Intel(R) Perceptual Computing SDK Demo Application

Augmented Farm

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Notice revision #20110804

2 Introduction

The Intel® Perceptual Computing SDK is a library of pattern detection and recognition algorithm implementations exposed through standardized interfaces. The library aims at lowering barriers to using these algorithms and shifting the application developers' focus from coding the algorithm details to innovating on the usage of these algorithms for next generation human computer experience.

This document describes the `AugmentedFarm` demo application.

Document Convention

The SDK document uses the Calibri typeface for normal prose.

With the exception of section headings, captions and the table of contents, all code-related items appear in the Courier New typeface (`pxcStatus`).

Hyperlinks appear underlined in blue, such as pxcStatus.

 This is a note that provides additional information to aid your understanding of the procedure or concept.

 This is a tip that provides alternate methods or shortcuts.

 This is a result statement which indicates what you can expect to see or happen after performing a step.

3 Augmented Farm

Augmented Farm is an SDK sample application that showcases object tracking. The user will be able to use printed book pages to bring live a farm and a butterfly and interact with them. The application uses the Unity* game engine for 3D visualization and physics interaction.

The application directory structure is as follows:

Directory/File	Description
Assets ProjectSettings	The Unity assets and project setting directories that contain buildable source code.
doc	The directory that contains this document, and two farm pictures.
AugmentedFarm_Data AugmentedFarm.exe	The prebuilt application executable and data files.

3.1 Operation Instructions

Run the prebuilt executable AugmentedFarm.exe to start the application. By default, the application uses the screen resolution 800x600. The user can resize the application window as needed.

The user needs to print out the two book pages under the doc directory. Then present one of them to the camera. In Figure 1, the butterfly page will enable an animated butterfly on the screen. If the user moves his/her hand, the butterfly will follow.

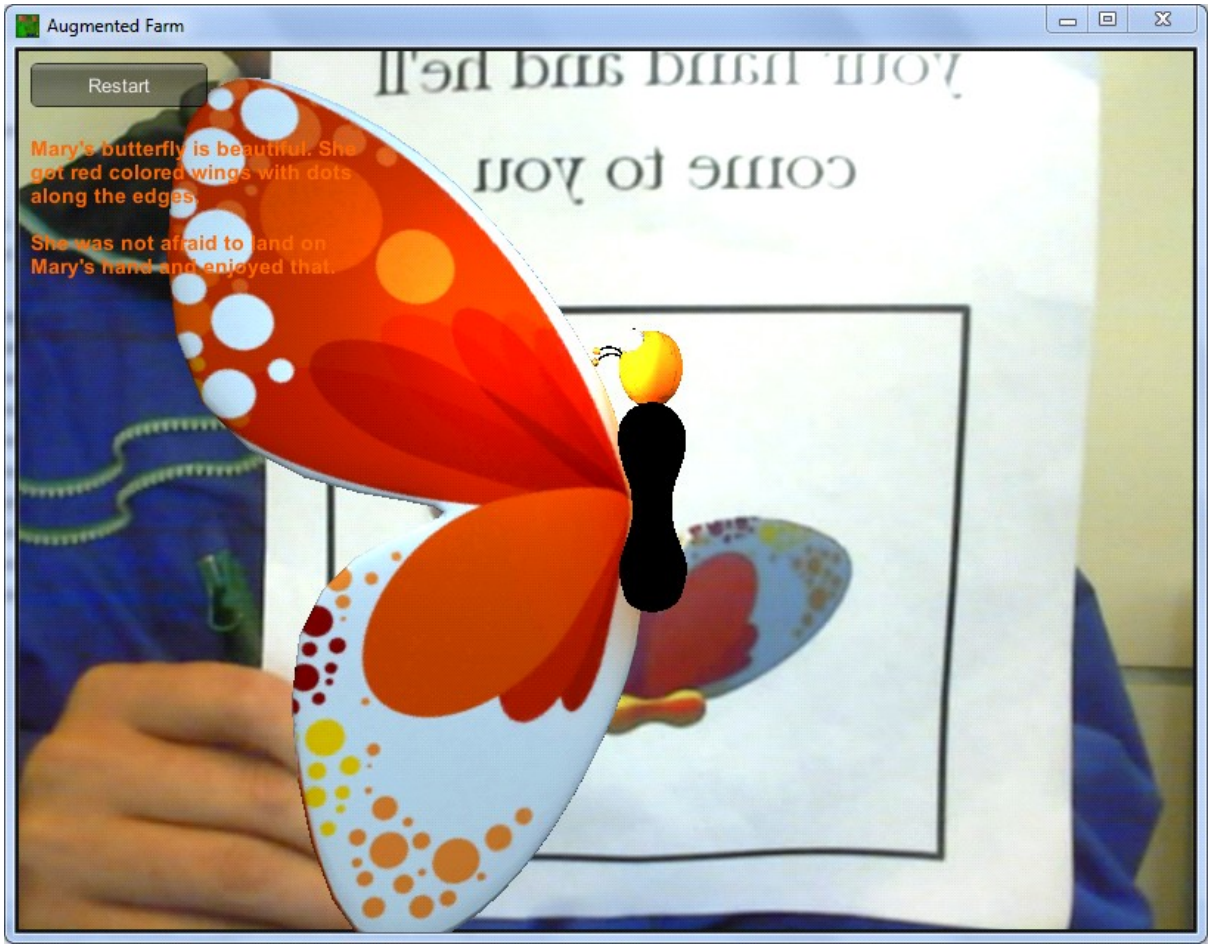

Figure 1: Butterfly Interaction Page

In Figure 2, the farm page will trigger a 3D animated farm. The user can turn the page for different viewing angles.

