CRITICAL HIT STUDIOS

**Requirement Specifications**

for

Plants Vs Zombies Game

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1. **Problem Statement:**

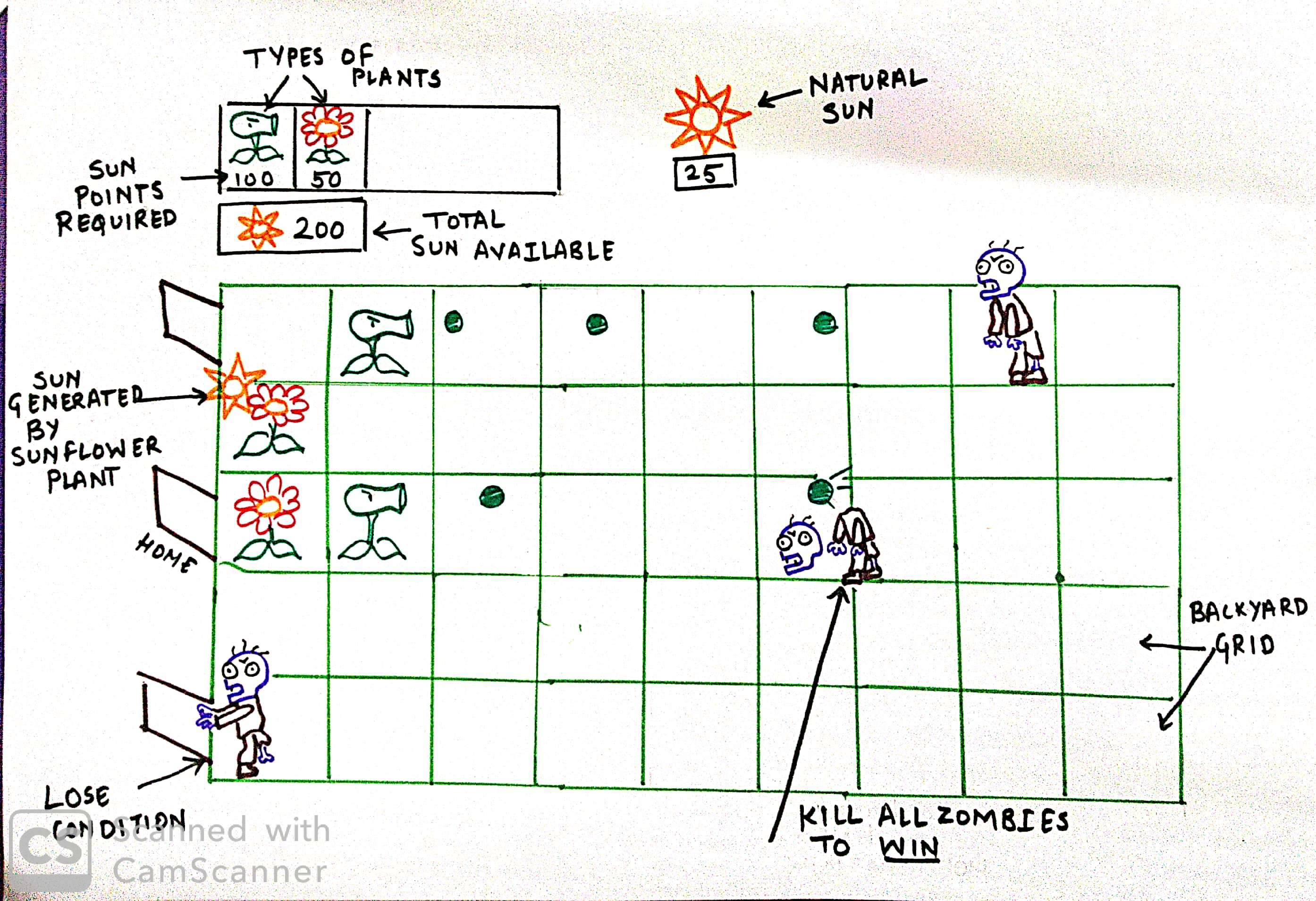
Create a clone of Plants vs Zombies game.

1. **Introduction:**

Plant vs Zombies is a tower defense game where you protect your backyard from hordes of attacking zombies using magical plants.

1. **Description:**

A desktop application in which the user uses different plants to fight zombies which try to attack the house. He must acquire maximum sunlight (which are a source of energy) and buy different plants and form tactical army that fights the zombies.



