

**Purpose:** Computer-aided diagnostic (CAD) system can assist radiologists by detecting breast abnormalities in early stage. Hence, the need for designing and analysis of an interactive a CAD system facilitated with such a reliable interface proper to diagnose breast cancer on mammograms becomes apparent.

**Methods:** The base hardware system regarded for this purpose includes one digitizer, high speed computer could connecting to PACS by DICOM format, while this system has been designed in Visual C++. Net environment using Microsoft Access based Database(ODBC). Based on these requirements, evaluation, analysis and designing of the technical details for implementing a developed mammographic CAD system including three software programming sections of (a) Patient Information , (b) Viewer & General Image Processing and (c)CAD section as the main part of the system has been accomplished in thus study.

**Results:** a) The "Patient Information Dialog" designed for saving full patient information, thumbnail images, storing text report, printing reports, b) The "Viewer & General image Processing sections" designed to display four mammogram breast views (RCC-RMLO-LCC-LMLO) in one window, background removing using histogram, ROI determination, contrast/windowing/thresholding, histogram-equalization, edge detection using desire different kernels-filtering and c)CAD system as the main part includes processing and diagnostic algorithm for detecting breast abnormalities by using wavelet and fuzzy logic algorithm, developed earlier by this group, finally with 16 conventional Template for Clinical reports are the main parts of the designed system.

**Conclusions:** The provided MammoCAD system in this article could overcome drawbacks of the interpretation of a large volume of images produced in conventional screening mammography. The detection of suspicious cancers or possibility of malignancies will be analyzed by the software, hence, increasing sensitivity and accuracy of the algorithm can help to decrease the number of cancers that is hard to diagnose and also to prevent unnecessary biopsies for breast cancer diagnosis.