

CONTENT-BASED IMAGE RETRIEVAL USING WEB SERVICES

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1 – Motivation

- ➡ Images searching based on visual properties
- ➡ Component-based software engineering
- ➡ Web-based applications

2 – Background

- Component-based software engineering
- Web Services
- CBIR systems
- Visual Descriptors

2.1 – Web Services

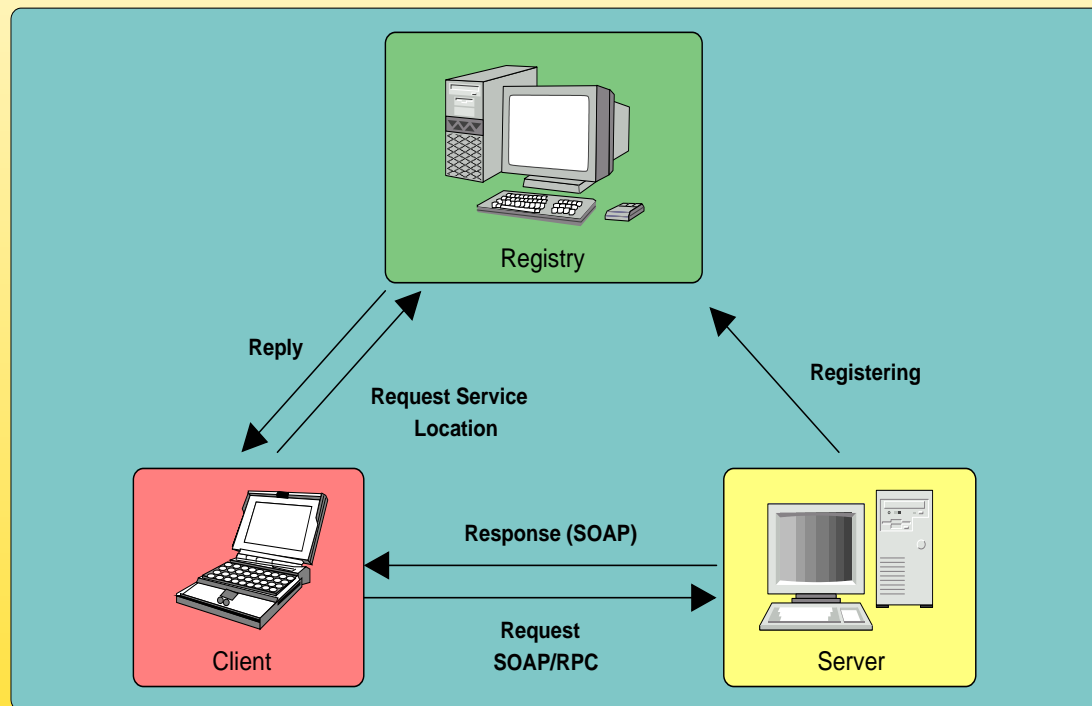


Figura 1: Web Services Architecture

- Sharing resources over the Internet
- Fundamental components: Client, Server, Registry
- Based on specifications and open protocols