* 1. **Element specifications:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Element** | **Name** | **Points required** | **Power** |
|  | Sun | NA | Helps to grow new plants. Generates 25 points |
|  | Sunflower | 50 | Generates new sun elements |
|  | Peashooter | 100 | Shoots peas constantly as a zombie arrives in its row |
|  | Freeze plant | 150 | Shoots frozen peas constantly as a zombie arrives and slows it down |
|  | Walnut | 25 | Creates an obstacle in zombie’s way. Eventually keeps him busy |
|  | Regular zombie | NA | Can eat all plants and obstacles in his way |
|  | Football zombie | NA | Can eat all plants and obstacles in his way. Has more health level than regular zombies |

1. **Purpose:**

Game should be fair, rewarding and entertaining

1. **Requirements**
   1. **Functional Requirements:**

|  |  |  |
| --- | --- | --- |
| Sr. No. | Requirement | Required/Desired |
| 1 | Start UI Screen will have Play Button | Required |
| 2 | Start UI Screen will have Quit Button | Required |
| 3 | 5 x 9 layout grid | Required |
| 4 | Panel to select different plant seeds | Required |
| 5 | Panel to display sun count | Required |
| 6 | Placing Plants on grid | Required |
| 7 | Zombies should enter from one side of layout | Required |
| 8 | Sun should drop | Required |
| 9 | User uses sun to place plant in grid | Required |
| 10 | Sunflower plant should generate sun regularly | Required |
| 11 | Different types of plant should attack zombies | Required |
| 12 | Zombies take damage on projectile impact | Required |
| 13 | Zombies die when health is zero | Required |
| 14 | Zombies will destroy everything in their path including plants | Required |
| 15 | Level completion Bar | Required |
| 16 | Win condition is when all zombies are killed | Required |
| 17 | Lose condition is when a zombie reaches the home line | Required |
| 18 | Background music | Required |
| 19 | Minimum **1 level**:  Elements included (Refer table 3.1) -   1. Peashooter plant 2. Sunflower plant 3. Sun 4. 15 Regular zombies   Win condition- Kill all zombies | Required |
| 20 | **Level 2**:  Elements included (Refer table 3.1)-   1. Peashooter plant 2. Sunflower plant 3. Sun 4. Freeze plant 5. Walnut 6. 20 Regular zombies 7. 5 Football zombies   Win condition- Kill all 25 zombies | Desired |
| 21 | Playing Screen will have Pause Button | Desired |
| 22 | Playing Screen will have Resume Button | Desired |
| 23 | Start Screen will have Credits Button | Desired |
| 24 | Info Tooltip | Desired |

* 1. **Non-Functional Requirement:**

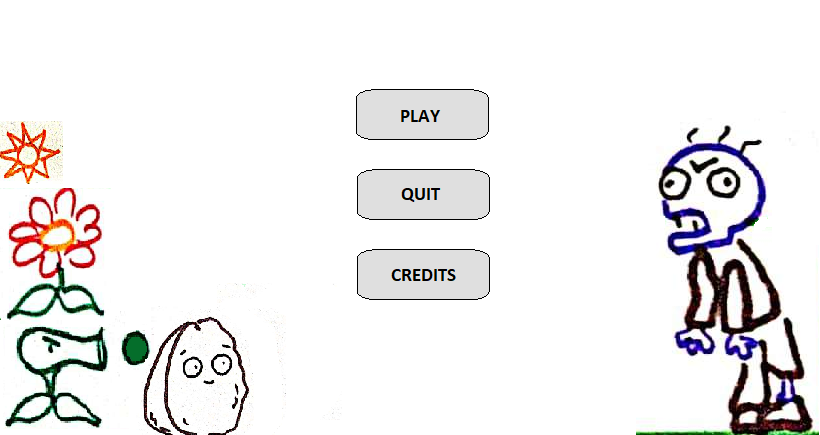
|  |  |  |  |
| --- | --- | --- | --- |
| Sr. No. | Parameter | Requirement | Required/Desired |
| 1 | Reliability | Should not hang/crash | Required |
| 2 | Availability | Should be available offline | Required |
| 3 | Usability | User friendly  Interactive | Required |

