# Interactive Virtual Architecture as a tool for Online Branding of e-stores

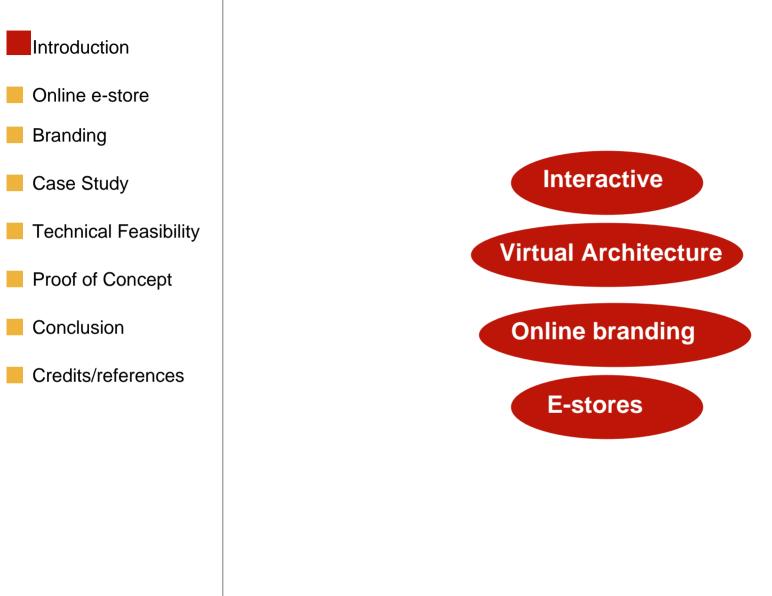## M.S. Thesis presentation

**Arthi Amaran**

**College of Architecture**

**Texas Tech University**

**October 1, 2004**

## Thesis Committee

**Prof. Urs Peter Flueckiger (Thesis Chair)**

**Prof. Glenn. E. Hill**

**Dr. Saif Haq**

**Interactive**

**Virtual Architecture**

**Online branding**

**E-stores**

## Online shopping is on the rise…

## The numbers…

By **2008**, **Forrester research** says, **online shopping** will account for **10 percent of all purchases** and involve 63 million **U.S. homes**

American consumers spent nearly **$6.2 billion online in November (2002),** up **22%** from $ 5.1 billion spent in the same period last year (2001) in the **U.S.**, according to a report from **Harris Interactive**, **Goldman Sachs, and Nielsen/ Net Ratings.**

**home**

## Why?

**Shopping online…**

- **Log in**
- **Compare prices**
- **Check availability at a local store**
- **Calculate Shipping and Handling**
- **Have it door delivered**

**Exclusive internet offers like online rebates**

*All from the comfort of 'home'*

*Harsh weather no longer deters*

*No more walking from store to store*

**Welcome to the world of Online shopping!**

**home**

# Branding is important

**With more and more people thronging the online stores…**

**Internet is becoming a potential Marketing and Branding Zone**

**Branding of the website is becoming important**

**Branding** is the way a company communicates with the customer.

**Branding**

⬇

**Reflects the unique identity of a brand**
**Strengthens the Brand**

⬇

**Increases Sales**

**Nike**

→ **Product placement (celebrity endorsements) [ADVERTISEMENTS]**

In the **1984 Summer Olympics**, with 58 Nike supported athletes taking home **65 medals**, International sales increased **70%** ($158 million)

