

# SAND

CREATE.  
MANIPULATE.  
DESTROY.

# SAND

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# Philosophy

## **Why create this game? Why would someone want to play it?**

Sand is a cooperative multiplayer game which only works with people in your immediate vicinity, so the primary reason one might want to play it is to have fun with their friends. In addition, it has elements of a real-time strategy game: there is a good amount of strategy to tool and weapon choice as well as actions one takes once on the playing field. Unlike most RTSes, however, it gives each player control of only a single unit.

## **What is the immediate and long-term projected socio-cultural impact of this project?**

Each player in Sand is given the ability to drastically customize the attributes of their character, but such customization is entirely targeted at expanding the player's abilities for the benefit of the entire team, instead of for the benefit of that particular player. Indeed, it will be impossible to play Sand as a "maverick" - the whole team *must* work together to win. So, the development of communication skills and the destruction of selfish attitudes are two potential socio-cultural impacts of this project.

## **Are there any previous games in this genre?**

There are currently existing games which provide one part or another of our game: Valve's Alien Swarm, for example, provides the classic top-down multi-class portion, Geometry Wars touches somewhat on the visual style of the game, and so on.

## **What is this game's target audience?**

This game's target audience is primarily fans of competitive team gameplay. It will likely primarily interest gamers, not casual players, as the level of potential customization is too great and the number of people required to play is too high for someone less experienced with games.

# Overview

## What is the game?

It's a 3v3 abstract top-down map-conquest game!

The game is broken up into two alternating phases. The goal in the first phase is to get your team's sand onto the playing field and spread it out. A bar on the screen will fill up representing how close each team is to winning the first phase. When one of the bars is entirely filled up, the game enters phase two. All primary tools are disabled, but existing sand remains in place. The goal in the second phase is to have the entire enemy team shocked at the same time. This phase is timed.

- If the team that won phase 1 also wins phase 2, they score a point.
- If the team that lost phase 1 wins phase 2, no one scores a point.
- If the time limit runs out before either team wins phase 2, no one scores a point.

In any of these three cases, all sand disappears and the next round immediately starts. Games are played to a three points.

## Where does the game take place?

The game takes place on an two-dimensional abstract world with fixed obstacles.

## What does each player control?

Each player controls a single tank, with a set of tools. Tool selections are described in greater detail in the character section.

## What is the main focus?

Filling the map with sand, and then stunning the other team.

## What's different?

It's a 3rd-person shooter with no death, instead primarily focusing on the creation and destruction of inanimate particles of sand.

# Features

- Top-down view of the game world
- Minimalistic vector style
- 3v3 LAN-only multiplayer
- Zero-configuration game setup
- Carefully architected soundscape
- A variety of tools to choose from
- Three distinct, purpose-based classes
- Five customizable tool slots per player

## The Game World

### Overview

The game world consists solely of ground and barrier walls. There are multiple loadable maps, providing for a dynamic gaming experience.

### Rendering System

Sand uses Microsoft's XNA libraries for both graphics and networking. These provide hardware-accelerated access to the graphics card through DirectX, allowing rapid rendering of our game world. Specifically, Sand depends on the availability of DirectX 9.0 or above, as well as hardware capable of taking advantage of this.

### Camera

The camera is top-down, aimed towards a two-dimensional surface. It is fixed during gameplay, giving all players a complete view of the game world.

# Characters

## Creating a Character

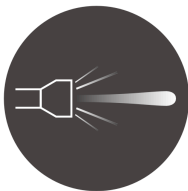
During the beginning of a game, each player is asked to choose their team and class. Before the game begins, each player has the opportunity to select his loadout, which consists of five slots: two primaries, a weapon, utility, and mobility modifier. Potential tool choices are detailed below.

## Energy

Each tool has a fixed amount of energy, which is depleted when the player makes use of the tool. Some tools deplete a certain amount of energy instantly, while others drain as the tool is used over time. When a tool is not in use, its energy recharges; if the player totally depletes a tool's energy, there is a cool-down timeout before it begins to recharge again.

# Tools

## Weapons



**Cannon**

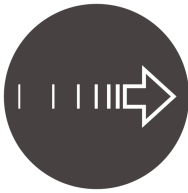
Shocks one target in front of the tank.



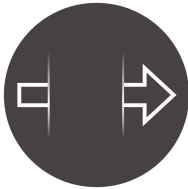
**EMP**

Shocks all targets near the tank.

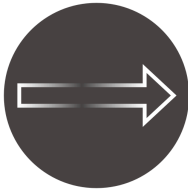
## Mobilities



**Boost Drive** Temporary speed boost.



**Blink Drive** Teleports to the crosshair.



**Wink Drive** Temporary invisibility.

## Utilities



**Shield** Blocks incoming shock attacks.



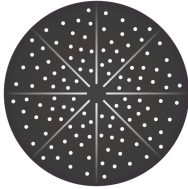
**Ground** Ends the shock effect on nearby players.

## Defense Primaries



**Jet**

Creates sand in front of the Defensive tank.



**Sand Charge**

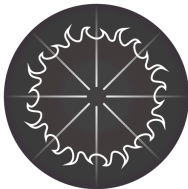
Creates sand all around the Defensive tank.

## Offense Primaries



**Laser**

Destroys sand in a small radius around the crosshair, by lighting it on fire. Fire spreads among sand particles.



**Flame  
Charge**

Destroys sand all around the Offensive tank.

## Support Primaries



**Plow**

Pushes sand in front of the Support tank. Good for making piles.



**Pressure  
Charge**

Pushes sand outward, all around the Support tank. Good for spreading out.



# User Interface

## Overview

The user interface during gameplay is very simple: the map takes up the majority of the screen, while the right side contains loadout icons for the current player and his team.

## Loadout Icons

During gameplay, the right hand side of the screen contains icons describing the loadout of the current player, with energy meters around each one. These energy meters deplete as the player uses the tool, and recharge along with the energy.

## Sand Bars

Also along the right side of the screen during phase one are two large colored progress bars, representing the amount of sand each team has on the map. The object of the first phase is for each team to fill their bar by creating and sustaining sand on the map, so having the current state of the game available at a quick glance is vital to gameplay.

# Sound

## Overview

There are a variety of abstract sounds in the game, designed to fit in with the visual style and provide easy action cues to all players.

## Multiplayer Sound

Sounds generated by each player are rebroadcast to all others, and played with positional and volume cues. This gives each player heightened awareness of what's going on immediately around them in the game space.

# Multiplayer

## Overview

Sand is, at its heart, a multiplayer game. For simplicity of implementation and due to bandwidth requirements, it will be limited to LAN games.

## Max Players

The maximum (and minimum) number of players in a single game of Sand is 6, as each game is comprised of two teams of three players each.

## Servers

The first player to launch the game on a particular network becomes the de-facto server. In addition, it is not possible at the current moment to maintain multiple games on a single LAN.

## Persistence

The world is not persistent. Each match will use either a predefined or procedurally generated level which will persist only for the duration of the match.

# Distribution

## XNA Redistributable

Due to unfortunate restrictions in the XNA 4.0 Redistributable package, SAND is not able to be legally run on computers which do not have Visual Studio 2010 and the entirety of XNA Game Studio 4 installed.

## Package

For gamers who meet the above requirements, SAND is available at *sand.hortont.com* as an approximately 60MB installer.