```
% Step 1: Loading the image
img = imread('ford.jpg');
imshow(img);
title('Ford Car Image');
```


```
% Step 2: Converting to grayscale image
if size(img, 3) == 3
    imgGray = rgb2gray(img);
else
    imgGray = img;
end

figure; imshow(imgGray);
title('Grayscale Image of Ford Car');
```

Grayscale Image of Ford Car

```
% Step 3: Creating a binary mask
disp('Selecting the ROI');
```

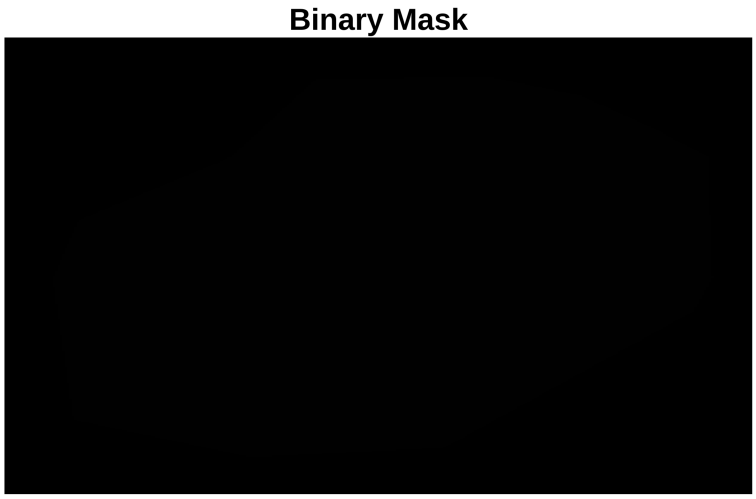
```
Selecting the ROI
```

```
roi = roipoly(imgGray);
```

```
binaryMask = uint8(roi);

binaryMask = imresize(binaryMask, size(imgGray));
```

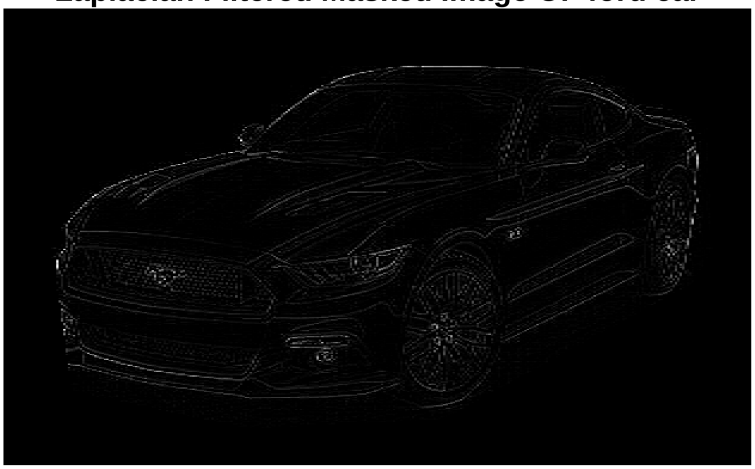
```
figure; imshow(binaryMask);
title('Binary Mask');
```




```
% Step 4: Applying the Laplacian filter
laplacianFilter = fspecial('laplacian');
laplacianFiltered = imfilter(imgGray, laplacianFilter);
laplacianMasked = laplacianFiltered .* binaryMask;

figure; imshow(laplacianMasked, []);
title('Laplacian Filtered Masked Image OF ford car');
```

Laplacian Filtered Masked Image OF ford car



```
% Step 5: Applying the Prewitt filter
prewittFilterX = fspecial('prewitt');
prewittFilteredX = imfilter(double(imgGray), prewittFilterX);

prewittFilterY = prewittFilterX';
prewittFilteredY = imfilter(double(imgGray), prewittFilterY);

prewittFiltered = sqrt(abs(prewittFilteredX).^2 + abs(prewittFilteredY).^2);

prewittMasked = prewittFiltered .* double(imresize(binaryMask,
size(imgGray)));

figure;
imshow(prewittMasked, []);
title('Prewitt Filtered Masked Image of Ford car');
```

Prewitt Filtered Masked Image of Ford car