**home**

## Architecture and Branding

**Architecture, layout, lighting**

⬇

**Reflect Brand values
(Visual Identity)**

### Examples:

**NikeTown**
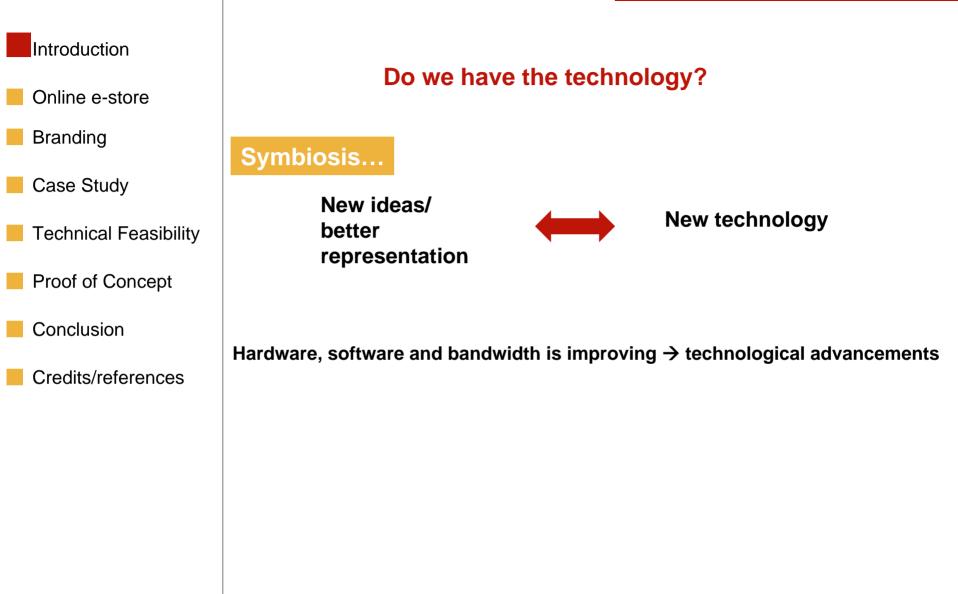
**Prada Flagship Store**

**These stores create unique brand experiences**

*And the amount of time a shopper spends in a store depends on how comfortable and enjoyable the experience is. –Paco Underhill "Why we buy? The science of shopping"*

**home**

# Online Branding

**Webpage design → reflects brand values →brand experience**

**Interactive Virtual Architecture** **→new tool → new brand experience**

**Virtual Architecture → Visual Identity**

**Interactivity → Non Visual Identity**

**home**

## Do we have the technology?

**Symbiosis…**

**New ideas/ better representation**  ⟷  **New technology**

**Hardware, software and bandwidth is improving → technological advancements**

**Thesis Claim**

**Interactive Virtual Architecture is a new tool for Online Branding**

**Method:**

**Logical argumentation and case study method**

**Evidence:**

**Advertisements and Branding**

**Architecture and Branding**

**Online Branding**

**Technical feasibility**

**Proof of concept:**
**Design of an e-store for Swatch with**
- **Virtual Architecture**
- **Interactivity**
- **Multimedia**

