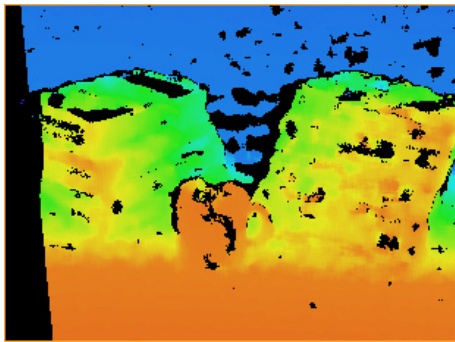


TYZX | *systems that see*

SEER Software

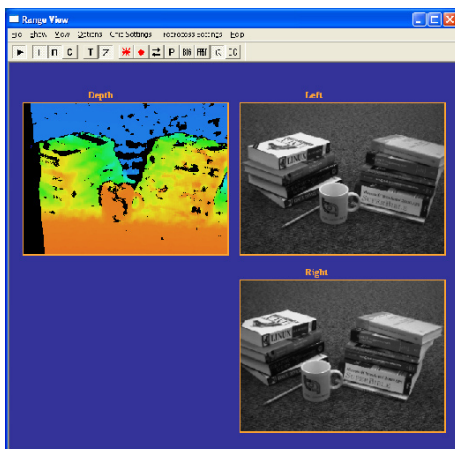
SEER Software Developers Kit and Runtime Library



Real-time depth image



Rectified intensity image



SEERView control environment

TYZX's development and runtime environment for enabling stereo vision applications on a variety of host platforms

Overview

SEER is TYZX's software development kit and runtime library for 3D Vision processing and analysis. It simplifies the development of new vision applications. SEER offers a comprehensive set of optimized tools in a turnkey environment structured to accelerate time to application for developers. SEER was designed to support the real-time performance capabilities of the DeepSea V2 stereo engine, DeepSea family of stereo vision cameras and the G2 EVS.

SEER Development System includes:

- Full integration with TYZX DeepSea hardware environment;
- Support for multiple object-oriented programming environments;
- Facilities to speed development of 3D applications and prototypes for a wide range of industries.

SEER Development System offers:

- High performance device drivers for real-time system operation;
- Visualization and control over 3D application development process;
- Processor support for Pentium;
- Multiple target OS support including Linux and Windows;
- Example application code to accelerate development;
- SEERView™ demonstration application for testing and evaluation of DeepSea system.

How SEER Works

SEER manages the installation and configuration of a new DeepSea Development System so that developers can be coding in a matter of minutes. SEER automatically recognizes a system's hardware and camera configuration as well as the camera calibration parameters. SEER sample programs help familiarize developers with the API so they can have their applications running quickly. SEER provides direct access to the stereo processing controls of the DeepSea 2 processor and manages all aspects of the real-time image stream. It presents range and color images as fast as an application can

process them. Compatibility with industry standard tools such as Microsoft Visual C++ and Linux/GNU lets developers use their existing tools with no retraining. The SEER API also makes it easy for developers to port applications from Windows to Linux with minimal change.

SEER presents data in the format developers require. Color format and units are managed directly by SEER to take advantage of DeepSea hardware features. Additional facilities such as SEER/ProjectionSpace present raw 3D data as convenient orthographic projections for easier processing.

Finally, SEER includes utilities frequently required by the developer for capturing and inspecting image/range data, controlling camera settings and remotely accessing networked cameras.

Features and Benefits

SEER Development System contains the following application components:

- DeepSea IF – a C++ class library providing full access to the DeepSea hardware's many features including device drivers, stereo camera control and stereo correlation settings;
- CameraControl – a GUI control panel for controlling imager settings in the DeepSea stereo camera;
- SEERView – Graphical interface to interact with the TYZX 3D Vision System or data captured within the SEER environment;
- TYZXGL – an example program in source and binary format using the SEER API;
- TYZXImageMonitor – a network-based monitoring tool for accessing results generated on a remote DeepSea system in real-time;
- TYZXView – a utility for viewing captured TYZX images including 16 bit range images.

Technical Specifications

Red Hat Linux Host Operating Systems:

- CentOS Release 5

Windows Host Operating Systems:

- Windows XP

Processor Support

- Intel Pentium Architecture

About TYZX

TYZX is a 3D vision company providing a platform of hardware, software and services for building products that see and interact with the world in three dimensions. TYZX products and services are used by industry leaders in automotive, consumer electronics, robotics and security markets. Founded in 2002 and based in Menlo Park, California, TYZX is privately funded. For more information, visit www.TYZX.com or email info@TYZX.com