

LAMPIRAN A
LISTING PROGRAM

Menu utama perangkat lunak :

```
mainFigure = figure('position',[100,20,190.4,44],...  
                  'name',[Labelisasi citra pada object 3 dimensi])
```

```
dispP = uipanel('position',[0,0,100,44],...  
              'backgroundcolor',[0.957,0.957,0.957],...  
              'title',[Display image])
```

```
citraP = uipanel('position',[100,20,90,24],...  
               'backgroundcolor',[0.957,0.957,0.957],...  
               'title',[Citra])
```

```
morphP = uipanel('position',[100,0,90,20],...  
               'backgroundcolor',[0.957,0.957,0.957],...  
               'title',[Morph])
```

```
objectbefore = axes('position',[5,24,68.4,17],...  
                   'xgrid','off','ygrid','off',...  
                   'xcolor',[1 1 1],ycolor',[1 1 1],...  
                   'color',[1,1,1])
```

```
objectAxes = axes('position',[5,4.5,68.4,17.5],...  
                 'xgrid','off','ygrid','off',...  
                 'xcolor',[1 1 1],ycolor',[1 1 1],...  
                 'color',[1,1,1])
```

```
labelAxes = axes('position',[5.5,3,40,12],...  
                'xgrid','off','ygrid','off',...  
                'xcolor',[1 1 1],ycolor',[1 1 1],...  
                'color',[1,1,1])
```

```
morphAxes = axes('position',[5.5,3,40,12],...  
                'xgrid','off','ygrid','off',...  
                'xcolor',[1 1 1],ycolor',[1 1 1],...  
                'color',[1,1,1])
```

```
loadText = uicontrol('position',[5.2,20,40,1.6],...  
                   'style','edit',...  
                   'horizontalalignment','right',...  
                   'string','',...  
                   'FontName','MS Sans Serif',  
                   'FontSize','8','FontWeight','normal')
```

```

saveText = uicontrol('position',[75,20,20,1.6],...
    'style','edit',...
    'horizontalalignment','center',...
    'string','hasil.png',...
    'FontName','MS Sans Serif',
    'FontSize','8','FontWeight','normal)

object1Button = uicontrol('position',[80,38,15,1.7],...
    'units','character',...
    'style','pushbutton'
    'callback','label('object1Button_Callback',gcbo,[],guidata(gcbo))',...
    'string','object1')

object2Button = uicontrol('position',[80,36,15,1.7],...
    'units','character',...
    'style','pushbutton'
    'callback','label('object2Button_Callback',gcbo,[],guidata(gcbo))',...
    'string','object2')

object3Button = uicontrol('position',[80,34,15,1.7],
    'units','character',...
    'style','pushbutton'
    'callback','label('object3Button_Callback',gcbo,[],guidata(gcbo))',...
    'string','object3')

saveButton = uicontrol('position',[80,17,15,1.7],...
    'units','character',...
    'style','pushbutton'
    'callback','label('saveButton_Callback',gcbo,[],guidata(gcbo))',...
    'string','Save')

browseButton = uicontrol('position',[47,20,20,1.75],...
    'units','character',...
    'style','pushbutton'
    'callback','label('browseButton_Callback',gcbo,[],guidata(gcbo))',...
    'string','Browse')

loadButton = uicontrol('position',[25.4,17.6,20,1.7],...
    'units','character',...
    'style','pushbutton'
    'callback','label('browseButton_Callback',gcbo,[],guidata(gcbo))',...
    'string','load image')

morph1Button = uicontrol('position',[50,7.5,18,1.7],...
    'units','character',...

```

```

        'style','pushbutton',...
        'enable','ob',...
        'callback','label('morph1Button_Callback',gcbo,[],guidata(gcbo))',...
        'string','ball morph')

morph2Button = uicontrol('position',[50,5,18,1.7],...
    'units','character',...
    'style','pushbutton',...
    'enable','ob',...
    'callback','label('morph2Button_Callback',gcbo,[],guidata(gcbo))',...
    'string','sinusoid morph')

morph3Button = uicontrol('position',[50,2.5,18,1.7],...
    'units','character',...
    'style','pushbutton',...
    'enable','on',...
    'callback','label('morph3Button_Callback',gcbo,[],guidata(gcbo))',...
    'string','cone morph')

labelisasiB1 = uicontrol('position',[70,7.5,18,1.7],...
    'units','character',...
    'style','pushbutton',...
    'enable','off',...
    'callback','label('label('labelisasiB1_Callback',gcbo,[],guidata(gcbo))',...

labelisasiB2 = uicontrol('position',[70,5,18,1.7],...
    'units','character',...
    'style','pushbutton',...
    'enable','off',...
    'callback','label('label('labelisasiB2_Callback',gcbo,[],guidata(gcbo))',...

labelisasiB3 = uicontrol('position',[70,2.5,18,1.7],...
    'units','character',...
    'style','pushbutton',...
    'enable','off',...
    'callback','label('label('labelisasiB3_Callback',gcbo,[],guidata(gcbo))',...

