
Opinion: Theft and Infringement

- Compulife's software copyright infringed

- Compulife's trade secrets misappropriated

Qualifications

- 50+ years Information Technology/Software Design
- 15+ years experience software intellectual property
- Extensive startup and innovation history:
 - Poqet Computer
 - Inventor of LANscape (US patent 6,288,739)
 - Inventor of Your Video on the Web
 - Inventor of Digit-Eyes

Basis of This Opinion

- Testimony of the parties
- Use and review of Compulife's software and documentation: user manual, usage instructions, online help, online video tutorials
- Compulife's copyright deposit materials
- Documents provided to me and the defendants by Compulife (including computer system logs)

Compulife's Assets

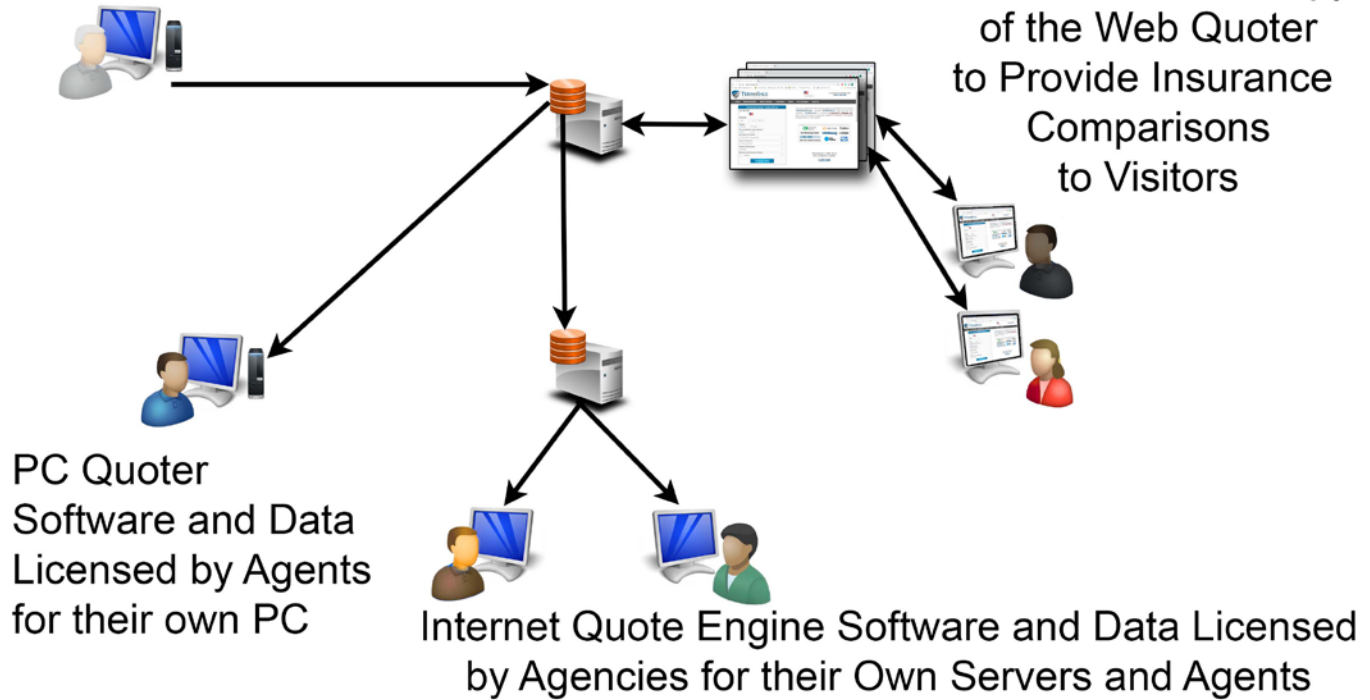
- Database of information about insurance companies and products
- “Back Office” software that builds and maintains the database
- Host software that reads the database and provides user quotes
- Browser-based software that allows user to obtain a quote

Compulife System

Bob Barney codes and maintains database in the "back-office"

Compulife Primary Database and Compulife Servers

Compulife Web Server uses a Licensed Copy of the Web Quoter to Provide Insurance Comparisons to Visitors



PC Quoter Software and Data Licensed by Agents for their own PC

Internet Quote Engine Software and Data Licensed by Agencies for their Own Servers and Agents

Compulife Assets Deployed Three Ways

1. Buyers of insurance can access through the web page <http://www.term4sale.com>
2. Insurance agents can purchase a licensed copy of the software and data to install on a desktop PC
3. Insurance agencies can buy a license for a certain number of users and install the software and database on their server to share among their agents.