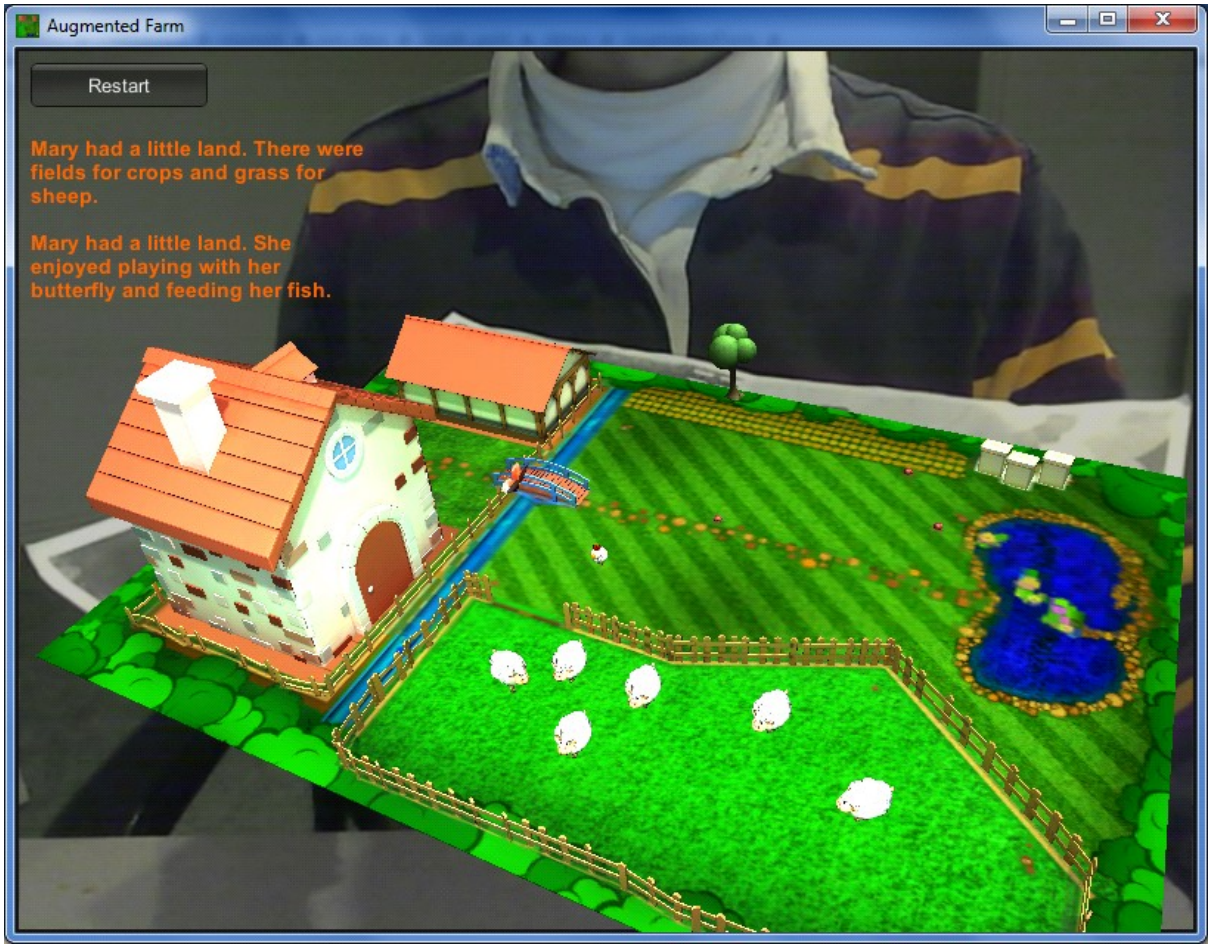

Figure 2: The Farm Page Interaction

3.2 Build Instructions

The application comes with source code in the `Assets` and `ProjectSettings` directories. The solution file is under `Assets/Scenes/MainPage.unity`. Launch Unity by double clicking on the solution file. Then the developer will be able to make modification or rebuild the application. The application is tested under Unity PRO 4.0.1.

After you rebuild your Unity project again, please copy `Assets/Plugins/tracker` to the data directory (under Plugins) next to your executable.

3.3 Design Points

This section describes the application design that is related to Intel® Perceptual Computing SDK

and is not meant to be a code workthrough of all application designs.

The object tracking and hand tracking code is in `Assets/Pipeline/SDKPipeline.cs`. If an object is recognized and being tracked, the code sends out events. The interaction scripts are in `Assets/Book/scripts/AugmentedBook/ABFarmScript.cs` and `Assets/Book/AugmentedBook/ABButterflyInteraction.cs`. These scripts simply listen to the event and activate corresponding animation.