1. **External Interface Specification**
   1. **User Interface**

User Interface should have 2 screens: Start Screen & Playing Screen

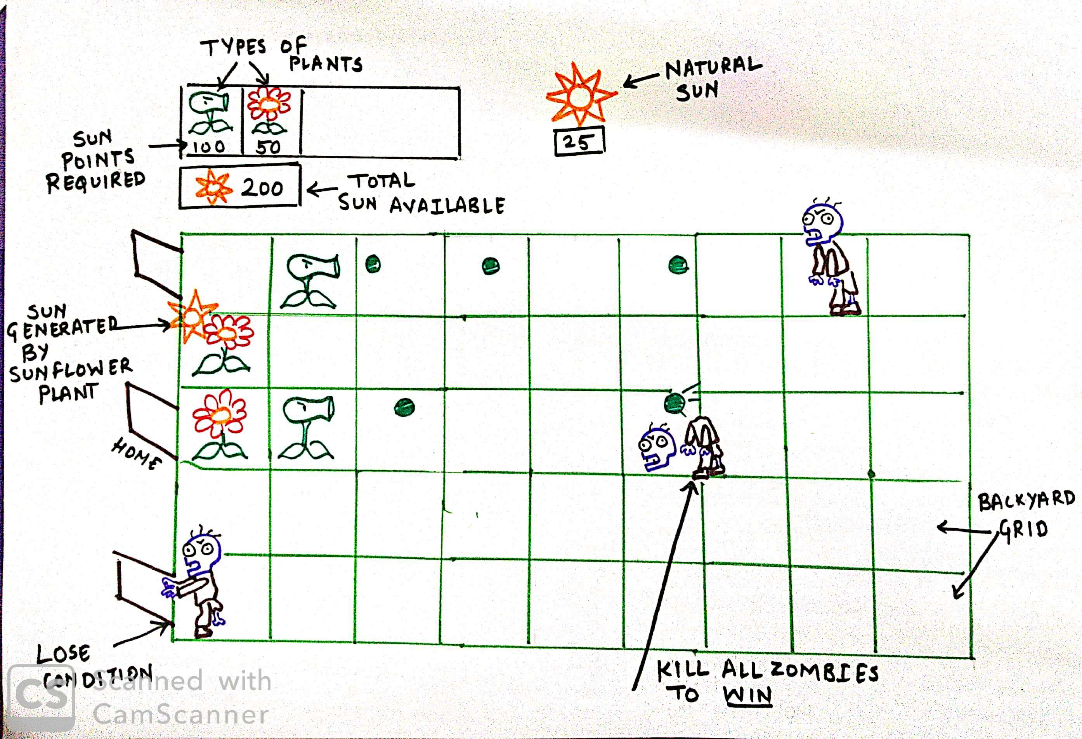
* + 1. **Start Screen**

The expected start screen is:



* + 1. **Playing Screen**

The expected playing screen is:



1. **Technical Specification**
   1. **Hardware details**

|  |  |  |
| --- | --- | --- |
| Sr. No. | Requirement | Required/Desired |
| 1 | Efficient space utilization. Approximately 500mb HDD | Required |
| 2 | 2GB RAM | Required |
| 3 | Graphics card with DX10 (shader model 4.0) capabilities | Required |

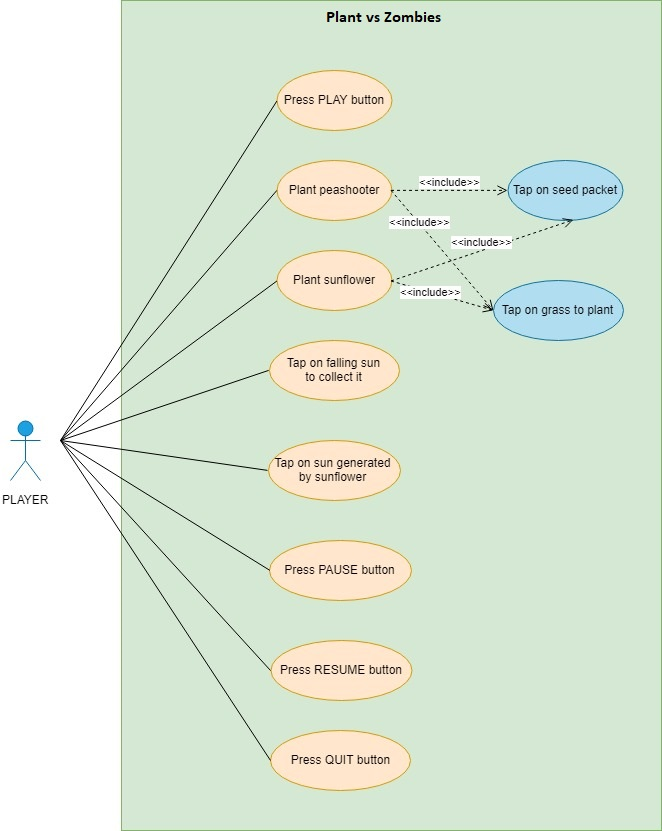
* 1. **Operating System**

|  |  |  |
| --- | --- | --- |
| Sr. No. | Requirement | Required/Desired |
| 1 | Desktop application should support Windows 7 and above | Required |

* 1. **Performance**

|  |  |  |
| --- | --- | --- |
| Sr. No. | Requirement | Required/Desired |
| 1 | Should not lag, Give quick responses. Less than 0.25 sec for each event. | Required |

1. **Use-Case Diagram**

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