Compulife Assets Are Worth Protecting

Informational content not generally known

- Compulife obtains data from many insurance companies
- Compulife transforms this information into a proprietary database that is formatted so the data can be compared

Calculation methods not generally known

- Compulife's forms quantify the requirements of the individual
- Using proprietary algorithms and form data, Compulife identifies and compares similar plans from many companies in relationship to individual requirements
- Compulife uses proprietary algorithms to calculate premiums for the individual

Calculation results not generally known

- The results of the premium calculations are not generally public.¹

Compulife Assets Are Protected

Copyright Protection

- Compulife's software is protected by copyright
- The parameters for using the Compulife server are copyrighted
- The process whereby Compulife creates and presents the data is also protected by copyright

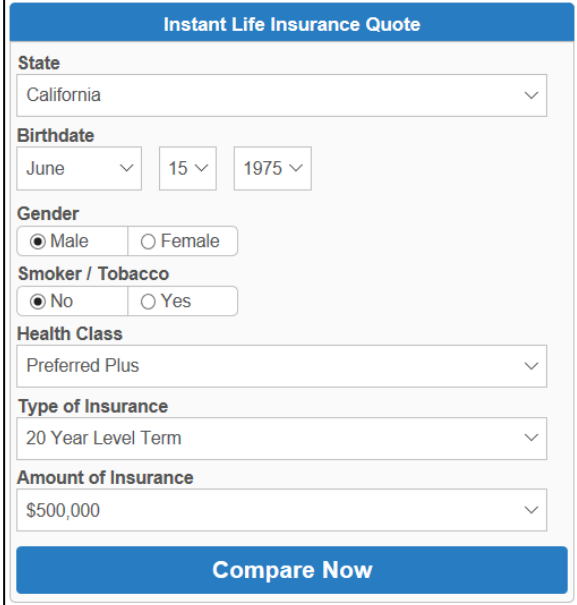
Trade Secret Protection

- The compilation of information in the Compulife database is a trade secret
- The software methods used to format requests to the database and the proprietary encoding of the values in the database are also trade secrets

Issues in Copyright Protection

Copyright obtained for Compulife Software

- Server software is copyrighted, distributed as object code
- Copyrighted Software also includes HTML for the form to access server:
 - each parameter name and its value are original and creative
 - Format and presentation is protected
 - HTML is visible in any browser (“view source”)



The image shows a web form titled "Instant Life Insurance Quote". The form contains several input fields: "State" (California), "Birthdate" (June 15, 1975), "Gender" (Male), "Smoker / Tobacco" (No), "Health Class" (Preferred Plus), "Type of Insurance" (20 Year Level Term), and "Amount of Insurance" (\$500,000). A blue "Compare Now" button is at the bottom. The form is powered by COMPULIFE®.

Improper Use of Copyrighted HTML

The NAAIP website

- Submitted parameters and data to a program on the NAAIP server¹

The NAAIP server

- Used credentials issued to licensed user (Brian McSweeney) to improperly access the server at MSCC Corporation which was running a licensed copy of the Compulife software
- Transmitted the data and proprietary parameters to the Compulife software on the MSCC computer system
- Received back a compilation of information from the Compulife system on the MSCC computer system
- Displayed the misappropriated information on the NAAIP website²

Compulife, upon discovering this, promptly blocked NAAIP access

NAAIP Copied 81% of Compulife's HTML

282 of 347 lines of Compulife's copyrighted HTML on NAAIP Website



(the 62 gray lines are English, not HTML)

NAAIP Used Compulife's Assets

- State Selection code and numbering
 - More than simply alphabetical list of states
 - Structure includes D.C. and bifurcation of NY into business and non-business
 - Choice of “52” as value for NY business only understandable in context
- Birthdate Selection code
 - Unusual combination of names
- Gender (Sex)
- Smoker
- Health codes
- Category selection codes
- Mode Used
- Sort Override
- Face Amount

Issues in Trade Secret Protection

Key Points: the extent to which

- The information is known outside claimant's business
- The information is known to employees and others in the business
- Measures are taken to guard the secrecy of the information
- The information has value to the business and competitors
- The business spent money or effort to develop the information
- The ease by which the information could be acquired or duplicated by others.