2.2 – Registry

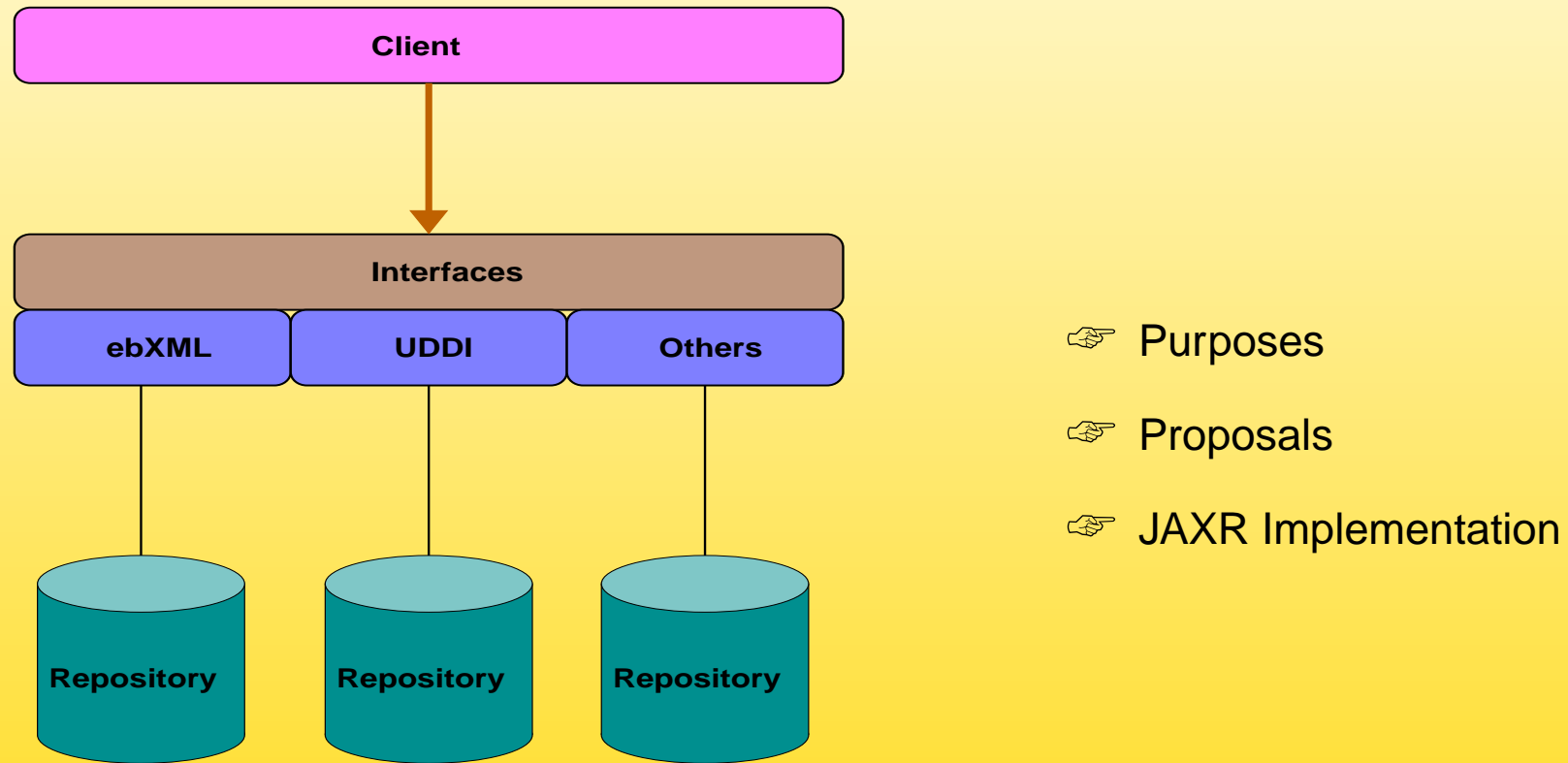


Figura 2: Registry Architecture

2.3 – Modules of a CBIR System

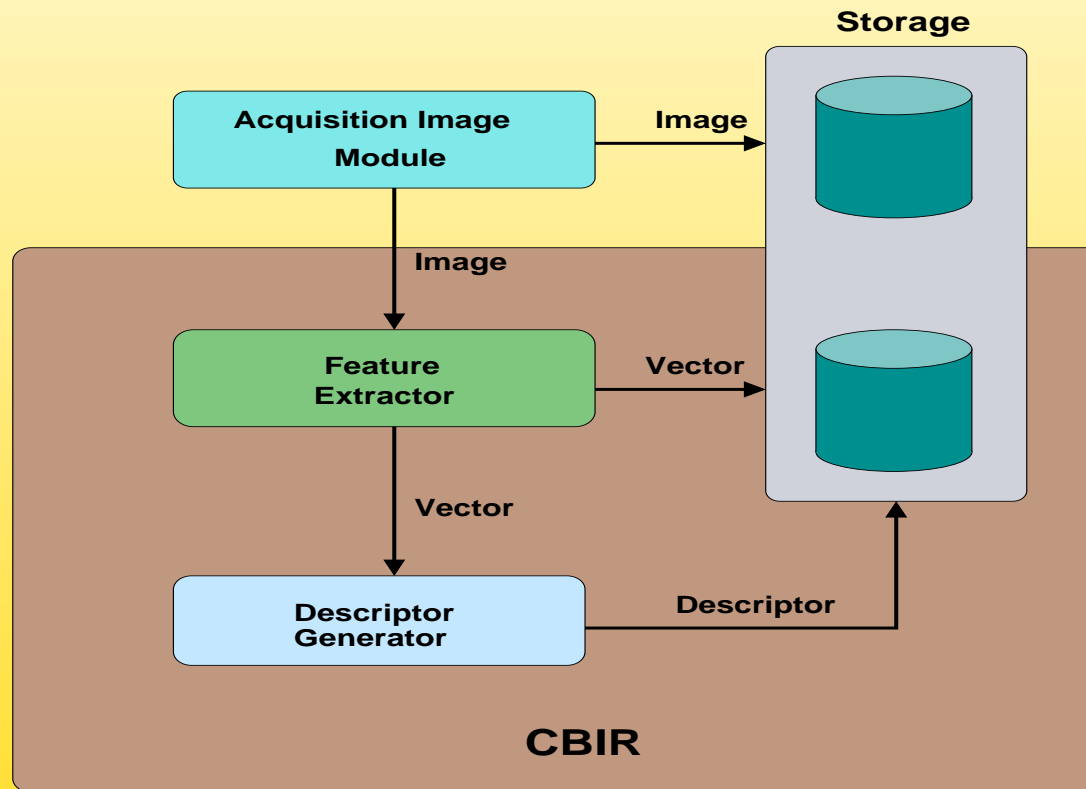


