

## Adding new card Definitions

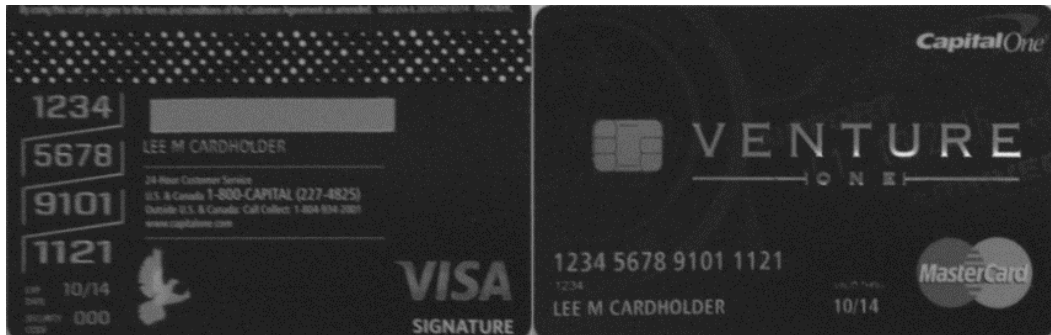
### Collecting a sample:

The easiest way to collect a proper sample for a new card format is to output the frames directly from card.io video stream. To do this either save the frame from the video stream on either iOS or Android to the device storage or use the **SampleCollector** project which will grab samples for you on iOS and dump them into your iOS devices library.

**Note:** **SampleCollector** will only collect rejected frames. No notification will be given other than approval to save images. Check your photos/gallery after scanning for a moment with edge detection active.

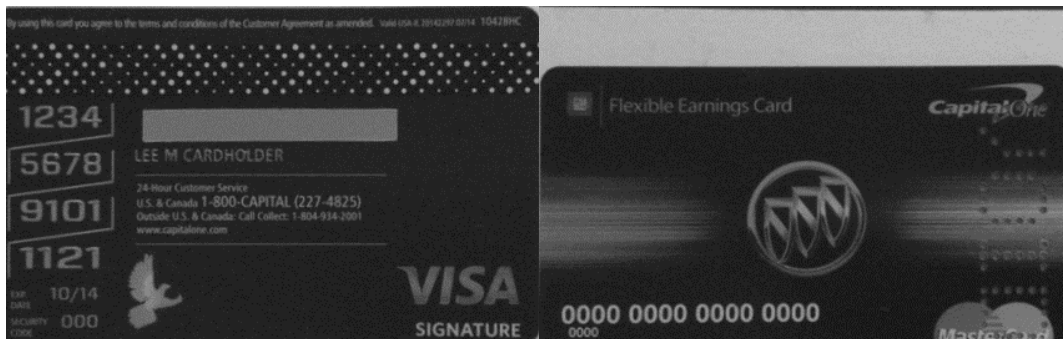
Once you have a proper sample transfer it (USB, Email, etc.) to your desired machine and import it into your favorite image editor. You need to be able to obtain pixel information. Editors such as MSPaint, paint.net or GIMP should be fine.

### GOOD sample:



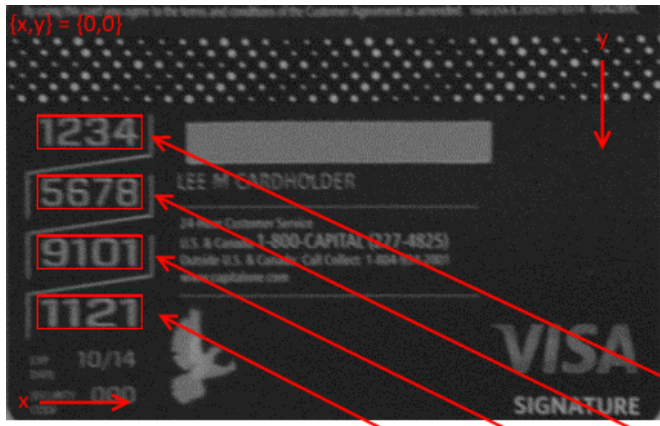
*Good Sample 1 & 2*

### BAD Sample:



*Bad sample with edges cut off of left side and top*

Once you have collected a good sample for the new card format you must extract the coordinate information for the desired credit card groupings. In our first good example we would have:



$(x,y) = (0,0)$

Format = { x , y, width, height }

Resolution = { 428, 270 } pxs

```
/*Venture Card
Laser
Personalization
Vertical*/

{
  {20, 78, 70, 23},
  {20, 116, 70, 23},
  {20, 153, 70, 23},
  {20, 192, 70, 23}
},
```

**Note:** Allow for a 1-5 pixel margin on each rectangle. More than this may decrease accuracy or allow undesired characters to be included. You may have to try increasing or decreasing the margin for certain card types to improve accuracy.

### Entering new definition:

In the current version definitions are stored in a 3D array within the scanner (Currently located in "Scan/dmz/scan/ocre.cpp"). To add a new definition you must create/add the 2D array to your DEFINITIONS array:

```
const int NUMDEFS = 3; //Be sure to increment this to match your definitions length!

const std::string ROTATIONS = "1"; /*If your card number is rotated by 90 degrees add its index to this string. This is currently only used for the Powercard, updated versions may support more rotation types but will require code changes. */

const int DEFINITIONS[3][4][4] = {

    /*laCaixa Visa New*/

    {

        {45, 155, 75, 25},

        {115, 155, 75, 25},

        {195, 155, 75, 25},

        {275, 155, 75, 25}

    },

    /*CBGC Buy Powercard*/

    {

        {15, 256, 45, 20},

        {60, 256, 45, 20},

        {105, 256, 45, 20},

        {150, 256, 45, 20},

    },

    /*Add new card definition here*/

    {

        {20, 78, 70, 23},

        {20, 116, 70, 23},

        {20, 153, 70, 23},

        {20, 192, 70, 23}

    }

};
```