

Readme.txt

Passphrase/Password

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I am open to ways to improve this application, please email me.

The VB 6.0 Service Pack 6 runtime files are required for this software to run. You can download the files from the following location:

<http://support.microsoft.com/default.aspx?scid=kb;en-us;290887>

This software has been tested on Windows XP through Windows 7. Windows 9x, 2000 and NT4 are no longer supported.

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Since security is of the upmost these days, a tool such as this should assist you in protecting your data.

Note: Pwd.dat and Passphrase.exe
must be in the same directory

Read the PDF file first.

If you want to step thru the code, do the following:

1. Navigate to Form_Load() in frmMain
2. Comment out the following line.

WheelHook frmMain.hwnd

This will deactivate the wheel scrolling capability while you are in the VB IDE. If you do not do this, you will have great difficulty walking thru the code.

Overview

PASSWORD

The first letter with all passwords is alphabetic. Reason is that the majority of the systems will not accept a number or symbol as the first character.

Set the length of each password. 3 to 25 characters.
I recommend a minimum of 8 characters.

Create from 1 to 5000 passwords at a time.

You can determine the number of characters to be numeric and/or special characters

The grid display will be sorted in ascending order. The shorter the password, the greater possibility of duplicates. Duplicates will be removed.

Select menu option File->Save to save your output to a text file.

PASSPHRASE

Each word in a passphrase can be 3 to 10 characters in length. See the menu options to determine minimum word length, etc.

Create from 1 to 25 words in a passphrase at a time. The more, the better. Also, more difficult to remember. There are more than

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425,000 words to choose from.

BOTH

Select the type of character display. Lowercase, uppercase, propercase, or a mix of upper and lowercase characters.

You can omit specific special characters by using the appropriate menu selection.

You have the ability to save your data to a file or print it.

Sample file output:

Filename: Pwd_10.txt
Created: Monday 20 July 2009 8:40 AM

Password length: 10 (Lowercase characters)
3 letters converted to numbers and/or symbols
Password count: 125 (0 duplicates were removed)

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1.	a0jc8stx2k	a2hghes5r6	a5zcs2kui4	axy8h8wdr1	b3gd2usx3b	b3n8nh5gqu
2.	b59szzxmb1	bba407npj	bf9hb5v6sv	bk8qpmi94q	bz0jj2s6xt	bstb7zh3w7
3.	c0swwr57n	c15tsnlo4x	c2g4cuk0wa	c3ufoylq00	ch66xln2c	ck4pxigt00
4.	crwyiu836k	ct7vq7dnv5	cva7gt5u0g	d0iq0gy3xj	d6ijgdm6l3	d81qivxw0l
5.	djgly8b34q	dnyvv4lu9e	dpu2k7z7wz	dwbma9j43m	e0lpzdnzz3	e5v5ps4wkg
6.	e7zrb2blc2	eac7n5uldk	edkr89vy8l	ee7cvn0jh5	egzxi369rk	eyjoi6v0gl
7.	flaur3ip2s	f2xmdrh86c	fv1z0hokg4	fv26gnac4y	fx8s29bqbx	g5glj05pfi
8.	g9aoc8gpn0	g9rr9es3ry	ga9xg81emi	gb74ltzvgz	gpmw267rzm	gu4r8p6hrb
9.	gyx2z6clsg	gzf3st4y4c	h6bbrsp7ll	h7td3qakc8	hcw2d6mzz9	hoaeyd7m88
10.	i5v7xh3hln	i8f6adqs4c	i8kw4xjc0w	ibe8ez3e2o	ibef7i05pa	ifcoz93lpy
11.	ihw4p3gv1w	ij5nqk78dg	isi49xst1w	iy0ejy4w4a	j23fgzda8h	k7ck7csaw6
12.	kexc9npf34	knlu0wh4o6	kqbc8y5w4	l0c7xnjda1	lluj8l6kmb	lim6a07gzd
13.	l12z2dcxf3	loqw33db2v	lp9eo7hh4r	lpvj1kvw85	lunh8j9ws1	m2xd0zmjo5
14.	m6v56lyeqj	mtn376tegt	n4tv9yqj7w	nak7ge36vf	nkoo2qjk05	o8rbe34wyt
15.	onql6tln54	p67psakq5d	p8hehx5j0u	peywe9fv90	pm10ydbhf2	q7fe8ad4rr
16.	q7ukk5rdb5	qivp2tl33o	rhrv5pgo72	rn2unlosb2	rnv28hmbm1	rsj6s1ztr3
17.	s2ci64yifn	sg8lpid4hw	spiq86d8hm	txoh3f95nj	ty2qnsf91n	u34z7vsrju
18.	u4vpnw9lhb	u6m7gg4kon	u8tpdael35	uf8z7axz2g	uogv33qi5	usn035hqi
19.	uxi2duqb94	uyrk7f37ca	vlzitkx5x1	v7tsrzlv8f	wj5o1o2wpv	x0syrt38wx
20.	x8r8k9ummf	xgl6aizm7t	y5xexbj4g9	yl1hmr87fa	yxeu7g24hj	yy3kzg3sf1
21.	z1jdk5k0mi	z3lbqlmrm	zhcn5eni66	zjg93jnk9l	zxpj94xaq7	

