SUCCESS STORY

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Basler scout Cameras Used in a Pathology Graphic Information System

Customer

- Medical Technology, Asia

Application

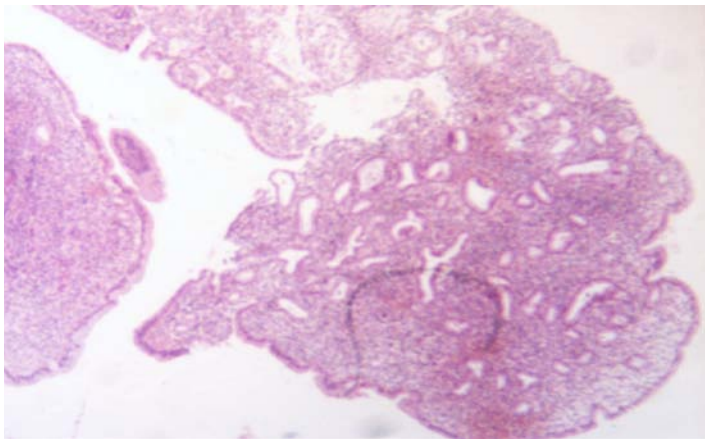
The Pathology Graphic Information System (PGIS) is based on a standard Picture Archiving and Communication System (PACS). Traditionally, PACS technology is used to digitally store and retrieve medical images. With the advancement of digital imaging, computing, and networking technologies, PACS now includes the acquisition, transmission, and secure management of medical images.

PGISs are used in hospital pathology departments. The imaging components in each system include a camera and a microscope. They are used to image pathological specimens such as cancerous tissue samples for medical analysis and evidence storage. Following imaging, the cell morphology is measured based on the captured image and on information regarding each cell's area, circumference, diameter, and other morphological parameters. Next, various statistics such as the number of cells are generated automatically. A qualitative and reliable analysis of the specimen's morphology is performed. This technique provides an accurate, credible analytical basis for the early diagnosis of tumor cells, particularly for obstetrics and gynecology departments. Via the use of a camera, this PACS-based system provides comprehensive analytical functions, allowing the medical staff to make faster and more accurate diagnoses.

In general, the camera-based approach has problems with color fidelity. There are discrepancies between the images exposed to the camera's white balance mechanisms and the images directly observed through a microscope's ocular. Using Basler's expertise in this area, a series of tests was performed and a set of white balance parameters was identified to adjust the colors in the images captured by the camera to produce much better color fidelity.

Solution and Benefits

In PACS, a Basler scout camera must support single and multi-frame capturing with real-time display of the patient's images.



Microscopic Image of a Histological Specimen

There are three reasons why the customer decided to use Basler cameras:

1. The IEEE 1394b (FireWire) interface supports hot plugging, making the camera fast and easy to use.
2. Its megapixel resolution allows doctors to see enough detail to make a highly accurate diagnosis.
3. With their minimum frame rate of 15 fps, the easy operation of the microscope's focus mechanism is guaranteed.

Technologies Used

List of components used in this application:

- Basler scout cameras (color area scan cameras)
- Basler pylon API – a powerful, easy-to-use application programming interface that makes camera integration easy and allows engineers to focus on designing the application

Basler Scout

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