

GESTURE-BASED RECOGNITION SYSTEM FOR STERILE BROWSING OF RADIOLOGY IMAGES:

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FUNCTIONAL REQUIREMENTS (FR):

Functional requirements specify the main technical functionalities and specifications that the system should incorporate.

FR-01 USER REGISTRATION:

User registration and login enables a system to personalize itself. For example, our website will display a welcome banner

Registration through password:

SET PASSWORD:

Check the strength and security of the passwords. Find out if they've been compromised and get personalized advice when you need it.

Then the application will have a register option for registration.

FR-02 USER CONFIRMATION:

SIGN IN:

The VERIFY PASSWORD command allows an application to check that a password matches the password recorded by an external security manager (ESM) for a user ID, and return values recorded by the external security manager for the password.

FR-03 SKIN DETECTION MODULE:

This software shall perform skin colour detection and filter out all objects that do not contain the colour of skin. By filtering object of non-skin coloured, the system can then use its remaining resources and focus on hand detection and gesture recognitions. This also allows the system to pinpoint possible locations of user's hands. The skin detection module can be achieved by using the Marvin Image Processing Framework

FR-04 FILTERED OBJECT DETECTION

Once the program has filtered out most of the unwanted parts of the picture after Using

the skin detection module, the software shall read and recognize “clusters” skin coloured objects also known as “blobs”.

FR-05 HAND CALIBRATION

Depending on user’s preferences, the system shall perform adjustments according to user’s dominant hand. This means that if the user is right handed, the mouse control gesture mode should be recognized near the right side of the face instead of the whole field of view. This is achieved through trigonometry math conversions.

FR-06 MOUSE MOVEMENT GESTURE CONTROL MODE

After obtaining the location of the hand, the software shall use the detected location as the mouse cursor point. As the user moves his/her hands, the mouse should follow promptly on the screen.

FR-07 BROWSING GESTURE CONTROL MODE

The software shall allow the user to use the “Browsing Gesture Mode”. In this mode, user’s hand gesture will only be recognized for commands including previous page, next page, scroll up and scroll down

PROJECT FLOW:

