PREDICTING AGE and GENDER ONLINE

A NEXTSTAGE ANALYTICS WHITEPAPER

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NextStage Analytics
Making Marketing Actionable

NextStage Analytics' Technology is a highly disruptive technology that creates amazingly accurate visitor portraits based on mouse movements alone and, according to eMetrics' Jim Sterne, is "…powerful enough to fund a new industry".

To prove the power of this technology independent, 3rd party analysts tested its ability to determine the Ages & Genders of some 300 visitors in April 2009.

NextStage Analytics scored 99% determining Gender, 98% determining Age.

Scientific papers on this test, its methodology and results have been published in the conference proceedings of Toward a Science of Consciousness 2009 and The 2nd International Multi-Conference on Engineering and Technological Innovation: IMETI 2009. A scientific whitepaper will be available on NextStage Evolution in the coming weeks.

The paper provides a marketing overview of the test and its results.

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Background

Most people in the web analytics and marketing communities and certainly those who've attended eMetrics conferences for the past few years know of Joseph Carrabis, the company he founded in 2001, NextStage Evolution, and the claims made about his patented[a] Technology. Not only were the claims "otherworldly" -- the ability to determine a visitor's age, gender, their purchasing behaviors, what types of marketing will cause them to act favorably and nonfavorably, for example -- they dealt with areas so foreign to people trained in classic web analytics and marketing that blind acceptance wasn't possible.

For example, classic web analytics tools typically measure anonymous user behaviors via cookie-based systems. Every click is recorded and tied back to an anonymous cookie, which then represents the best approximation for a unique visitor. The challenges presented by such systems -- and that NextStage claimed to overcome -- included

- The failure of cookie based visitor detection methods to guarantee that each session was unique to a given individual.
- The failure to tie one set of unique cookies to a one unique individual.
- The failure to recognize and respond to individuals as the sum of their experiences.

That last bullet, the "sum of their experiences" part, is crucial because it is at the heart of true one-to-one marketing relationships. Everyone claims to want to build relationships with their customers and visitors and few appreciate that doing so requires the ability to recognize that each individual responds based on their personal experiences. Not just their experiences at the moment they're on the page, but *at this moment based on all such moments*. Visitors interaction with a website is based on their anxieties, their joys, their curiosities, their fatigues, their exasperations, their desires, their frustrations and more. Knowledge of and understanding these visitor elements is not possible through classical web analytics & survey tools.

Unlike classical web analytics tools, including declarative surveys, NextStage Analytics' Technology determines these factors by analyzing psychomotor behavioral cues that have been collectively recognized as indicative of a given user's non-conscious, cognitive, behavioral/effective and motivational processes and methodologies – collectively called the "{C,B/e,M} matrix."

Testing What You Can't See

Peers in the industry have logically questioned the accuracy of this highly disruptive technology. NextStage chose to answer these questions by hiring 3rd party firms to conduct a series of tests of its technology's accuracy in both determining visitor metrics and predicting visitor actions – what action items visitors would choose from all screen options available. This paper focuses on tests performed to determine NextStage Analytics' Technology accuracy determining two visitor dominant visitor metrics – Age & Gender. Future papers will focus on NextStage Analytics Technology's predictive abilities.

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a- - http://www.uspto.gov/web/patents/patog/week23/OG/html/1331-1/US07383283-20080603.html

The Age & Gender test was performed using a rigorous protocol detailed in the scientific papers[b], followed procedures outlined by the American Association for the Advancement of Science regarding human subjects research on the internet[14] and used web technologies conforming to W3C standards.

In a nutshell, four NSE designed websites (A, B, C and D) were used for the test. All four sites had the same form:

1) A Home/Landing page. This page, the first page seen by each visitor, allowed NextStage Analytics Technology to create a baseline or "neutral" {C,B/e,M} for each user. The Home/Landing page was followed by
2) A Questionnaire style survey page. The questions on this page were designed to encourage desired conscious and non-conscious thoughts that NextStage Analytics Technology would pick up as indicative of Age & Gender. The Questionnaire page was followed by
3) A typical Business style web page. This page was professionally designed using NextStage Analytics methodologies and concepts to amplify the desired conscious and non-conscious thoughts originated on the Questionnaire page. This Business page was followed by
4) A Thank You page designed to return visitors to their neutral {C,B/e,M} state, such as would be done at the end of an online shopping or conversion experience.

The requirement for four websites was to comply with strict scientific protocols. The A and B websites, for example, were used to get feedback regarding the test methodology from other researchers and to confirm that the 3rd party analysts could be trained on how NextStage Analytics Technology gathers and stores data. Both A and B sites were maintained on NextStage Analytics servers and provided the last direct contact point between NextStage Analytics and the data gathered.

The C and D websites gathered Control- and Test-Group data and were maintained on independent servers. Although NextStage Analytics had neither knowledge nor contact with these two groups, it did specify that all members of these groups meet the following criteria:

1) 17-75 years old
2) Mixed male & female
3) Diverse income groups
4) Diverse ethnicity
5) Continental USA geographic locations

The C and D websites each had 300 unique visitors, the C group providing NextStage Analytics Technology some internal comparison data and the D group providing the "live" test data. These 600 unique visitors were provided by an independent marketing research firm that was, in turn, hired by the 3rd party analysts. At all times "firewalls" existed between NSE and the C and D parts of the test as diagrammed on the following page.

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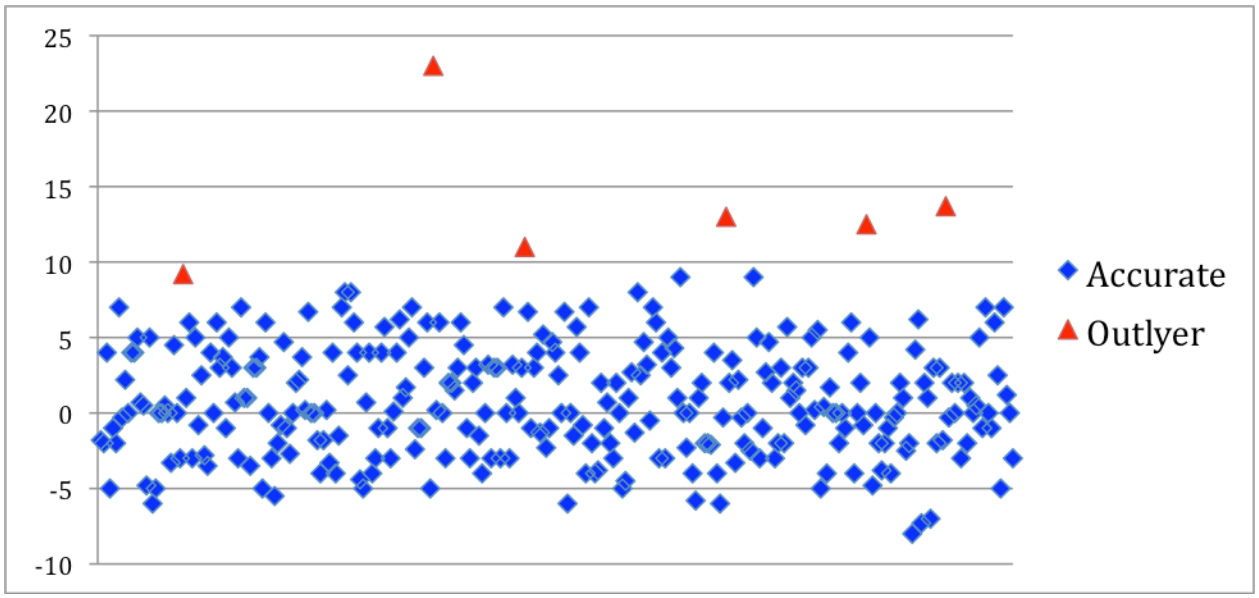
b- - A scientific whitepaper will be available from NextStage Evolution after being published at the US and Asia conferences.

The analysts contacted NextStage Analytics when the C and D groups had completed the test. NextStage Analytics then sent its Technology's determinations to an auditing group for final analysis. After receiving NextStage Analytics Technology's determinations, the auditing group received the actual demographic data from the marketing research firm. This auditing group consisted of a lawyer-accountant team that determined correct and incorrect results by matching NextStage Analytics' gender and age predictions to the known demographic data. Once their calculations were completed, the auditing group delivered their conclusions to NextStage Analytics.

NextStage Analytics Technology's Age & Gender accuracy – as determined by these 3rd party test auditors – was 98% for Age, 99% for Gender. The auditors also determined ET had an average age estimate error of roughly 3.18 years as shown in the figure below.



In Their Own Words

The attorney managing the auditing group included the following regarding NextStage Analytics' accuracy when presenting NSA with their conclusions:

> *I've been contracted by NextStage to perform an audit on the results of a test to determine accuracy of its age and gender determination using its Technology.*
>
> *I used the prediction numbers NextStage Analytics sent to me originally, along with the project director's survey results that came thereafter. There was something meaningful in my mind to receive the prediction before the project director released the answers.*
>
> *I found only 2 gender errors in 300 predictions. I found only 6 age range errors in 300 predictions. Twenty-two of the age predictions were absolutely correct. That data is faulty because it seemed about half of the predictions were made with fractions, but none of the data was gathered with fractions, so half of the predictions were incapable of being absolutely correct. 36 age predictions were within 0.5 years of the age given. 45 age predictions were less*

than 1 year from the age given. 74 age predictions were within one year of the age given. Overall, the age predictions were within 3.18 years of the age given.

With only 8 errors in 600 entries when combining the two totals, the average age/gender estimate confidence accuracy varied only slightly from averaged age/gender estimate confidence."