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Passwords, for the most part, follow a pattern and are case sensitive. See if your personal password is within these guidelines.

This information can be obtained via personal observation, viewing data posted on the internet or through casual conversation with the user or co-worker.

1. The weakest are:
 - Telephone numbers (home, spouse, office, etc.)
 - Birthdays (spouse, children, siblings, etc.)
 - Combination of birth dates (your month, wife's day, child's year)
 - Street address (home, work, ball park, lover, etc.)
 - Five or less characters
2. Very common (Weak to moderate security)
 - first name (yours, spouse, children, pets, siblings)
 - last name (yours, wife's maiden, mother's maiden, etc.)
 - a series of letters or numbers, usually repeated (9876543210 or 555555 or aaaaaaaa)
 - a row of keyboard characters starting from the left or right side (asdfghjkl or zxcvbnm or qwertyui)
 - a valid word from a dictionary
3. Very common (Weak to moderate security)
Same as number 2 above with 1-4 numbers appended.
(judyl234, ken2011, etc.)
4. Strong security
 - Excellent security if eight or more characters and all of the numbers do not append the password.
 - A mixture of letters and/or numbers. The letters can be a mixture of upper and lower case.
 - A mixture of any of the printable keyboard characters with an ASCII decimal value of 32-126.
 - Use phrases sometimes mixed with unrelated data. Quite often these systems are designed to use 5-50 character input. Below are a couple of example phrases:

"Soylent green is people x-4478" <- 30 characters
"hornbill temp classics" <- 3 random words

Note: There are some systems that use the ESCape key and one or more function keys but they are too few and definitely not within the realm of this application. Usually these are high security computer systems with a very limited personnel access. Tampering with these systems will result in several years within a public funded facility. A positive note is you will not have to worry about what fashions are in that season.

Suggestions to slow down a potential security breach:

- Require a minimum password length (eight characters or more) with at least two non-alphabetic characters not adjacent to each other.
Ex: 0-9, !, @, #, \$, %, ^, &, *, (,)
- Allow ten tries and then disable the account after forcing a reboot. User must contact security to reactivate their account.
- Force a reboot after every three attempts.
- Force the user to change their password every 30-45 days.

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- Once a password has been changed and accepted, a user must wait 24 hours before being allowed to change their password again.
- Maintain a database of previous passwords for this user and not allow any of their previous 10-25 passwords be used again. Store passwords in a hashed format.
- A written reprimand and/or unpaid time off if a user writes down their password and leaves it in the open for others to view or they share their password with others. Also consider locking their account until they have attended retraining concerning password security and personal counseling by their immediate supervisor.

These are just suggestions in ways to get you started in thinking in terms of data security.

If you are curious about how many possible passwords could be generated, use these calculations:

$\text{chars_used} = 62 = (10 + 26 + 26) = (0-9, A-Z, a-z)$

$(\text{chars_used} ^ \text{word_length})$ plus prev_possibles	possible combinations
$(62^2) + 62$	3,906
$(62^3) + 3,906$	242,234
$(62^4) + 242,234$	15,018,570
$(62^5) + 15,018,570$	916,132,832
$(62^6) + 916,132,832$	57,731,386,986
$(62^7) + 57,731,386,986$	3,579,345,993,194
$(62^8) + 3,579,345,993,194$	221,919,451,578,090
$(62^9) + 221,919,451,578,090$	13,759,005,997,841,642
$(62^{10}) + 13,759,005,997,841,642$	853,058,371,866,181,866

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