Figura 3: Database population

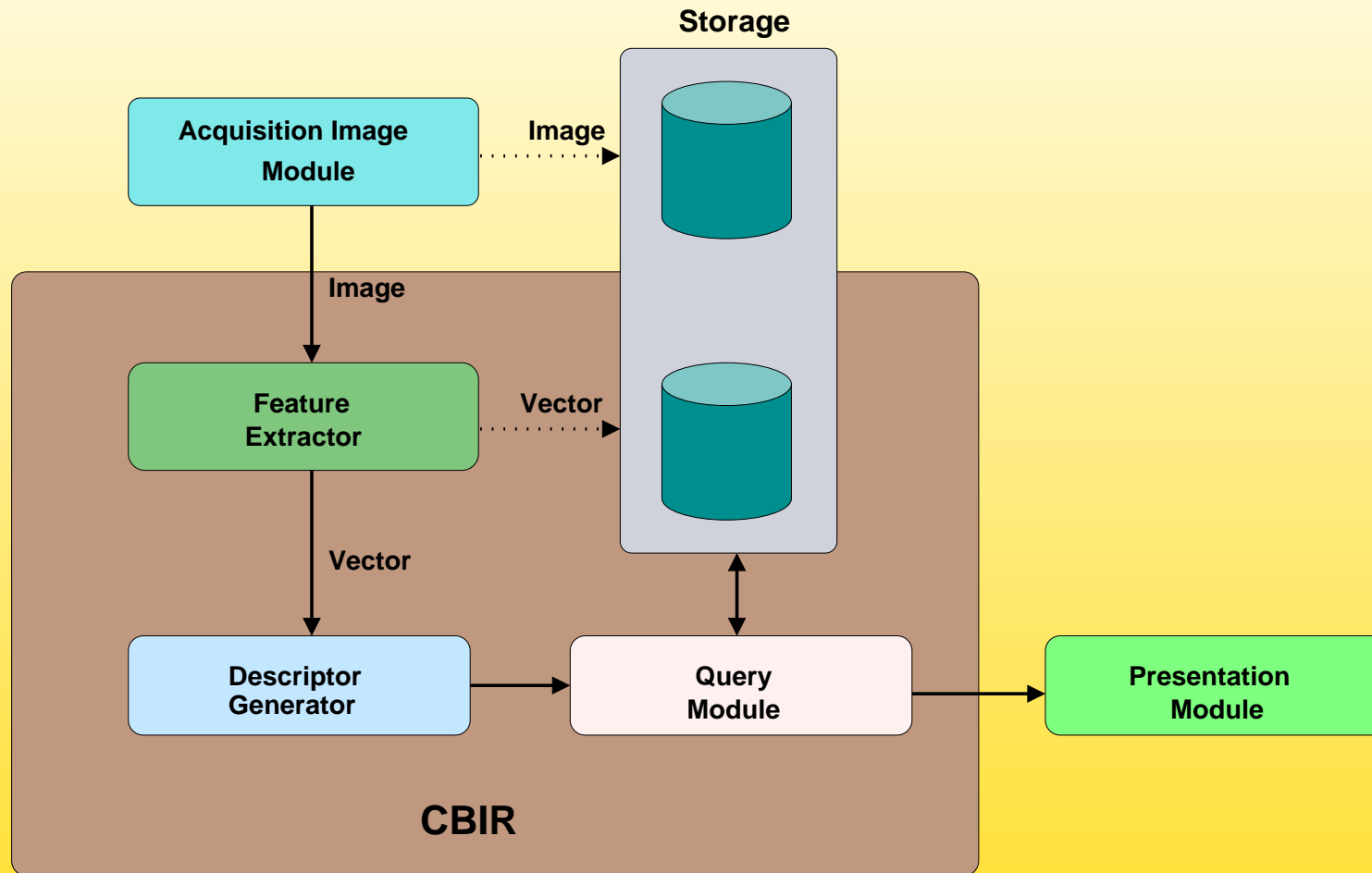


Figura 4: Image retrieval

2.4 – Image Descriptor

- ➡ Identifying an image in large-scale databases
- ➡ Image features
- ➡ Radiological images
- ➡ MPEG-7 texture descriptors:
 1. Texture Browsing Descriptor
 2. Homogeneous Texture Descriptor
 3. Edge Histogram Descriptor

