Game Design Document – Stack & Dash

1. **Game Overview**
   * **Title:** Stack & Dash
   * **Genre:** 3D Arcade / Endless Runner
   * **Platform:** PC (Windows)
   * **Engine:** Unity
   * **Target Audience:** Casual gamer
2. **Gameplay Summary**

The player controls an auto-running character moving through an endless path filled with collectible blocks and obstacles just like temple run. As the player collects blocks, a stack grows beneath their feet, allowing them to climb over obstacles or cross gaps. The objective is to survive as long as possible while building the highest stack and maximizing score.

1. **Core Gameplay Mechanics**

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| Mechanic | Description |
| Auto-Run | Player constantly moves forward. |
| Horizontal Movement | Player can move left/right using A/D or arrow keys. |
| Block Collection | Running into a block adds it to the player's stack. |
| Stack Mechanics | Blocks are added underneath the character; higher stacks can help cross gaps. |
| Obstacles | Some obstacles knock blocks off the stack or cause the player to fall. |
| Gaps | Require a tall enough stack or fall results in Game Over. |
| Score System | +1 for every block collected; bonus points for distance. |

1. **Controls**

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| --- | --- |
| Action | Input |
| Move Left | A |
| Move Right | D |
| Restart | R |
| Menu Navigation | Mouse |

1. **Level Design**
   * Infinite loop of modular platform tiles.
   * Platform segments include:
     + Safe zones with collectible blocks.
     + Obstacle zones (rotating bars, walls).
     + Gaps that require minimum stack height to cross.
   * Level segments can be procedurally spawned and recycled.
2. **Art Style**
   * **Visual Style:** Minimalistic low-poly
   * **Environment:** Floating platforms in the sky
   * **Characters/Assets:** Primitive cubes and a mixamo character
   * **Colour Palette:** Bright and playful (Unity default materials acceptable for MVP)
3. **Audio**
   * **Background Music:** Light upbeat loop
   * **Sound Effects:**
     + Block pickup
     + Stack collision / loss
     + Jump / fall
     + Game over tone
4. **User Interface (UI)**
   * **Smart Menu:**
     + Play button
     + Quit (optional)
   * **In-Game UI:**
     + Score display (top centre)
     + Stack height (optional)
   * **Game Over Screen:**
     + Final score
     + Restart button
5. **Development Timeline (7 Days)**

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| --- | --- |
| Day | Task |
| 1 | Player movement, camera setup, basic scene |
| 2 | Block collection & stack system |
| 3 | Obstacles, collisions, fall detection |
| 4 | Level tile spawning logic |
| 5 | UI setup, scoring, menus |
| 6 | Sound effects, polish, game over screen |
| 7 | Testing, bug fixes, build & export |