Evaluation	Accuracy
NextStage Analytics accuracy determining chronologic age range of survey participant	98.00%
NextStage Analytics accuracy determining physical gender of survey participant	99.33%

Behind NextStage Analytics

René Dechamps Otamendi, CEO, NextStage Analytics

René Dechamps Otamendi is CEO of NextStage Analytics, a company specialized in creating, developing and commercializing products emanating from the NextStage consortium. NextStage Analytics' mission is to bring science into the marketing field in order to assure accountability, making it a less obscure art by defining which 50% of the marketing spends are rendering true return on investment. NextStage's patented technology is based upon over 120 disciplines ranging from Neuroscience to Anthropology, Linguistics & Mathematics. NextStage Analytics' tools provide a unique qualitative perspective upon collected web data through reports and suggestions.

Prior to joining the NextStage, Dechamps Otamendi successfully sold in 2008 his first company, OX2, to the international full-service Interactive Agency LBi/IconNicholson (LBi Group). OX2, an Interactive Agency specialized in Web Analytics services, was founded in 2003 and it's level of expertise was recognized internationally by research firms such as Forrester. OX2 was considered by the industry as one of the European leaders in the field of Web Analytics, Web Performance and Online Optimization, successfully linking content management, emailing and CRM tools to data gathered through the online channel. OX2 has now been integrated into Europe's #1 Independent Interactive Agencies' Group, LBi.

Dechamps Otamendi holds the Globalization Chair of the Web Analytics Association taking leadership upon it's expansion and international representation, assuring the global approach of the association. He has also been a member of the advisory council of the eMetrics Marketing Optimization summits for the past 3 years.

Addicted to the Internet since he got his first home Internet connection back in 1995, René has a real passion for the Internet Industry and has worked for the "agency side" since 2001. Besides his initial education in political sciences, his international background and language skills allows him to bring to the table a true globalized perspective.

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Joseph Carrabis, CRO and Founder, The NextStage Companies

Joseph Carrabis is Founder and Chief Research Officer (CRO) of The NextStage Companies, a marketing, training and R&D consortium that specializes in helping clients improve their marketing efforts and understand customer behavior. Carrabis has authored 23 books and over 300 articles in five areas of expertise. His books have covered cultural anthropology, database technology and methods, information mechanics, language acquisition, learning and education theory, mathematics, social network topologies, and psycholinguistic modeling. His articles have covered computer technology, cultural-knowledge modeling, equine management, knowledge studies and applications, library science, martial arts, myth and folklore, neurolinguistic, psychodynamic and psychosocial modeling, group and tribal behavior, and social interactions in NYC and more. He blogs at AllBusiness.com, BizMediaScience, An Economy of Meaning, The Analytics Ecology and That Think You Do, is a Senior Research Fellow and Board Advisory Member for the Society for New Communications Research, is a Founder of the Center for Semantic Excellence and is a member of New York Academy of Science's Scientists Without Borders.

Carrabis has been a lead speaker, guest presenter and panelist at several industry, trade and academic conferences and conventions, ranging from The MIT Enterprise Forum to the International Communications Association Conference 2008 on the scientific side and from the eMetrics Summits to XChange to iMedia Summits on the business side. His current 2009 schedule includes The 2nd International Multi-Conference on Engineering and Technological Innovation: IMETI 2009, Toward a Science of Consciousness 2009, iMedia Brand Summit in Colorado Springs and the Society for New Communications Research Awards Symposium.

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Susan Carrabis, SVP Knowledge, NextStage Analytics
SVP R&D, NextStage Evolution

Susan Carrabis has been everything from a bank teller to waitress to Senior Scientist to Clinical Projects Manager specializing in immunoassay development. She's received ten awards for her contributions to the field and been listed as a major contributor in sixteen publications and abstracts. In addition to these research related achievements, Susan has been singled out for recognizable contributions and been awarded twice for her efforts in marketing where she specializes in understanding customer response, training people to think like and design for their audience, and developing non-invasive questionnaire techniques. Susan is also a gifted natural language theorist and brings a wealth of experience in experimentation development and execution, QA, QC and Regulatory Affairs to NextStage Evolution and NextStage Analytics. Susan is co-developer of Evolution Technology.

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More Information

This test is a prelude to the launch of NextStage OnSite, a disruptive analytical tool that will provide you actionable information based on how people really think and behave upon the information they're accessing (your online property). For a more detailed explanation of this test including an extensive bibliography, visit www.nextstagevolution.com where a scientific White Paper will be shortly available for sale. NextStage Analytics also works in other tools based in its patented technology. For more information:

The NextStage Analytics blog — http://MakingMarketingActionable.com
The NextStage Analytics website — http://www.NextStageAnalytics.com (coming soon)
Our research site, NextStage Evolution — http://www.nextstagevolution.com
Joseph's blogs:

Business — http://www.allbusiness.com/4353424-1.html
Research — http://www.bizmediascience.com/
Semantics — http://economyofmeaning.wordpress.com/author/jcarrabis/
Human Psychology — http://think.personallifemedia.com/
The Official NextStage Evolution blog — http://TheAnalyticsEcology.com

Susan's blog — http://YouDontHaveToLiveWithHim.com (coming soon)

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