```

object1 :

```
function object1Button_Callback(hObject, eventdata, handles)
myform = guidata(gcbo);
axes(myform.objectAxes);
vas = imread('object1.png');
imshow(vas);
axes(myform.objectbefore);
imshow(vas);
```

object2 :

```
function object2Button_Callback(hObject, eventdata, handles)
myform = guidata(gcbo);
axes(myform.objectAxes);
vas = imread('object2.png');
imshow(vas);
axes(myform.objectbefore);
imshow(vas);
```

object3 :

```
function object3Button_Callback(hObject, eventdata, handles)
myform = guidata(gcbo);
axes(myform.objectAxes);
vas = imread('cone.png');
imshow(vas);
axes(myform.objectbefore);
imshow(vas);
```

browse :

```
function browseButton_Callback(hObject, eventdata, handles)
file = uigetfile('*.png');
if ~isequal(file, 0)
myform = guidata(gcbo);
axes(myform.labelAxes);
label = imread(file);
imshow(label);
set(myform.edit1, 'String', file);
open(file);
end
```

load image :

```
function loadButton_Callback(hObject, eventdata, handles)
myform = guidata(gcbo);
axes(myform.labelAxes);
labelx = get(myform.loadText, 'String');
label = imread(labelx);
imshow(label);
```

Morphing dengan Ball Morph :

```
function morph1Button_Callback(hObject, eventdata, handles)
myform = guidata(gcbo);
axes(myform.morphAxes);
set(myform.labelisasiB1, 'enable', 'on')
set(myform.labelisasiB2, 'enable', 'off')
set(myform.labelisasiB3, 'enable', 'off')
labelx = get(myform.loadText, 'String');
label = imread(labelx);
I = label;
[nrows,ncols] = size(I);
[xi,yi] = meshgrid(1:ncols,1:nrows);
imid = round(size(I,2)/2); % Find index of middle element
resamp = makesampler('linear','fill');
xt = xi(:) - imid;
yt = yi(:) - imid;
[theta,r] = cart2pol(xt,yt);
a = .00050;
s = r + a*r.^3;
[ut,vt] = pol2cart(theta,s);
u = reshape(ut,size(xi)) + imid;
v = reshape(vt,size(yi)) + imid;
tmap_B = cat(3,u,v);
I_barrel = tformarray(I,[],resamp,[2 1],[1 2],[],tmap_B,.3);
imshow(I_barrel);
```

Morphing dengan Sinusoida Morph:

```
function morph2Button_Callback(hObject, eventdata, handles)
myform = guidata(gcbo);
axes(myform.morphAxes);
labelx = get(myform.loadText, 'String');
label = imread(labelx);
set(myform.labelisasiB1, 'enable', 'off')
```

```

set(myform.labelisasiB2,'enable','on')
set(myform.labelisasiB3,'enable','off')
l = label;
[nrows,ncols] = size(l);
[xi,yi] = meshgrid(1:ncols,1:nrows);
a1 = 10;.
a2 = 3;
imid = round(size(l,2)/2); u = xi + a1*sin(pi*xi/imid);
v = yi - a2*sin(pi*yi/imid);
tmap_B = cat(3,u,v);
resamp = makesampler('linear','fill');
l_sinusoid = tformarray(l,[],resamp,[2 1],[1 2],[],tmap_B,.3);
imshow(l_sinusoid);