Compulife software and database:

- Is not generally known and is kept private, even within the business
- Is protected by Compulife
- Has value to Compulife and its competition
- Required substantial investment to create and maintain
- Is not easily acquired or duplicated by others

Digital Watermarks Identify Data

- Each licensed user of the Compulife software is granted a license number
- The Compulife Software inserts small watermarks based on the encrypted user license number into each copy of the database
- No two users have the same license number, and every legitimate copy of the data will have a different watermark
- The watermark is designed to be unobtrusive and even look like a data-entry “glitch” and is displayed as data

Compulife Digital Watermark Example

The value “kR”, as shown below, is the encrypted value of the serial number assigned to software running on the Term4Sale website

9/4/2016 Term4sale.com - Life Insurance Quotes

Term4Sale
term life insurance comparisons

- [Home](#)
- [Life Insurance Articles](#)
- [Calculators](#)
- [Research](#)
- [News & Reviews](#)
- [Mobile Version](#)
- [For Life Agents](#)
- [About Us](#)

IMPORTANT: The information following your comparison results is also information which will help you to better understand your options.

Click Here for [Further Information](#)

20 Year Level Term Guaranteed

Company Name	Annual	Monthly	A.M. Best Ratings as of Aug 26 2016	Product Name
Cincinnati Life Insurance Company	\$685.00	\$60.28	A	LifeHorizons Termse
Pruco Life Insurance Company	\$685.00	\$61.65	A+	Term Essential 20 (PruXpress ONLY)
Protective Life Insurance Company	\$690.46	\$59.37	A+	Custom Ch UL Select - 20 Year
Ohio National Life Assurance Corporation	\$695.00	\$60.12	A-	SelecTerm-20 Preferred Plus Non
Lincoln National Life Insurance Company USA	\$809.00	\$72.81	A+	Guaranteed Level Term 20 Elite Nonsmoker
Savings Bank Life Insurance Co of MA	\$809.59	\$70.43	A+	T-20/20 - 20 Year TermkR Preferred Plus Non-Nicotine

Callout bubble content:
Guaranteed Level Term 20
A+ T-20/20 - 20 Year TermkR Preferred
Advantage Elite Select Life - 20 Year

September 1-4, 2016

- During the Labor Day weekend, a data-mining robot, operating from the address 5.29.63.18 at Hot-Net Internet Services in Israel performed 871,055 accesses to Compulife's system, of which 870,626 were quote requests
- Assuming that each request "scraped" an average of 50+ quotes (example right), the robot obtained data for more than 43,500,000 quotes
- The "scraped" data includes the digital watermarks for the licensed copy of the host software used by the website ("kR")

The image shows a screenshot of a data table from a website, likely related to insurance quotes. The table lists various insurance companies and their associated quotes. A large watermark 'kR' is visible across the bottom of the table. The table columns include Company Name, Amount, Monthly, and Product Name. The data rows are partially obscured by the watermark.

DISCLAIMER: This information is not intended to be used as a substitute for professional advice. It is provided for informational purposes only. Please contact your insurance agent for more information.

Stolen Data on the NAAIP Website

The data on the NAAIP Website on November 22, 2016 contains digital watermarks that show it is a copy of the data that was taken from the Compulife Website in September 2016

The value “kR” is a digital watermark inserted in the title of the insurance offering from Savings Bank Life Insurance Company of Massachusetts

Life Insurance Quotes in x

www.naaip.org/nate/compare-life#

Subscribe to Our Newsletter

Affordable Health Care Act Expertise - Click Here

We're here to help! Call: (800)770-0492

Protect Your Family for Less!
Compare Life Insurance Policies from Top Rated Companies!

