. Interface
   1. Visual System. If you have a HUD, what is on it? What menus are you displaying? What is the camera model?
   2. Control System – How does the game player control the game? What are the specific commands? Space for fire, F to change weapon, S to start, arrow keys for movements.
   3. Audio, music, sound effects – background music, explosion sounds and firing sounds.
   4. Help System – directions given on screen.
7. Artificial Intelligence
   1. Opponent and Enemy AI – The active opponent that plays against the game player and therefore requires strategic decision making – the aliens will attack with higher velocities and more variability as levels progress.
   2. Non-combat and Friendly Characters – there may be a narrator.
   3. Support AI -- Player and Collision Detection, Pathfinding, collision detection is position only, without regard to velocity. Game will be designed so velocities do not outrun collision detection. Once speed at maximum, which probably will not be attainable, alien count and alien bullets will be increased to increase difficulty.
8. Technical
   1. Target Hardware – Desktop, wherever Lua and Love2D available.
   2. Development hardware and software, including Game Engine – Lua, Love2D, Anim8, possibly a Tile editor.
   3. Network requirements None, only to download for installation.
9. Game Art – Key assets, how they are being developed. Intended style. Free for use graphics and sound files.