```

Morphing dengan Cone Morph:

```

function morph3Button_Callback(hObject, eventdata, handles)
myform = guidata(gcbo);
axes(myform.morphAxes);
labelx = get(myform.loadText,'String');
label = imread(labelx);
set(myform.labelisasiB1,'enable','off')
set(myform.labelisasiB2,'enable','off')
set(myform.labelisasiB3,'enable','on')
A = label;
ring = maketform('custom', 2, 2, [], @ipexConformallInverseClip, []);
uData = [ -1.25  1.25]; % Bounds for REAL(w)
vData = [ 0.75 -0.75]; % Bounds for IMAG(w)
yData = [ 2.0 -2.0 ]; % Bounds for IMAG(z)
D = imtransform( A, ring, 'cubic',...
                'UData', uData, 'VData', vData,...
                'XData', [-2 2], 'YData', yData,...
                'Size', [400 400], 'FillValues', 0 );
imshow(D);

```

Proses labelisasi dengan Ball Morph :

```

function labelisasiB1_Callback(hObject, eventdata, handles)
myform = guidata(gcbo);
axes(myform.objectbefore);
vas = imread('object1.png');
imshow(vas);
axes(myform.objectAxes);

```

```

labelx = get(myform.loadText, 'String');
bg_RGB= imread('object1.png');
label1 = imread(labelx);
I = label1;
[nrows,ncols] = size(I);
[xi,yi] = meshgrid(1:ncols,1:nrows);
imid = round(size(I,2)/2); % Find index of middle element
resamp = makesampler('linear', 'fill');
xt = xi(:) - imid;
yt = yi(:) - imid;
[theta,r] = cart2pol(xt,yt);
a = .000050; % Try varying the amplitude of the cubic term.
s = r + a*r.^3;
[ut,vt] = pol2cart(theta,s);
u = reshape(ut,size(xi)) + imid;
v = reshape(vt,size(yi)) + imid;
tmap_B = cat(3,u,v);
I_barrel = tformarray(I,[],resamp,[2 1],[1 2],[],tmap_B,.3);
label = I_barrel;
Image=bg_RGB;
for row=1:size(label1,1)
    for col=1:size(label1,2)
        if label(row,col)~=0
            Image(row+75,col+50,1)=label(row,col,1);
            Image(row+75,col+50,2)=label(row,col,2);
            Image(row+75,col+50,3)=label(row,col,3);
        end
    end
end
imshow(Image);

```

Proses labelisasi dengan Sinusoida Morph :

```

function labelisasiB2_Callback(hObject, eventdata, handles)
myform = guidata(gcbo);
axes(myform.objectbefore);
vas = imread('object2.png');
imshow(vas);
axes(myform.objectAxes);
labelx = get(myform.loadText, 'String');
bg_RGB= imread('object2.png');
label1 = imread(labelx);
I = label1;

```



```

[nrows,ncols] = size(I);
[xi,yi] = meshgrid(1:ncols,1:nrows);
a1 = 15; % Try varying the amplitude of the sinusoids.
a2 = 3;
imid = round(size(I,2)/2); % Find index of middle element
u = xi + a1*sin(pi*xi/imid);
v = yi - a2*sin(pi*yi/imid);
tmap_B = cat(3,u,v);
resamp = makesampler('linear', 'fill');
I_sinusoid = tformarray(I,[],resamp,[2 1],[1 2],[],tmap_B,.3);
label = I_sinusoid;
Image=bg_RGB;
for row=1:size(label,1)
    for col=1:size(label,2)
        if label(row,col)~=0
            if label(row <=75)
                end
            if label (row>75)
                end
            Image(row+75,col+50,1)=label(row,col,1);
            Image(row+75,col+50,2)=label(row,col,2);
            Image(row+75,col+50,3)=label(row,col,3);
        end
    end
end
imwrite(Image,'temp.png','png');
imshow(Image)

```

Proses labelisasi dengan Cone Morph :

```

function labelisasiB3_Callback(hObject, eventdata, handles)
myform = guidata(gcbo);
axes(myform.objectbefore);
vas = imread('cone.png');
imshow(vas);
axes(myform.objectAxes);

labelx = get(myform.loadText,'String');
bg_RGB= imread('cone.png');
label1 = imread(labelx);
A = label1;
ring = maketform('custom', 2, 2, [], @ipexConformallInverseClip, []);