**Target Audience:**
**Broadband users and the tech savvy populace**

**home**

•**components of e-store**

•**e-store guidelines**

•**summary**

**home**
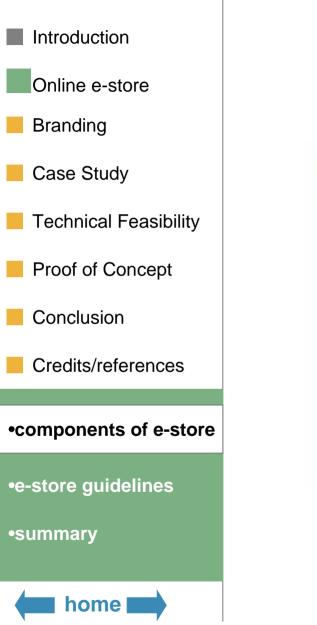
### Components of an e-store

### The fundamentals [Front end]

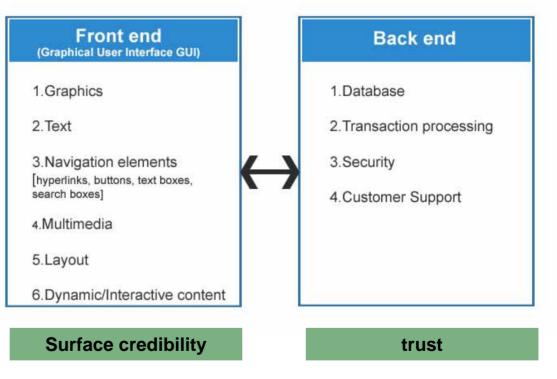**Product:**
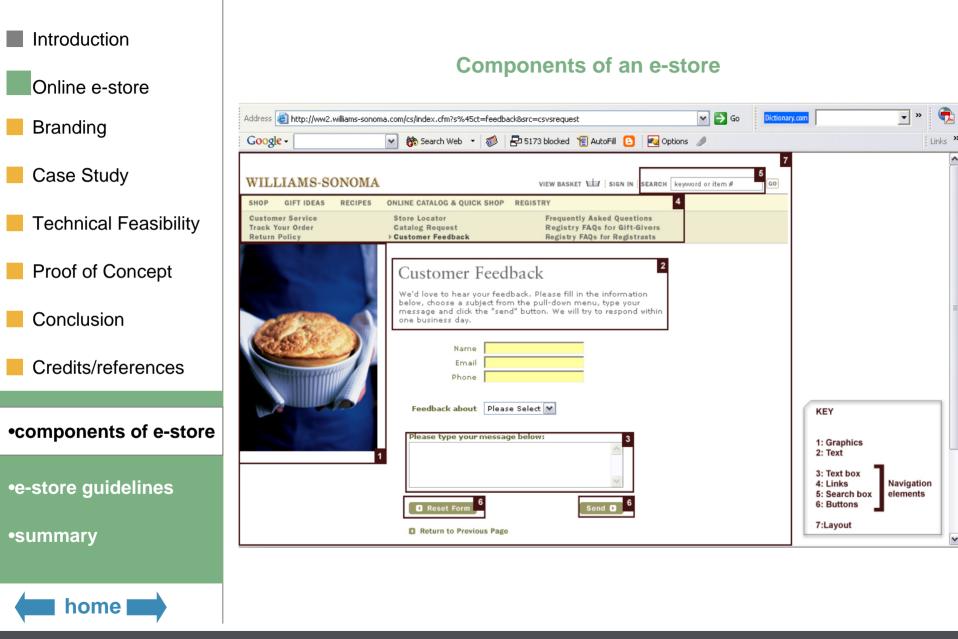
**2d image /3d product simulation**

**Environment:**

**Visual design [Interface] with the navigation tools like links.**

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**Components of an e-store**

**The skeletal structure**

| **Front end** (Graphical User Interface GUI) | **Back end** |
|---|---|
| 1. Graphics | 1. Database |
| 2. Text | 2. Transaction processing |
| 3. Navigation elements [hyperlinks, buttons, text boxes, search boxes] | 3. Security |
| | 4. Customer Support |
| 4. Multimedia | |
| 5. Layout | |
| 6. Dynamic/Interactive content | |

↔

**Surface credibility**          **trust**

# Introduction

# Online e-store

# Branding

# Case Study

# Technical Feasibility

# Proof of Concept

# Conclusion

# Credits/references
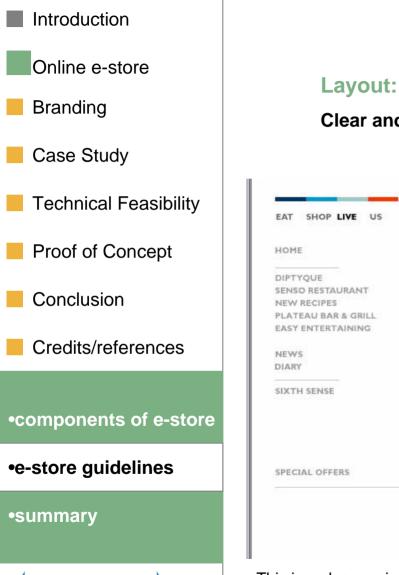
- **components of e-store**

- **e-store guidelines**

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## Components of an e-store



KEY

1: Graphics
2: Text

3: Text box
4: Links          Navigation
5: Search box     elements
6: Buttons

7: Layout

**e-store design guidelines**

**Some important considerations while designing a website (e-store)**

- **Loading time**

- **Ease of Navigation**

- **Language and Communication**

- **Layout**

- **Interactivity**

•**components of e-store**

•**e-store guidelines**

•**summary**

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•**components of e-store**

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**e-store design guidelines**

**Loading time**

**Don't make the users wait too long for the page to download**

**Faster the page loads→ more customers**

**"The one-second response-time limit is required for users to feel that they are moving freely through the information space. Staying below the 10-second limit is required for users to keep their attention on the task."**
**-Jakob Nielsen**

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### e-store design guidelines

### Ease of navigation:

**Where am I?**
**Where have I been?**
**Where can I go?**

•**components of e-store**

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**e-store design guidelines**

**Language and Communication**

**No Jargon**

**No verbosity –Keep it Simple**

According to a survey by Georgia Tech's Graphics, Visualization and Usability (GVU) Center in October 1997, **'The number one request that scares the user is 'please enter your credit card information' followed by 'tell us more about yourself'**

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**•summary**

## e-store design guidelines

### Layout:

**Clear and consistent**

www.conran.co.uk



This is a clear navigation, which highlights the segment (link) the user is in and also has links to the other segments of the website.

