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| **Technical Specification**  **Version 1.0a** |

Form Validation

###### **A Windows form Application**

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# **1. INTRODUCTION**

# **1.1 Objectives**

# **The purpose of the project is to make a windows form application that validates a form with various fields. For example- Name , email-id, contact no. etc. in Visual Basic.**

# **1.2 Scope**

# **The application targets all the institutions which require forms for registration or login purposes. Moreover, different**

# **modules can be used as components to design a new form for a different purpose.**

# **2. Functionality**

# **As user fills the form the information provided validates either dynamically or on a button click.**

# **Proper error notifications appear with an icon to the right of each field. The application works without any network connection. No additional hardware or software is required to run this application.**

# **3. Achitecture**

# **The application consists of many controls used as per the need in three forms. For example –**

**Form 1 (Basic Information of the applicant ): It contains Textboxes , Comboboxes ( only selection from the given options is allowed for country , state and city) , DateTime Picker ( to choose date , month and year for birthdate from a calendar ) , Timer ( to decide enable and disable of controls after a particular number of wrong attempts) , Picture boxes ( for uploading picture and showing the captcha code ) , ErrorProviders to show errors on wrong inputs,Tooltips are added to give field’s specifications to the user and buttons to upload , refresh and proceed.**

**Form 2 (Payment portal ): It contains :-**

**Combobox ( for selecting the card scheme and Expiry date of the card ) .**

**Textbox (for writing the card number (16 digit) )**

**Button to proceed further.**

**Form 3 ( Enrolment Id and Create Password): It contains:-**

**Read only textbox field which shows an automatically generated enrolment Id.**

**Create and confim password textboxes.**

**Combobox for selecting a security question in case of ‘forgot password’ condition.**

**Textbox to type the answer of security question.**

**Button to exit.**

# **4. CODE**

**FORM 1**

# **Name : Validation is done using regular expressions while text changes. Name is valid if it is atleast two alphabets long , no numerical values and any special character except space are allowed.**

# **Institute name :** V**alidation is done using regular expressions while text changes. Name is valid if it is atleast two alphabets long , no numerical values and any special character except space, comma and period are allowed.**

**Picture Box ( for uploading photo) : Its PictureBoxSizeMode property is set to stretchimage. Validation sees for file size ( between 5KB and 2MB) .**

**DateTimePicker: Enabled for editing as well as choosing from the calendar. Validation for age between 18-21 and invalid date error occurs if future dates are entered.**

**Combobox : Its DropDownStyle property is set to DropDownList so that the user selects from the list only.**

**Email: Validation done using regular expression and cannot b left empty.**

**Confirm Email: Its shortcutEnabled property is used to disable copy and paste operations.**

**Contact no. : It has two parts ISD code appears as automatically as soon as country is chosen. Mobile no. – Its validation looks for numerical value having no. of digits depending on the country.**

**Captcha : Sourcecode taken from** [**https://www.dropbox.com/s/919d0ys3wgt9jt2/Simple%20Captcha%20Application.rar**](https://www.dropbox.com/s/919d0ys3wgt9jt2/Simple%20Captcha%20Application.rar)

**Modification done for the string by generating random 6 digit string containing capital letters, small letters and digits. ( original code adds/subtracts two single digit numbers.)**

**Divided into three parts –**

**a). code for generation of lines**

**b). code for generation of a random 6 digit string containing capital letters, small letters and digits.**

**c). code to combine the above two in a rectangular box of definite size.**

**Refresh button: Refreshes the captacha only keeping the other fields as it is, by generating the image again.**

**Upload button: opens the dialog box to select picture from the PC.**

**Next button: Links to the form2 ( payment portal ) if no errors are in the form 1 . it checks all the fields for error on button\_click event , sets flag to 1 for no errors and 0 if there is/are error(s).**

**DEBUGGING for form2 and form3 can be proceeded without filling the form1 by setting the flag value to 1.**

**Tooltip shows the specifications corresponding to the field on the mouse hover over the field.**

**Form loading event : It loads values in country combobox and generates image for captcha.**

**NOTE: If next button is clicked with errors in the form1 more than thrice then the controls get disabled for 10 seconds and then enables.**

**Timer : Its interval property is set to 10000 millisecond. It starts after three attempts and stops with the timer\_tick event.**

**FORM 2**

**ATM Card Scheme : Its DropDownStyle property is set to DropDownList so as to select from the list only.**

**Card Number: It validation checks for 16 digit number as well as if it matches with the card scheme selected above using first 1 ,2 or 3 digits of the number with the card scheme.**

**Expiry Date : Its validation takes place by comparing it with present year and month using the Now , Year() and month() function of visual basic.**

**Tooltip shows the specifications corresponding to the field on the mouse hover over the field.**

**Next button: Validation checks takes place on button\_click event ,using various protected functions returning Boolean values.**

**It takes to the Form3 ( if no errors are there ).**

**Form Load Event: In this event card schemes are loaded in the combobox.**

**FORM 3**

**Enrolment –Id : It is an automatically generated id whose first three letters come from the country selected and the rest 7 are randomly generated from the digits and concatenated. It is set to read only property.**

**Create Password: It validation takes place on the basis of atleast one lowercase , one uppercase , one digit , one special character and minimum length 8. Copying of password is not allowed and is passwordchar property is set to \*.**

**Confirm Password: Its validation compares it with the password created.**

**Security Question: Questions need to be selected from the dropdownlist only.**

**Security Answer: Answer should be atleast 4 letters long.**

**Form Load Event: In this event Enrolment-id is generated and security questions are loaded in the combobox.**

**5. Bugs/ Improvements**

**Face detection can be done in Picture uploaded in form1.**

**Validation in form2 takes place on button click can be made dynamic.**

**Progress bar to show the progress at each step.**

**6. References**

<https://www.dropbox.com/s/919d0ys3wgt9jt2/Simple%20Captcha%20Application.rar>

<http://www.visual-basic-tutorials.com/>

# [http://vb.net-informations.com](http://vb.net-informations.com/)/