



Immersion

Building a Game with a Touch More Realism

About Peter Molyneux, Lionhead, and Black & White



During its three-year development, Black & White became one of the most eagerly anticipated PC games. Black & White is the creation of Peter Molyneux, a world-renowned game developer, and his company Lionhead Studios. When it was previewed at the E3 show (the world's largest video games trade show) in 2000, Black & White won four major awards, including Best Original Game and Best of Show. *Computer Gaming World* calls Black & White, "one of five games that will change gaming forever." Molyneux's previous titles (including Populous, Syndicate, Magic Carpet, Theme Park, Dungeon Keeper) all received much critical acclaim for their innovative game play features and are now regarded as PC classics.

In Black & White, Lionhead set out to create an imaginative and revolutionary new game, yet also draw on the hallmark characteristics of Molyneux's previous successes. It sets each player in the role of a god, ruling over lands populated with villages of potential worshippers. Players must win the belief of villagers by impressing them with miracles and godly acts. The villagers, in turn, will provide the player with a personal pet, an emotional creature

that has a life of its own. The player may rule as a benevolent or malevolent god—whichever path he chooses affects his creature, his subjects and even the landscape of his kingdom.

TouchSense™ creates a more realistic Black & White world.

Lionhead was looking to create a breakthrough experience with this game by providing the user with a new level of realism. Using Immersion's TouchSense technology was a natural fit for the game, which features a hand as the center of the action. In the virtual Black & White world, having tactile feedback through the mouse adds realism to the whole game experience when exploring the world and interacting with objects.

Creature from Black & White.



Feel the power of casting a miracle.

"TouchSense supplements the visual and audio feedback in Black & White and gives the player a more complete perceptual experience. We were very enthusiastic about implementing it in the game."

— Jonty Barnes, Senior Programmer
Lionhead Studios

Working with the Immersion TouchSense Software Development Kit (SDK), Lionhead developers created more than a hundred different sensations for Black & White. They used Immersion Studio, an easy-to-use sensation-authoring tool to design, edit, and customize the many effects in a short amount of time.

Here are just some of Black & White's effects:

Interaction Effects

| | |
|---------------------------------|------------------------------|
| Creature slaps and strokes | Picking up objects |
| Casting spells | Loss of influence |
| Heart beat on spell charging | Picking up food and wood |
| Totem interaction | Swimming fish |
| Planting trees/bushes | Tattooing the creature |
| Teleporting through citadel map | Menu button presses/textures |
| Citadel doors | |

Surface Effects

| | | |
|-------------------|-------------------|-----------|
| Creature fur | Hand over Miracle | Villagers |
| Burning object | Fireballs | Spells |
| Buildings | Scrolls | Foliage |
| Fields | Wood | Food |
| Barrel | Cart | Pots |
| Arrow | Ball | Mushrooms |
| Rocks | Street Lanterns | Bonfire |
| Forests | Cuddly toy | Dice |
| Furball | Meteor | Scaffolds |
| Animals/Creatures | | |



“In Black & White traditional icons and menus are replaced by an interface that closely resembles our natural interactions in the real world. We view the Black & White hand as an extension of your own hand. Adding tactile sensations has strengthened that illusion of reality behind the screen.”

— Peter Molyneux, Managing Director of Lionhead



Left: Feel your power charge as your villagers worship you.

Below and Right: Creatures from Black & White.

How it feels to have god-like powers.

Using a TouchSense-enabled computer mouse, such as the iFeel™ Mouse and iFeel MouseMan® from Logitech, Black & White users can experience the sensation of fish nibbling at their hands, the pulsing power of casting a spell, or the tug of ripping a tree out of the ground.

Creating a very realistic, multi-sensory world was a priority of Black & White's creators.

The team scrapped traditional icons and menu-driven navigation techniques and developed a system in which a player's natural actions drive the game. For example, when the player casts a spell, the direction and speed with which the spell is thrown is controlled by the handling of the mouse.

“We have Immersion TouchSense on spells and key hand interactions. I am especially pleased with the way that textures on villagers enhance the 3D interface for object interaction. It gives an extra level of feedback to the player when the hand is over a villager, which proves especially useful when the villager is a large distance from the player's position.”

— Jonty Barnes



With the TouchSense SDK it's easy to create tactile effects.

Immersion's TouchSense Software Development Kit (SDK) has everything you need to add high-quality touch sensations to your Windows software applications. The kit includes both Immersion Studio and the Immersion Foundation Classes (IFC), a library of functions that makes it possible for your applications to communicate with TouchSense-enabled hardware peripherals. The SDK also includes tutorials, sample programs and a complete documentation package. A similar kit is available for web development.

“It was fairly straightforward to implement the core TouchSense code; we had something up and running in a couple hours. But most of our time was spent creating the database of different effects and testing how they felt in the game to get them right.”

— Jonty Barnes

Download effects, explore Immersion Studio, and learn about our Software Development Kit and Web Development Kit. For more information, write developer@immersion.com

To learn more visit:

www.immersion.com/developer