**home**

## e-store design guidelines

### Interactivity:

**Unique to the Online media as**

User takes control and participates than being a passive observer
**Virtual Host**
**Chat windows**
**Interactive product simulation**

http://www.alicebot.org/

**home**

## In Summary

•**Effective Front End and Integrated back end**

•**Interface [Front end] with**

> •**less load time,**

> •**easy navigation,**

> •**simple language,**

> •**clear layout and**

> •**interactive content**

**are fundamental structure of an e-store design**

**HOME:**
**H**igh Quality content
**O**ften Updated
**M**inimal download time
**E**ase of Use
-Nielsen

**Branding** is a layer added to the skeletal system

**home**

## What is a brand?

**Brand:**

"A mixture of tangible and intangible attributes, symbolized in a trademark, which, if properly managed, creates influence and generates value. **It is a 'relationship', a 'reputation', a 'set of expectations', a 'promise'."**
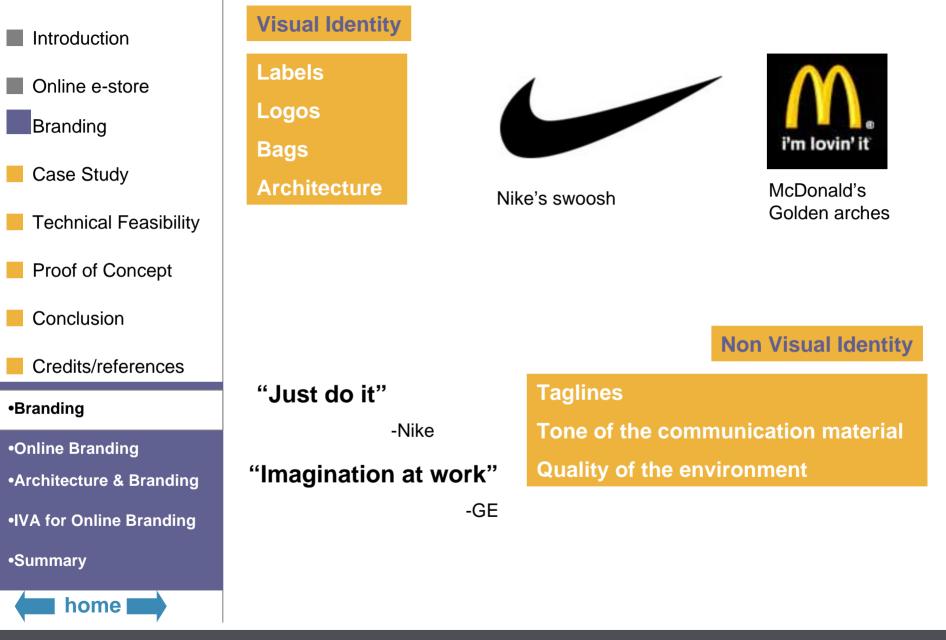
## What is a branding?

**Branding**, in all its shapes and forms, comes down to **how an organization presents itself and more importantly, how its audience perceives it**. It has grown beyond a simple visual depiction to more of an attitude, enforced through a series of interactions a person has with any one organization.

**Branding**

**Visual Identity**          **Non Visual identity**

home

**Visual Identity**

**Labels**

**Logos**

**Bags**

**Architecture**

Nike's swoosh

McDonald's
Golden arches

i'm lovin' it

**Non Visual Identity**

**"Just do it"**

-Nike

**"Imagination at work"**

-GE

**Taglines**

**Tone of the communication material**

**Quality of the environment**

**home**

### Key Characteristics of great brands

1. **Clarity of Vision**

2. **Consistency** across media

3. **Leadership**

**Gillette**, a manufacturer of shaving accessories, has been remarkable successful at managing the brand for long-term strength. It is **clear** in positioning and values, **consistent** in brand presentation and personality, and **leads** technology and customer understanding in its sector.