Comparison Results:

Today's Date is:	November 22, 2016
Premiums for:	Male, Preferred Plus, Non-Smoker
Birthdate:	January 1, 1970
Age Nearest:	47
State:	FL
Face Amount:	\$1,000,000

Need to search again? Please click to request another quote » Request Another Quote Print eMail

20 Year Level Term Guaranteed - Call me 1-800-770-0492 Now!

Company Name	Rating	Monthly	Annual	Product Name	Health Category	Apply
Protective Life Insurance Company	A+	\$110	\$1,290	Custom Choice No Lapse UL - 20 Year	Select Preferred Non-Tobacco	App Request
Lincoln National Life Insurance Company	A+	\$111	\$1,275	LifeElement (R) Level Term 20 (2014)	Preferred Plus	Request
Banner Life Insurance Company	A+	\$114	\$1,308	OPTerm 20 - 20 Year		
American General Life Insurance Company	A	\$114	\$1,324	Select-a-Term - 20 Year (Nov 2015)		
Savings Bank Life Insurance Co of MA	A+	\$115	\$1,329	T-20/20 - 20 Year TermkR	Preferred Plus Non-Tobacco	Request

Robot Used Compulife's Parameters

Static Parameters

- TEMPLATEFILE=TEMPLATE_TERM4SALE_COM.HTM
- HTEMPLATEFILE=HTEMPLATE_TERM4SALE_COM.HTM
- INITFILE=HINIT_TERM4SALE_COM.HTM
- HEALTHFILE=HEALTH_TERM4SALE_COM.HTM
- ERCFILE=ERC_COM.HTM
- IRCFILE=IRC_COM.HTM
- ERRORTEMFILE=ERRORTEM_COM.HTM
- PICKVIEWFILE=PICKVIEW_COM.HTM
- ModeUsed
- SortOverride1
- ErrOnMissingZipCode
- State

Variables

- ZipCode
- BirthMonth
- Birthday
- BirthYear
- Sex
- Smoker
- Health
- NewCategory
- FaceAmount
- CompRating

Compulife's Input Parameters

Term4Sale Input Form 2016



The screenshot shows a web form titled "Life Insurance Quotes - Instant and Free". The form contains the following fields and values:

- Your U.S. Zip Code:
- Birthdate: June 15, 1972
- Gender: Male
- Do You Smoke or Use Tobacco?: No
- Describe Your Health: Preferred Plus (Exceptional)
- Type of Insurance: 20 Year Guaranteed
- Amount of Insurance: \$500,000
- Minimum Life Company Rating: A- Excellent

A red "Compare Now" button is located at the bottom of the form.

Variables

- ZipCode
- BirthMonth
- Birthday
- BirthYear
- Sex
- Smoker
- Health
- NewCategory (insurance type)
- FaceAmount
- CompRating

Robot Attack!