```

```

uData = [-1.25 1.25]; % Bounds for REAL(w)
vData = [ 0.75 -0.75]; % Bounds for IMAG(w)
yData = [ 2 -2]; % Bounds for IMAG(z)
xDData = [-2 2];
D = imtransform( A, ring, 'cubic',...
                'UData', uData, 'VData', vData,...
                'XData', xData, 'YData', yData,...
                'Size', [400 400], 'FillValues', 0 );

label = D;
Image=bg_RGB;

for row=1:400
    for col=1:400
        if label(row,col)~=0
            Image(row,col,1)=label(row,col,1);
            Image(row,col,2)=label(row,col,2);
            Image(row,col,3)=label(row,col,3);
        end
    end
end

labelb = imread('coverb.png');
for row=1:400
    for col=1:400
        if labelb(row,col)~=0
            Image(row,col,1)=labelb(row,col,1);
            Image(row,col,2)=labelb(row,col,2)    Image(row,col,3)=labelb(row,col,3);
        end
    end
end
imwrite(Image,'temp.png','png');
imshow(Image)

```

Save data :

```

function saveButton_Callback(hObject, eventdata, handles)
myform = guidata(gcbo);
labelx = get(myform.saveText, 'String');
Image = imread('temp.png');
imwrite(Image,labelx);

```

Lampiran B

Gambar Objek



Object 1



Object 2



Object 3

Gambar Label

Logo :



Logo 1



Logo 2



Logo 3

Text :



Text 1



Text 2



Text 3

Image :



Image 1

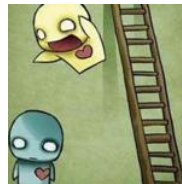


Image 2

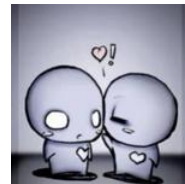

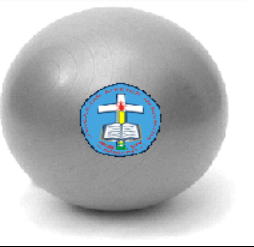
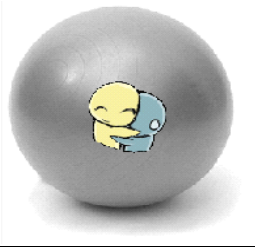
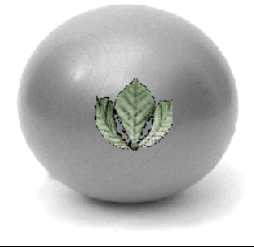
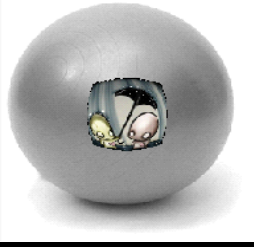

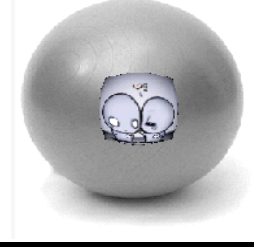
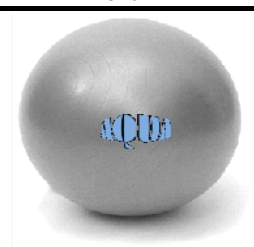
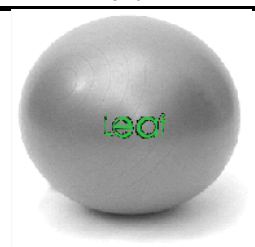













Image 3

| Objek 1 | Setelah Dilabelisasi Menggunakan Ball Morph | | | |
|--|---|--|--|---|
| | Logo 1 | Logo 2 | Logo 3 | |
| |  |  |  |  |
| | Image 1 | Image 2 | Image 3 | |
|  |  |  | | |
| Text 1 | Text 2 | Text3 | | |
|  |  |  | | |

| Objek 2 | Setelah Dilabelisasi Menggunakan Sinusoida Morph | | |
|---|--|---|--|
| | Logo 1 | Logo 2 | Logo 3 |
|  |  |  |  |
| | Image 1 | Image 2 | Image 3 |
| |  |  |  |
| | Text 1 | Text 2 | Text3 |
| |  |  |  |

| Objek 3 | Setelah Dilabelisasi Menggunakan Cone Morph | | | |
|--|---|--|---|---|
| | Logo 1 | Logo 2 | Logo 3 | |
| |  |  |  |  |
| | | Image 1 | Image 2 | Image 3 |
|  | |  |  | |
| Text 1 | Text 2 | Text3 | | |
|  |  |  | | |