

## **Background and Equations**

None required.

## **Operations Description**

Sliders change color of panel as soon as they are released.

## **User Interface Description**

Three sliders (redSlider, greenSlider and blueSlider). Made horizontal by setting width larger than height. Note slider Strings are not displayed.

Three static text labels to label the sliders Red, Green and Blue.

A panel (colorPanel) the color of which will be changed.

## **Algorithms**

### *OpeningFcn*

Create and initialize color state properties (RedValue, GreenValue, BlueValue) based on initial Values obtained from respective sliders.

Update central handles structure by calling guidata.

### *Each Slide Callback*

Get Value of slider and save it as corresponding handles property.

Set panel background color based on stored slider color values.

Update central handles structure by calling guidata.

## Source Code

```
function varargout = sliderDemo(varargin)
% SLIDERDEMO M-file for sliderDemo.fig
%
% See my Slider Color Panel Demo documentation for more information.
%
% Created by Dr. C. S. Tritt
% Last revised: 1/24/07 (Version 1.0)
%
% See also: GUIDE, GUIDATA, GUIHANDLES

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% Edit the above text to modify the response to help sliderDemo

% Last Modified by GUIDE v2.5 23-Jan-2007 20:52:16

% Begin initialization code - DO NOT EDIT
gui_Singleton = 1;
gui_State = struct('gui_Name',       mfilename, ...
                  'gui_Singleton',  gui_Singleton, ...
                  'gui_OpeningFcn', @sliderDemo_OpeningFcn, ...
                  'gui_OutputFcn',  @sliderDemo_OutputFcn, ...
                  'gui_LayoutFcn',  [], ...
                  'gui_Callback',   []);
if nargin && ischar(varargin{1})
    gui_State.gui_Callback = str2func(varargin{1});
end

if nargout
    [varargout{1:nargout}] = gui_mainfcn(gui_State, varargin{:});
else
    gui_mainfcn(gui_State, varargin{:});
end
% End initialization code - DO NOT EDIT

% --- Executes just before sliderDemo is made visible.
function sliderDemo_OpeningFcn(hObject, eventdata, handles, varargin)
% This function has no output args, see OutputFcn.
% hObject    handle to figure
% eventdata  reserved - to be defined in a future version of MATLAB
% handles    structure with handles and user data (see GUIDATA)
% varargin   command line arguments to sliderDemo (see VARARGIN)

% Choose default command line output for sliderDemo
handles.output = hObject;

% Get initial slider states and set panel accordingly.
handles.RedValue = get(handles.redSlider, 'Value');
handles.GreenValue = get(handles.greenSlider, 'Value');
handles.BlueValue = get(handles.blueSlider, 'Value');

set(handles.colorPanel, 'BackgroundColor', ...
    [handles.RedValue handles.GreenValue handles.BlueValue]);
```

```

% Update handles structure
guidata(hObject, handles);

% UIWAIT makes sliderDemo wait for user response (see UIRESUME)
% uiwait(handles.figure1);

% --- Outputs from this function are returned to the command line.
function varargout = sliderDemo_OutputFcn(hObject, eventdata, handles)
% varargout cell array for returning output args (see VARARGOUT);
% hObject handle to figure
% eventdata reserved - to be defined in a future version of MATLAB
% handles structure with handles and user data (see GUIDATA)

% Get default command line output from handles structure
varargout{1} = handles.output;

% --- Executes on slider movement.
function redSlider_Callback(hObject, eventdata, handles)
% hObject handle to redSlider (see GCBO)
% eventdata reserved - to be defined in a future version of MATLAB
% handles structure with handles and user data (see GUIDATA)

% Hints: get(hObject,'Value') returns position of slider
% get(hObject,'Min') and get(hObject,'Max') to determine range of
slider

% Get and save slider state.
handles.RedValue = get(handles.redSlider, 'Value');

% Set new panel background color.
set(handles.colorPanel, 'BackgroundColor', ...
    [handles.RedValue handles.GreenValue handles.BlueValue]);

% Update handles structure
guidata(hObject, handles);

% --- Executes during object creation, after setting all properties.
function redSlider_CreateFcn(hObject, eventdata, handles)
% hObject handle to redSlider (see GCBO)
% eventdata reserved - to be defined in a future version of MATLAB
% handles empty - handles not created until after all CreateFcns called

% Hint: slider controls usually have a light gray background, change
% 'usewhitebg' to 0 to use default. See ISPC and COMPUTER.
usewhitebg = 1;
if usewhitebg
    set(hObject,'BackgroundColor',[.9 .9 .9]);
else
    set(hObject,'BackgroundColor',get(0,'defaultUicontrolBackgroundColor'));
end

% --- Executes on slider movement.
function greenSlider_Callback(hObject, eventdata, handles)
% hObject handle to greenSlider (see GCBO)
% eventdata reserved - to be defined in a future version of MATLAB
% handles structure with handles and user data (see GUIDATA)

```

```

% Hints: get(hObject,'Value') returns position of slider
%         get(hObject,'Min') and get(hObject,'Max') to determine range of
slider

% Get and save slider state.
handles.GreenValue = get(handles.greenSlider, 'Value');

% Set new panel background color.
set(handles.colorPanel, 'BackgroundColor', ...
    [handles.RedValue handles.GreenValue handles.BlueValue]);

% Update handles structure
guidata(hObject, handles);

% --- Executes during object creation, after setting all properties.
function greenSlider_CreateFcn(hObject, eventdata, handles)
% hObject    handle to greenSlider (see GCBO)
% eventdata  reserved - to be defined in a future version of MATLAB
% handles    empty - handles not created until after all CreateFcns called

% Hint: slider controls usually have a light gray background, change
%         'usewhitebg' to 0 to use default.  See ISPC and COMPUTER.
usewhitebg = 1;
if usewhitebg
    set(hObject,'BackgroundColor',[.9 .9 .9]);
else
    set(hObject,'BackgroundColor',get(0,'defaultUicontrolBackgroundColor'));
end

% --- Executes on slider movement.
function blueSlider_Callback(hObject, eventdata, handles)
% hObject    handle to blueSlider (see GCBO)
% eventdata  reserved - to be defined in a future version of MATLAB
% handles    structure with handles and user data (see GUIDATA)

% Hints: get(hObject,'Value') returns position of slider
%         get(hObject,'Min') and get(hObject,'Max') to determine range of
slider

% Get and save slider state.
handles.BlueValue = get(handles.blueSlider, 'Value');

% Set new panel background color.
set(handles.colorPanel, 'BackgroundColor', ...
    [handles.RedValue handles.GreenValue handles.BlueValue]);

% Update handles structure
guidata(hObject, handles);

% --- Executes during object creation, after setting all properties.
function blueSlider_CreateFcn(hObject, eventdata, handles)
% hObject    handle to blueSlider (see GCBO)
% eventdata  reserved - to be defined in a future version of MATLAB
% handles    empty - handles not created until after all CreateFcns called

% Hint: slider controls usually have a light gray background, change
%         'usewhitebg' to 0 to use default.  See ISPC and COMPUTER.

```

```
usewhitebg = 1;  
if usewhitebg  
    set(hObject,'BackgroundColor',[.9 .9 .9]);  
else  
    set(hObject,'BackgroundColor',get(0,'defaultUicontrolBackgroundColor'));  
end
```