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**Branding strategies  for various media [establishing a dialogue…]**

**Print** – **Frozen still image [strength of the visuals and tone of the language]**

**Television** –**Visuals, motion, pause, voice, music**

**Environmental design** – **architecture, lighting, music, fragrance**

**Internet** – **Interactivity, visual design, multimedia**

**Online Branding**

**Online Brands**



**Yahoo ------ email**



**Google ----- search**



**Amazon---- books and e-commerce**

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•**Branding**

•**Online Branding**

•**Architecture & Branding**

•**IVA for Online Branding**

•**Summary**

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## Online Branding Strategies

### Visual Identity → Brand recognition

**Visual Design (Color scheme, layout, typography, navigation)**

### Non Visual Identity → builds relationship
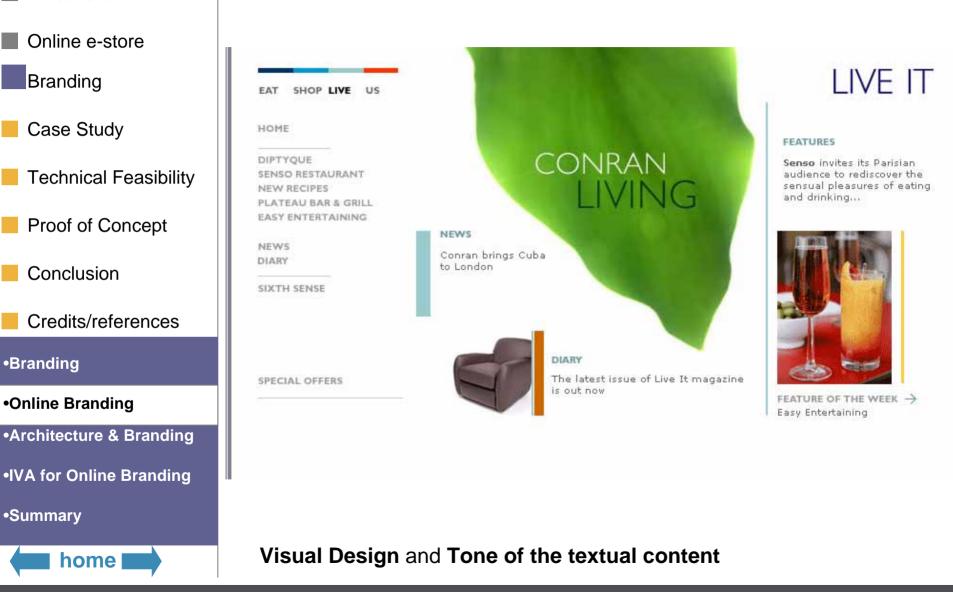
**Taglines, tone of the textual content, interaction design**

'According to Jerry Johnston, president of Critical Mass, the Canadian based interactive shop that won the Nike ID redesign in May1999, **mass customization defines the future of online branding. The brand would now adapt to the fit the individual and not the other way round**.'

**www.conran.co.uk**

•**Branding**

•**Online Branding**

•**Architecture & Branding**

•**IVA for Online Branding**

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**Visual Design** and **Tone of the textual content**

**www.bmwusa.com**

•**Branding**

•**Online Branding**

•**Architecture & Branding**

•**IVA for Online Branding**

•**Summary**

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**Customizability:** BMW configurator

**Multimedia:** BMW films screened exclusively on the internet

**•Branding**

**•Online Branding**

**•Architecture & Branding**

**•IVA for Online Branding**

**•Summary**

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**There is an acknowledgement of the need for Online Branding**

**Technology is influencing communications**

**Branding is extending into the Online Media**

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## Architecture and Branding

