PROJECT PROPOSAL – DIGITAL IMAGE PROCESSING

Project ID	21
Project Title	Web-based interactive tool for demonstrating image processing techniques
Github Link	https://github.com/lokeshbalani/pixels
Team Members	Lokesh Balani (20173073) Abhishek Tyagi (20173067)
Abstract (Main Goals)	Create an interactive website for applying digital image processing techniques to images provided by the user and showing the result output image in real time
Problem Definition and Results	• Creating a design and wireframe for the website • Using Django framework to implement the design of the website • Developing the front end for the website using HTML, CSS and JavaScript • Develop interactive interface and its backend python support for reading the parameters passed, applying image processing techniques and displaying the resulting image as a response to the user • The image processing techniques to be implemented: ◦ Brightness and Contrast adjustment (like in Tvs) ◦ Piecewise Linear Transformations through user drawn and adjustable curves ◦ Blurring/Smoothing ◦ Sharpening ◦ Median Filter (Noise Reduction) ◦ Edge detection using derivative filters ◦ Unsharp Masking and High boost filtering ◦ ChromaKeying ◦ Correlation and Convolution using a user defined filter ◦ DFT and iDFT for a given image ◦ Erosion and Dilation ◦ Opening and Closing
Division of work among Team Members	1. Design of website [Lokesh, Abhishek] 2. Django framework – front-end development [Lokesh] 3. Django framework – interactive parameter model [Lokesh] 4. Image processing service for interfacing with the python modules and front-end [Abhishek] 5. Python – preparing image processing modules for porting [Lokesh, Abhishek]
Project Milestones and Deadlines	Website Design: 7 October Website Front-end : 21 October Image Processing Techniques: 20% every week Working Website: 10 November Project Presentation: 29 November