

Selecting ImageData Using Rows And Columns

Initialization Code

(optional)

Manipulate

```

Manipulate[
Module[{work = Table[0, {116}, {150}, {3}], channel},
If[r1 > r2, r1 = r2];
If[c1 > c2, c1 = c2];

channel = Which[
p1 && p2 && p3, 1 ;; 3,
p1 && Not[p2] && Not[p3], 1,
p1 && p2 && Not[p3], 1 ;; 2,
p1 && Not[p2] && p3, {1, 3},
Not[p1] && p2 && p3, 2 ;; 3,
Not[p1] && p2 && Not[p3], 2,
Not[p1] && p3 && Not[p2], 3,
True, (p1 = True; 1) (*must have atleast one channel*)
];

work[[r1 ;; r2, c1 ;; c2, channel]] = data[[r1 ;; r2, c1 ;; c2, channel]];

Grid[{{
Row[{"ImageData[[ ", padIt2[r1, 3], ";", padIt2[r2, 3],
" , ", padIt2[c1, 3], ";", padIt2[c2, 3], " , ", channel, " ]"]}],
Grid[{{
ImageResize[Image[data], 350], ImageResize[Image[work], 350]}]
}
}, Alignment -> Center, Frame -> All, FrameStyle -> LightGray, Spacings -> {1, 1}]
],
Style[Text[Grid[{
{
Grid[{{
"starting row",
Control[{{r1, 17, ""}, 1, 116, 1, ImageSize -> Tiny}], Spacer[2], Dynamic[padIt2[r1, 3]]},
{"ending row", Control[{{r2, 83, ""}, 1, 116, 1, ImageSize -> Tiny}],
Spacer[2], Dynamic[padIt2[r2, 3]]},
 {"starting column", Control[{{c1, 10, ""}, 1, 150, 1, ImageSize -> Tiny}],
Spacer[2], Dynamic[padIt2[c1, 3]]},
 {"ending column", Control[{{c2, 133, ""}, 1, 150, 1, ImageSize -> Tiny}],
Spacer[2], Dynamic[padIt2[c2, 3]]}
}, Alignment -> Left, Frame -> True, FrameStyle -> Directive[Thickness[.001], Gray]],
Grid[{
 {"select color channel"},
 Grid[{{
"red", Checkbox[Dynamic[p1, {p1 = #} &]]},
 {"green", Checkbox[Dynamic[p2, {p2 = #} &]]},
 {"blue", Checkbox[Dynamic[p3, {p3 = #} &]]}
}]]}}]
```

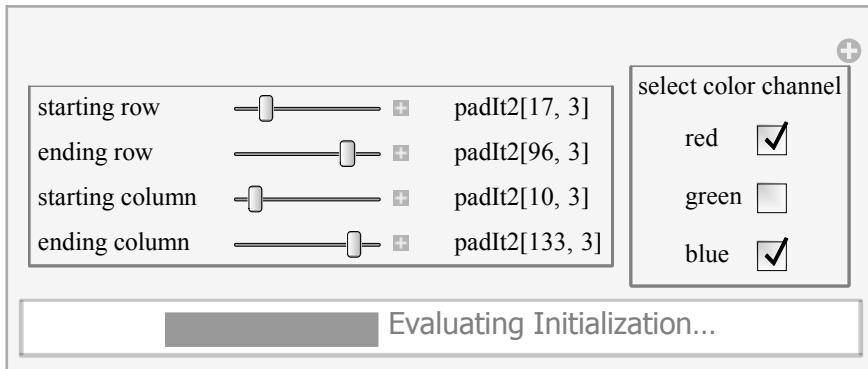
```

        }, Alignment -> Left, Spacings -> {0.4, .7}]
    }
}, Alignment -> Center, Frame -> True,
FrameStyle -> Directive[Thickness[.001], Gray], Spacings -> {0.5, .7}]

}
}, Alignment -> Center]
], 12],


{{p1, True}, None},
{{p2, True}, None},
{{p3, True}, None},
Alignment -> Center,
ImageMargins -> 1,
FrameMargins -> 1,
Paneled -> True,
AutorunSequencing -> Automatic,
SynchronousUpdating -> True,
ContinuousAction -> True,
SynchronousInitialization -> False,
SynchronousUpdating -> True,
Initialization :>
(
  numeric = (Element[#, Reals] &);
  padIt2[v_?numeric, f_Integer] :=
    AccountingForm[Chop[v], f, NumberSigns -> {"", ""}, NumberPadding -> {"0", "0"}, SignPadding -> True];
  data = ImageData[];
)
]

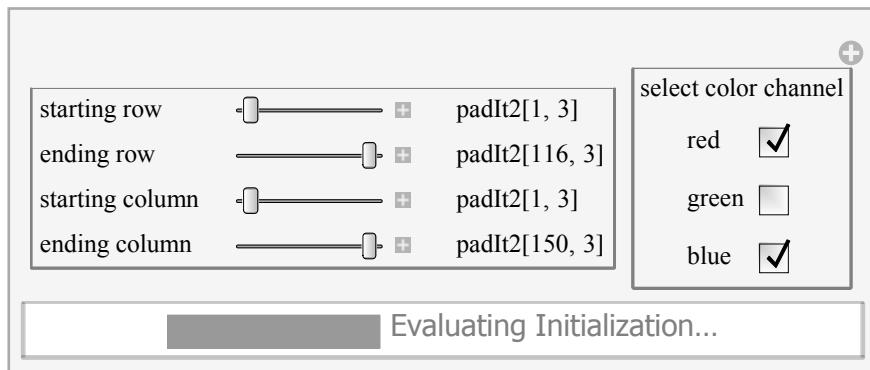
```



The screenshot shows a Mathematica demonstration window. On the left, there are four sliders labeled 'starting row', 'ending row', 'starting column', and 'ending column'. Each slider has a range from 0 to 100. To the right of each slider is a corresponding command: `padIt2[17, 3]`, `padIt2[96, 3]`, `padIt2[10, 3]`, and `padIt2[133, 3]`. On the right side of the window, there is a panel titled 'select color channel' with three checkboxes: 'red' (checked), 'green' (unchecked), and 'blue' (checked). At the bottom of the window, there is a progress bar with the text 'Evaluating Initialization...'.

Caption

This demonstration shows how to select parts of an image using `ImageData` by specifying row and column locations. You can also select different color channels to view.

**Details**

(optional)

Control Suggestions

(optional)

- Resize Images
- Rotate and Zoom in 3D
- Drag Locators
- Create and Delete Locators
- Slider Zoom
- Gamepad Controls
- Automatic Animation
- Bookmark Animation

Search Terms

(optional)

ImageData

ImageResize

Related Links

(optional)

Image Processing & Analysis

Authoring Information

Contributed by: Nasser M. Abbasi