**Brand Experience**

**[ Architecture, lighting, layout, color scheme, graphics, landscape, music, fragrance, interactivity ]**

**Staging the product is important, hence design of the context is important**

**Architecture becomes a billboard for the brand reflecting the personality of the brand in the architecture**

**Retailers such as Marchall Field's in Chicago and Wanamaker's in Philadelphia recognized, as nineteenth-century mercantilists had not, that seeing products was not merely a matter of placing items on shelves and waiting for consumers to buy them. Instead products had to be staged within culturally desirable spaces.**

•**Branding**

•**Online Branding**

•**Architecture & Branding**

•**IVA for Online Branding**

•**Summary**

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## Prada Flagship store in SoHo district of New York

**Confluence of architecture, media, technology and fashion**

**Change is the constancy of the store**





**Architects:** Rem Koolhaas and Kazuyo Sejima

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**Architecture enhances the experience of the brand by**

•**Staging the product**

•**Branding to compliment the product**

•**Creating a Visual Identity for the brand**

**Extrapolating → Online → Virtual Architecture for Online Branding**

**home**

**Interactive Virtual Architecture for Online Branding**

**Components of Interactive Virtual Architecture**

**Virtual Architecture [Visual Identity]**

**-creates a context**

**Interactivity [Non Visual Identity]**

**-engages the consumer**

**-establishes the dialogue**

**Virtual Architecture**

•Reflect the brand

•create a brand statement

•Doesn't have to have semblance to real world counterpart

**Interactivity**

•Dynamic content [live chat, virtual host]

•Custom configuration

•Walk around the space, view product in 3d

**home**

**Interactive Virtual Architecture is a promising tool**

•New media of expression

•Creates unique identity

•Portrays the brand

•Stages the product

•Facilitates interaction

•Would let the customer sculpt the environment to their liking

•Early adopters will establish themselves and stand out from the crowd

 And it opens a new market for architects to specialize in

## In Summary…
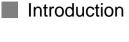
**Clarity, consistency and leadership across different media.**

| Media of communication | Visual Identity (Brand recognition) | Non Visual Identity (builds relationship) |
|---|---|---|
| **Print** | Image, graphics | Tone of the text, tagline |
| **Television** | Image, graphics, pause, motion | Music, tone, voice |
| **Environmental design** | Architecture, signage, graphics, lighting, layout, landscaping | Ambient music, fragrance, architectural experience, customer support |
| **Online (Internet)** | Visual design( color scheme, layout, typography, navigation), multimedia **[IVA- Virtual Architecture]** | Interactive experience design tone of the textual content, multimedia **[ IVA-Interactivity ]** |

**home**

•**Advertising**

•**Architecture**

•**Online**

•**Summary**

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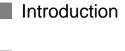
**The case study will show**

•Innovative use of the channel → increases brand image → increase in sales

•Early adopters of technology → set the brand apart from the crowd

•**Clarity of vision, consistency and leadership** →success of brand

**Nike** {
**Advertising**

**Architecture**

**Online**

# Nike

•**Advertising**

•**Architecture**

•**Online**

•**Summary**

**home**
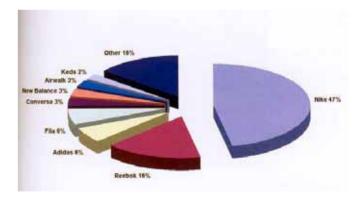
## Branding Strategy [clarity of vision]

**Nike would not promote or sell shoes per se, but what they represented- "the athletic ideals of determination, individuality, self sacrifice and winning"**

Kept it **consistent** across media

**Leadership** reflected in innovative design, out of the box campaigns, pushing the limits of technology



 **"It is Nike's shift "from pure performance to brand-conscious product development" that accounts for its stellar 47 percent share of the American sports apparel and shoe market."**

# Nike- Advertising

•**Advertising**

•**Architecture**

•**Online**

•**Summary**

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**"Spirit of the sports"**

**Campaigns:**

**1983- City campaign with billboards across the city [visual presence]**
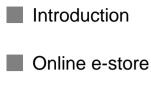
**1984: 58 Nike endorsed athletes took home 65 medals. International sales increased 70%**

