

# **CS2310 Multimedia Software Engineering**

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## **Exercise 4: Multimedia database**

## 1 Multimedia database

We are designing a multimedia database using multimedia functional dependency. A users can access to multimedia documents such as video, audio and picture using gestures. So our database store health information in terms of video, audio and picture and the interface to users are gesture recognize function.

Relation  $R = \{video, audio, picture, text\}$

MDF 1:

$video_{gestureSearch(t1)} \Rightarrow audio_{voiceSearch(t2)}$

If we define a functional dependency between attributes video and audio and use a classification function gestureSearch to search for voice content, and a voiceSearch function for searching voice content in database.

MDF 2:

$audio_{voiceSearch(t2)} \Rightarrow photo_{photoSearch(t3)}$

If we define a functional dependency between attributes audio and photo and use a classification function voice Search to search for audio resources, and a photoSearch function for searching photo of health information.

MDF 3:

$photo_{photoSearch(t3)} \Rightarrow text_{textSearch(t4)}$

This is the functional dependency between photo and text information.

## 2 IC card database

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### IC Card

IC Name: Video Search

Description: Searching for video

Interaction Pattern:



By Myself no Interacton

My Task: Use a gesture for searching

Time Critical Condition:

Name of Other IC: Patient

Message to Other IC:

Other IC's Task:

Card 1 of 1 (If necessary please use several IC cards to describe an IC)

## IC Card

IC Name: Audio Searching

Description: Searching for audio

Interaction Pattern:



By Myself no Interacton

My Task: Say something to the system

Time Critical Condition:

Name of Other IC: Patient

Message to Other IC: None

Other IC's Task: None

Card 1 of 1 (If necessary please use several IC cards to describe an IC)

## IC Card

IC Name: Photo Searching

Description: Searching for photo

Interaction Pattern:



By Myself no Interacton

My Task: Submit a photo to system

Time Critical Condition:

Name of Other IC: Patient

Message to Other IC: None

Other IC's Task: None

Card 1 of 1 (If necessary please use several IC cards to describe an IC)

## IC Card

IC Name: Text Searching

Description: Searching for Text  
Interaction Pattern:



By Myself no Interacton

My Task: Submit some words to system

Time Critical Condition:

Name of Other IC: Patient

Message to Other IC: None

Other IC's Task: None

Card 1 of 1 (If necessary please use several IC cards to describe an IC)