3 – Proposed Architecture

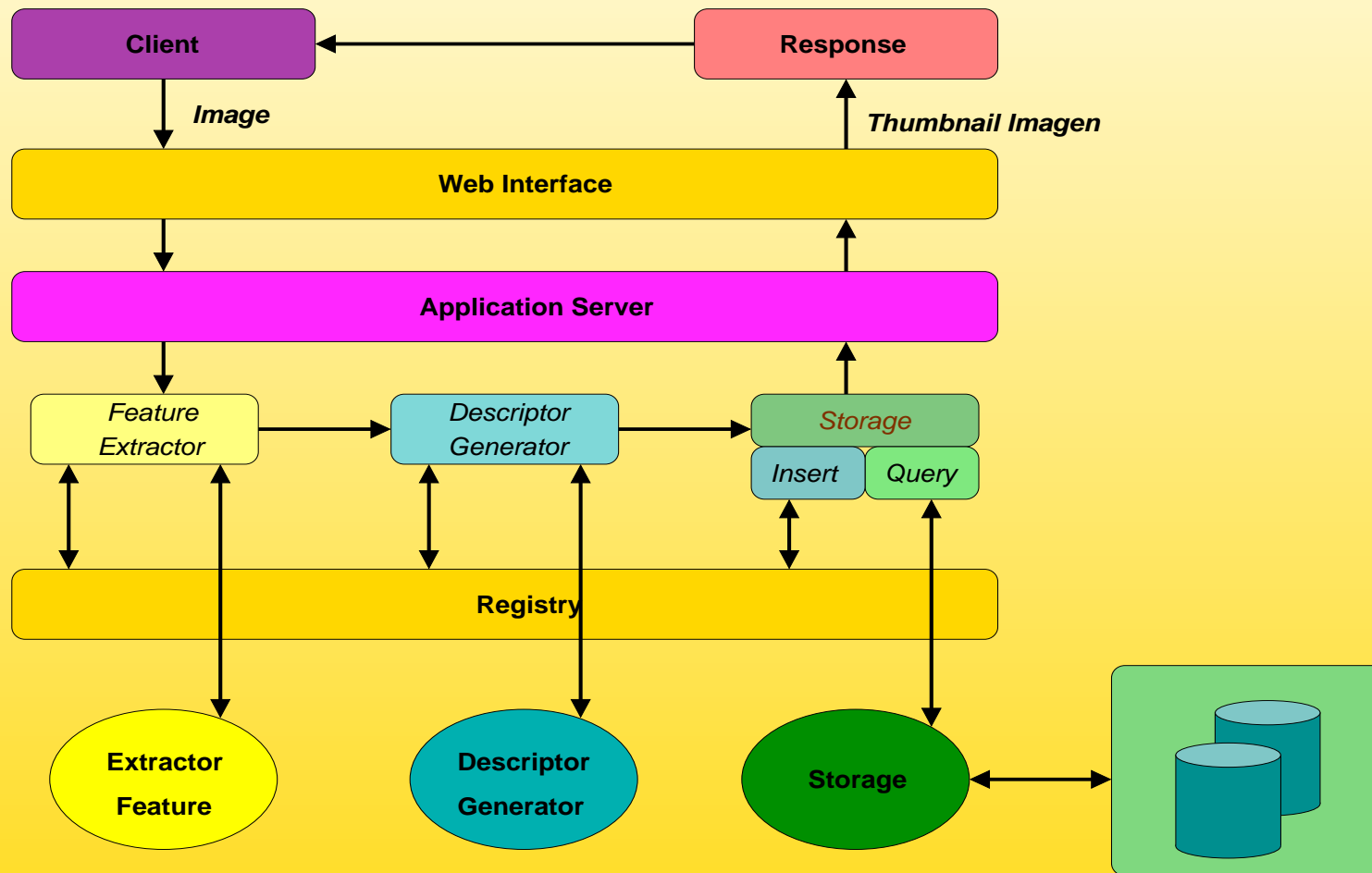


Figura 5: Proposed CBIR architecture using web services

4 – Web-based Diagnosis and Medical Image Retrieval System

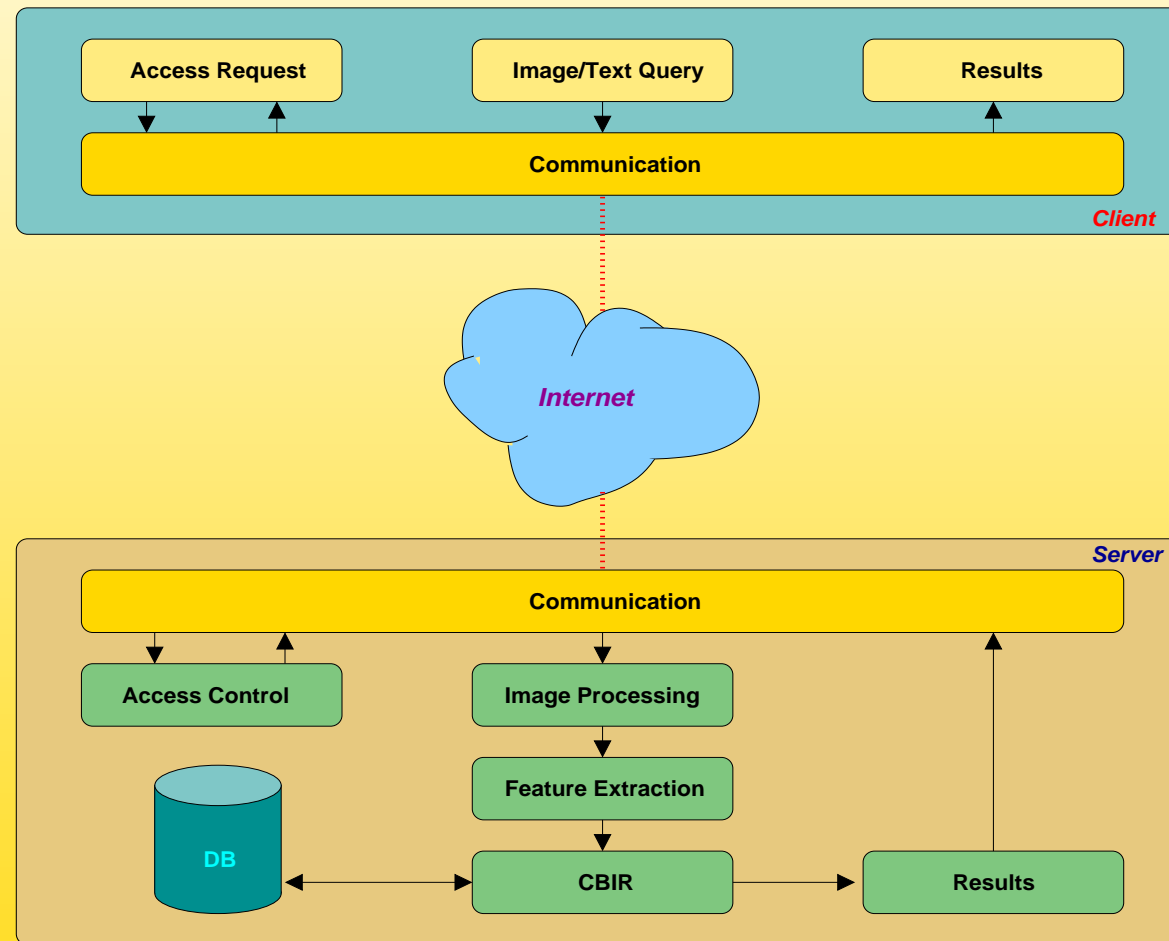


Figura 6: CBIR Web-Based

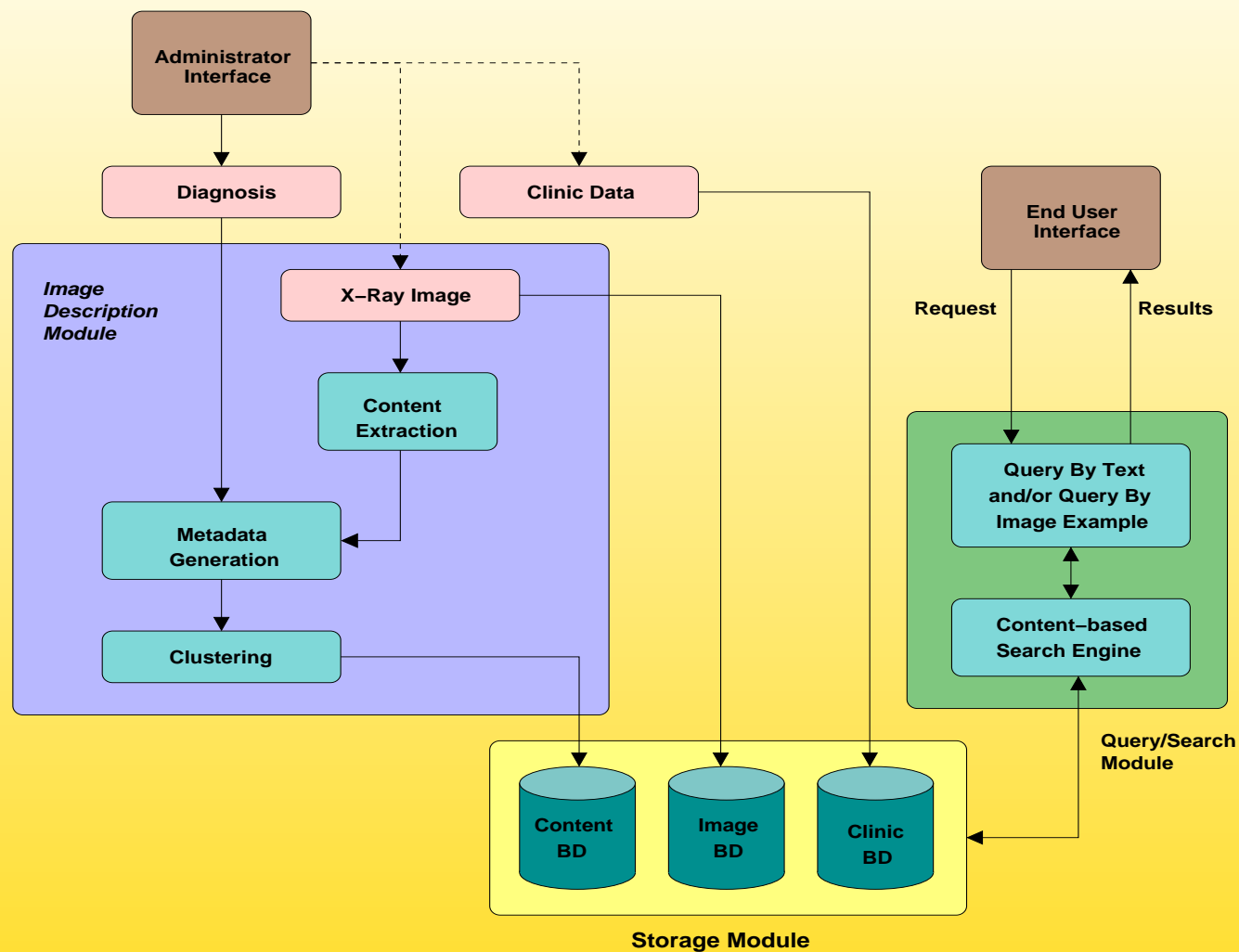


Figura 7: Content-Based Diagnosis and Image Retrieval

5 – ScreenShots

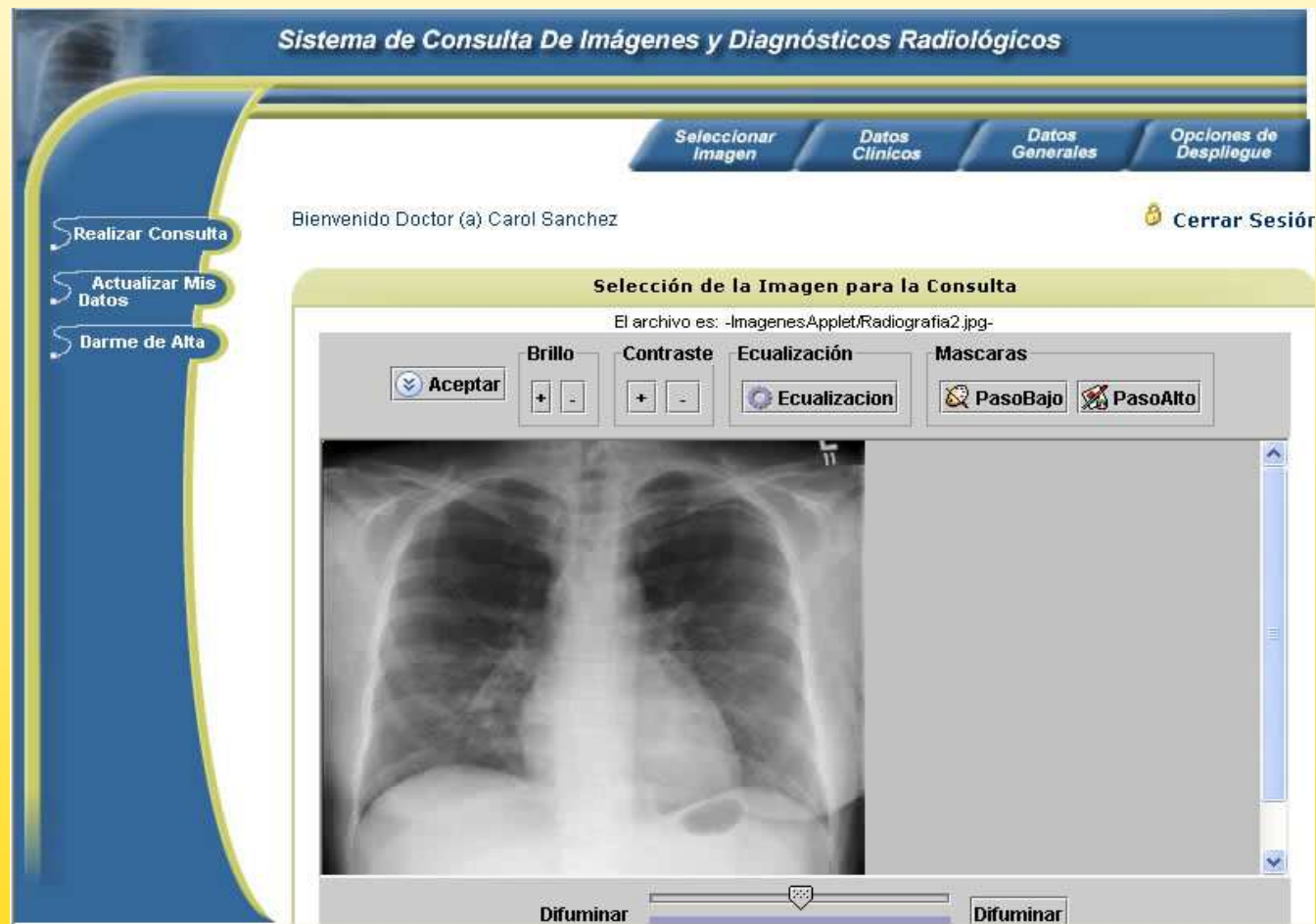


Figura 8: Query by Image

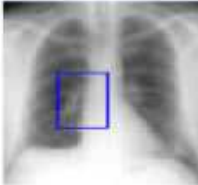
