



Al-Mustaqbal University
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قسم الانظمة الطبية الذكية

Lecture: (8)

How to Create a Case Study in Medical Multimedia

Subject: Medical Multimedia

Class: Fourth

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How to Create a Case Study in Medical Multimedia

1. Introduction

A **case study in medical multimedia** is a detailed analysis of a patient case or medical scenario using multimedia tools such as images, videos, 3D models, animations, and interactive content. It is widely used in medical education, diagnosis support, and research.

2. Objectives of a Medical Multimedia Case Study

- Enhance understanding of complex medical conditions
 - Improve clinical decision-making skills
 - Integrate visual and interactive learning
 - Present real-world medical scenarios effectively
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3. Key Components of a Case Study

3.1 Patient Information

- Age, gender
- Medical history
- Lifestyle factors

3.2 Clinical Presentation

- Symptoms
- Physical examination findings
- Initial observations

3.3 Diagnostic Data

- Laboratory results
- Medical imaging (X-ray, MRI, CT scan)
- Reports and charts

3.4 Diagnosis

- Final diagnosis
- Differential diagnosis

3.5 Treatment Plan

- Medications
- Procedures or surgeries
- Follow-up plan

3.6 Outcome

- Patient progress
 - Recovery or complications
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4. Role of Multimedia in Case Studies

4.1 Images

- Radiology images (CT, MRI)
- Microscopic images

4.2 Videos

- Surgical procedures
- Patient examination

4.3 3D Models

- Organs and anatomical structures
- Disease simulation

4.4 Animations

- Disease progression
- Physiological processes

4.5 Interactive Elements

- Quizzes
 - Decision-making scenarios
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5. Steps to Create a Case Study

Step 1: Select a Case

- Choose a relevant and educational case
- Ensure ethical approval and patient privacy

Step 2: Collect Data

- Clinical data
- Imaging and reports
- Multimedia resources

Step 3: Organize Content

- Arrange information logically:
 - Introduction → Diagnosis → Treatment → Outcome

Step 4: Design Multimedia Content

- Use tools like:
 - Blender (for 3D models)
 - Adobe tools (for editing)
- Ensure clarity and accuracy

Step 5: Integrate Multimedia

- Combine text with visuals
- Avoid overloading information

Step 6: Add Interactivity

- Include:
 - Questions
 - Case-based decisions

Step 7: Review and Validate

- Check medical accuracy



- Get expert feedback
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6. Ethical Considerations

- Patient confidentiality
 - Informed consent
 - Data anonymization
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7. Tools and Technologies

- **3D Modeling:** Blender
 - **Image Processing:** Photoshop
 - **Video Editing:** Premiere Pro
 - **Presentation Tools:** PowerPoint, HTML5
 - **Medical Imaging Software:** DICOM viewers
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8. Example Structure

1. Title of Case Study
 2. Patient Background
 3. Clinical Findings
 4. Diagnostic Imaging (with visuals)
 5. Diagnosis
 6. Treatment Plan
 7. Outcome
 8. Discussion
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9. Best Practices

- Keep content simple and clear
 - Use high-quality visuals
 - Focus on learning objectives
 - Ensure scientific accuracy
 - Make it interactive
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10. Conclusion

Medical multimedia case studies are powerful tools that combine **clinical knowledge with visual technology**, improving both teaching and learning experiences in healthcare education.



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