A program at 5.29.63.18

- Used the copyrighted parameters from the Compulife website
- Interpolated variable values to create many individual quote requests
- Submitted the quote requests to the Compulife server at the rates of up to 10 requests per second, simulating access from the website
- Received back large amounts of data (up to 50 quotes per request)

```
5.29.63.18 -- [01/Sep/2016:13:27:05 -0400] "GET /cgi-bin/cqsl.cgi?TEMPLATEFILE=TEMPLATE_TERM4SALE_COM.HTM&HTEMPLATEFILE=HTEMPLATE_TERM4SALE_COM.HTM&HINITFILE=HINIT_TERM4SALE_COM.HTM&HEALT
5.29.63.18 -- [01/Sep/2016:13:27:05 -0400] "GET /cgi-bin/cqsl.cgi?TEMPLATEFILE=TEMPLATE_TERM4SALE_COM.HTM&HTEMPLATEFILE=HTEMPLATE_TERM4SALE_COM.HTM&HINITFILE=HINIT_TERM4SALE_COM.HTM&HEALT
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5.29.63.18 -- [01/Sep/2016:13:27:06 -0400] "GET /cgi-bin/cqsl.cgi?TEMPLATEFILE=TEMPLATE_TERM4SALE_COM.HTM&HTEMPLATEFILE=HTEMPLATE_TERM4SALE_COM.HTM&HINITFILE=HINIT_TERM4SALE_COM.HTM&HEALT
5.29.63.18 -- [01/Sep/2016:13:27:06 -0400] "GET /cgi-bin/cqsl.cgi?TEMPLATEFILE=TEMPLATE_TERM4SALE_COM.HTM&HTEMPLATEFILE=HTEMPLATE_TERM4SALE_COM.HTM&HINITFILE=HINIT_TERM4SALE_COM.HTM&HEALT
5.29.63.18 -- [01/Sep/2016:13:27:06 -0400] "GET /cgi-bin/cqsl.cgi?TEMPLATEFILE=TEMPLATE_TERM4SALE_COM.HTM&HTEMPLATEFILE=HTEMPLATE_TERM4SALE_COM.HTM&HINITFILE=HINIT_TERM4SALE_COM.HTM&HEALT
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```

Attack Focused on Two Zip Codes

Quote Requests by Day

Date	Quote Requests
5.29.63.18	
1-Sep-16	113,481
2-Sep-16	148,093
3-Sep-16	245,935
4-Sep-16	363,117
5.29.63.18 Total	870,626

Quote Requests by Zip

Zip Code	Location	Quote Requests
5.29.63.18		
ZipCode=10458	Bronx, NY	435,312
ZipCode=33433	Boca Raton, FL	434,334
All Other Zip Codes		980
5.29.63.18 Total		870,626

TOTAL QUOTES EXCEEDED 43 MILLION BASED ON NUMBER OF REQUESTS

ROBOT Attack Explained

- Example of one line from attack:

- 5.29.63.18 - - [01/Sep/2016:13:56:48 -0400] "GET /cgi-bin/cqsl.cgi?TEMPLATEFILE=TEMPLATE_TERM4SALE_COM.HTM&HTEMP
LATEFILE=HTEMPLATE_TERM4SALE_COM.HTM&HINITFILE=HINIT_TERM
4SALE_COM.HTM&HEALTHFILE=HEALTH_TERM4SALE_COM.HTM&ERCFI
LE=ERC_COM.HTM&IRCFILE=IRC_COM.HTM&ERRORTEMFILE=ERRORTE
M_COM.HTM&PICKVIEWFILE=PICKVIEW_COM.HTM&ModeUsed=M&So
rtOverride1=A&ErrOnMissingZipCode=ON&State=0&ZipCode=33433&Bi
rthMonth=1&Birthday=1&BirthYear=1970&Sex=M&Smoker=N&Health=
PP&NewCategory=5&FaceAmount=500000&CompRating=4 HTTP/1.1"
301 767 "-" "Java/1.8.0_101"

Zip Codes in NAAIP Database

NAAIP produced the source code of a PHP program that accesses the NAAIP database, displays the HTML form and gets user input¹

This script retrieves information from the database using a query

```
//Scheckquote = mysqli_query($connect,"select * from lquote engine where zip_code = ".$state1." AND gender =  
"."$gdr." AND smoker=".$Smoker." AND health_descr = ".$SESSION['healthtype']." AND insurance_type =  
"."$insurance_type." AND insurance_amount = ".$FaceAmount." AND year = ".$dobyyear1." AND company_name IN  
($abb2) order by ann_new ASC");  
$HealthType = $SESSION['healthtype'];  
$scheckquote = mysqli_query($connect,"CALL  
GetLifeQuotes('$state1','$gdr','$Smoker','$HealthType','$insurance_type','$FaceAmount','$age,$aid)");
```

ANS47054000004 / NEWMAN-013039

There are two possible values to “state1” and these prove to be the zip codes used in the robot attack on Compulife’s website

```
if($State == 'NY' || $State == 'New York' || $State == 'New%20York'){  
    $state1 = 10458;  
}else{  
    $state1 = 33433;  
}
```

ANS47054000002 / NEWMAN-01303;

Summary Opinion

Copyright Infringed

- Compulife's HTML parameter names are copyrighted
- HTML parameter values are copyrighted
- NAAIP had access to the HTML
- NAAIP used Compulife's HTML parameter names and values to access Compulife's data

Trade Secrets Misappropriated

- Compulife's data and software
 - Is kept private, even within the business,
 - Is not generally known
 - is protected by Compulife
 - has value to Compulife
 - required substantial investment to create and
 - is not easily acquired or duplicated
- NAAIP demonstrably obtained Compulife data
 - By "spoofing" access through the MSCC website
 - By copying and using a copy of Compulife's database