

Landscape Bartender: Landscape Generation Using a Cocktail Analogy

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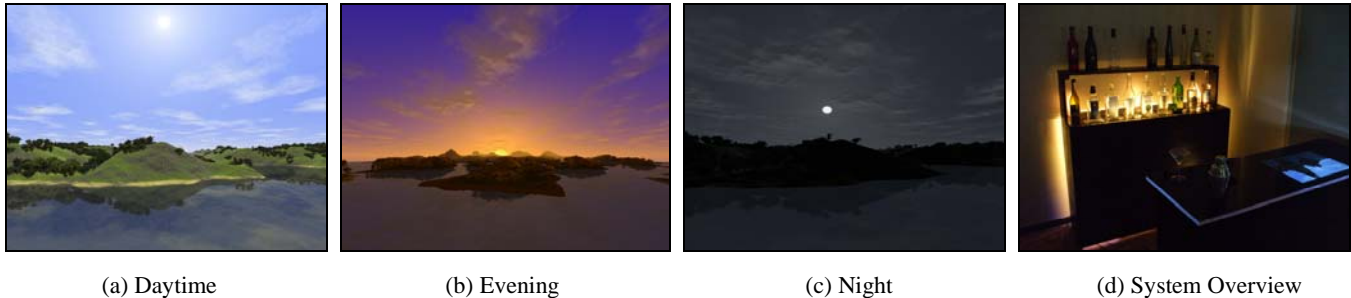


Figure 1 Examples and system overview: A change of the sky due to the ratio of the moon and the sun.

1 Introduction

There are some cocktails that are likened to landscapes, e.g. tequila sunrise. It likens orange juice and grenadine to the morning sky with glow of the sun. These two elements generate a landscape of sunrise. We present a system that generates landscapes using a cocktail analogy.

2 System Overview

Figure 2 shows the flow of player's experience. The player generates a landscape in the same manner as making a cocktail. Each ingredient of the landscape cocktail, each landscape element, is water in a separate bottle. The player picks a bottle containing the intended landscape element, and pours a suitable amount of water into a shaker. The system has eight elements; sand, rock, water, plants, sun, moon, star, and cloud. The elements of landscape are categorized into two attributes; a) soil: sand, rock, water, and plant, b) sky: sun, moon, star, and cloud. The mixture ratio of these two categorized elements determines the ratio of ground and sky in the image. The amount of water used from each bottle determines the ratio of landscape elements. And then, the relief of ground and the position of each element is changed by shaking the shaker. To give the player the feeling of generating his/her own landscape, the system displays a vague in-progress image while he/she is shaking. The in-progress image is unclear, and the contents of the shaker can't be seen. After shaking the shaker, the player pours water into the cocktail glass. The landscape result can only be seen clearly when the cocktail glass is placed on the coaster.

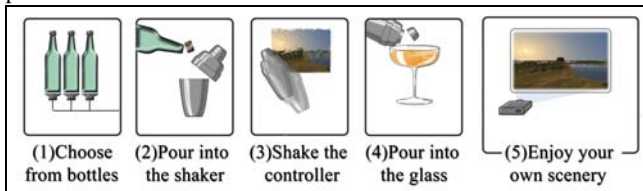


Figure 2 Flow of player's experience

3 Implements

The system consists of four modules as shown in Figure 2; 1) shaker-type controller with wireless three-axis accelerometer, 2) measuring module for sensing the volume of water, 3) counter-type image display unit, and 4) PC. Figure 1 (d) shows the system overview.

The stainless shaker is used as the body of the controller. The wireless three-axis accelerometer (Hitachi Metals: H48C) is hidden inside the cap of the shaker. The acceleration data is used

for changing the relief of ground and the position of each element. The system consists of eight digital scales (DRETEC: R-209) for measuring the volume of water. Each scale is used for sensing the amount of each landscape element, and the data is used for the compounding process.

The sensing module for detecting the placement of glass on the coaster is installed in the counter-type image display unit. A magnetic chip is put on the base of the glass. The digital compass is used as the sensing module, and the module detects the approach of the glass. The data from each module is transmitted to the PC via serial connection and wireless signal.

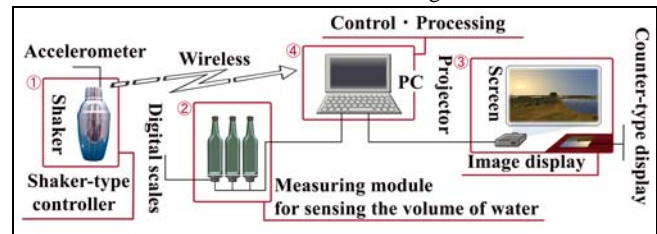


Figure 3 System configuration

4 Generation of the Landscape

4.1 Landscape recipe

The elements of landscape are categorized into two attributes. We recommend using at least 1 element from each attribute.

The relief of ground depends on the mixture ratio of sand and rock. The relief becomes smooth when the ratio of sand element is high, otherwise it becomes rough. The plants are grown only if there are water and sand/rock.

The ratio of sun and moon changes over time with the altitude of sun/moon. If the ratio of sun element is high, the scene is generated in daytime as shown in Figure 1(a), otherwise the scene is a night scene, as shown in Figure 1(c). If the ratio of sun and moon is even, the scene is generated as evening, as shown in Figure 1(b). The volume of stars and clouds relates to the volume of each element. A recipe book is available for users to generate their preferred landscapes.

4.2 Shaker control

The relief of ground becomes rough if the controller is shaken vertically, and becomes smooth if it is shaken horizontally. The sun shifts horizontally if the controller is shaken horizontally.

This system provides the enjoyment of creating one's own favorite scenery using a cocktail analogy.