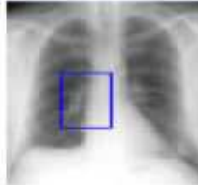
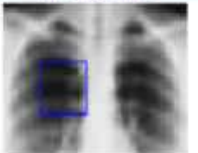

Sistema de Consulta De Imágenes y Diagnósticos Radiológicos

Dr. Pedro Pérez

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 [consulta por datos Generales](#)
 [Resultado Consulta](#)

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Imágenes Previas

<input checked="" type="checkbox"/>		Ampliar 400x400 Ampliar 800x600	<input type="checkbox"/>		Ampliar 400x400 Ampliar 800x600
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Lesión: Tumor	Ubicación: Pulmón Derecho		Lesión: Tumor	Ubicación: Pulmón Derecho	
Fecha: 2003-01-01			Fecha: 2003-06-01		
Mas detalles			Mas detalles		
<input type="checkbox"/>		Ampliar 400x400 Ampliar 800x600	<input type="checkbox"/>		Ampliar 400x400 Ampliar 800x600
Sexo: Masculino	Edad: 60 años		Sexo: Masculino	Edad: 60 años	
Lesión: Tumor	Ubicación: Pulmón Derecho		Lesión: Tumor	Ubicación: Pulmón Derecho	
Fecha: 2003-01-01			Fecha: 2003-01-01		
Mas detalles			Mas detalles		




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Figura 9: Query Results

6 – Conclusions

- ➡ CBIR modules can be integrated to different applications through Web Services
- ➡ This integration would be independent of programming language and platform
- ➡ Component-based software engineering facilitates maintenance of these modules

7 – Acknowledgment

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