**1986: Michael Jordan becomes an icon for the brand. Revenues topped the billion-dollar mark, reaching $1.07 billion**

**1996: "You don't win silver, you lose gold." tagline [non visual identity] for the Atlanta Olympics**



City campaign

•**Advertising**

•**Architecture**

•**Online**

•**Summary**

**home**
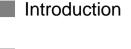
## Nike- Advertising

**Reasons for the success of the strategy**

•**Celebrity endorsements**

•**Product placement**

•**Harnessing people's perceptions**

•**Consistent Theme – "spirit of sports"**

•**Appeal to the individual's spirit of athleticism**

## Nike- Architecture for branding

- **Advertising**

- **Architecture**

- **Online**
- **Summary**

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### NikeTowns

**Consistent with the city campaigns, in 1991 Nike launched NikeTowns reflecting Nike's version of the city in the architecture of the space.**

**In essence, this (NikeTown) is fashion shop as excited advertisement, where vertiginous staircases, complex floor plates, explosive sounds and serial video screens are brought together to insert brand consciousness into the urban masses.**

•**Advertising**

•**Architecture**

•**Online**

•**Summary**

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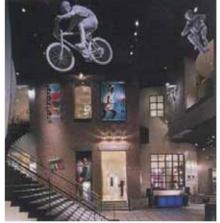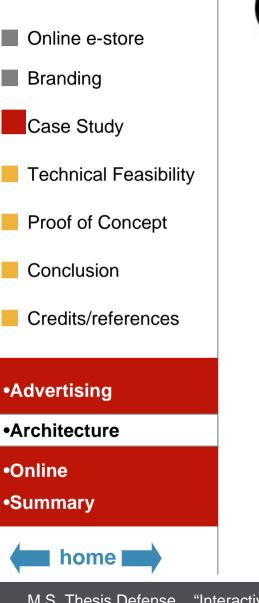
## Nike- Architecture for branding

### NikeTown,Orange County, California
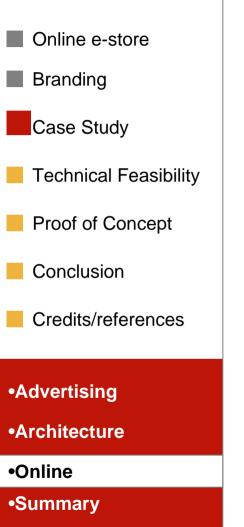


Town square theme

Concrete floors

Central space-several stories high, displays like storefronts

Scattered movement corridors

Outdoor court- 15deg cooler, artificial fragrance of mountain air

**Nike- Architecture for branding**

**Architecture for branding…**

**Strong themeing to reinforce the brand values**

•**Advertising**

•**Architecture**

•**Online**
•**Summary**

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**home**

## Nike- Online branding

### Nike's website

**Reflects the spirit of the times**

**Early adopters of technology**

**Reflects passion, speed, energy of sports**

**Nikelab has a 3d virtual architecture and new interactive technology**

# Nike- Online branding

### 3d Virtual Architecture
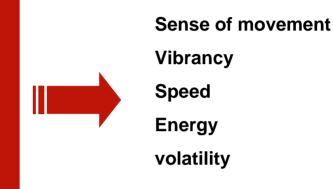
**Sharp geometries**

**Clean lines**

**Acute angles**

**Simulation of speed**

**Upbeat music**

**Voice-over**

**High tech lab environment feel**
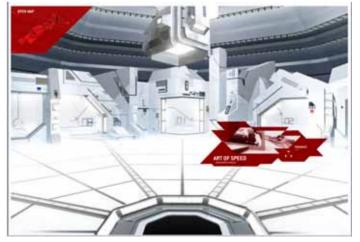
**Sense of movement**

**Vibrancy**

**Speed**

**Energy**

**volatility**

**home**

www.nike.com/nikelab
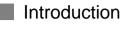
Design: R/GA, New York

# Nike- Online branding

**home**

**Product presentation**

**Peel away process**
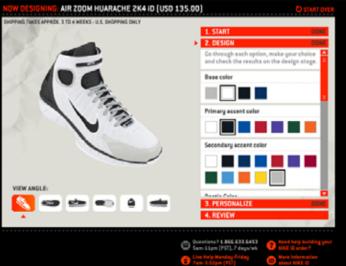
www.nike.com/nikelab

Design: Tronic, New York

**Customizability-Nike ID**
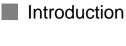
www.nike.com/nikeid

**Nike- Online branding**

•**Advertising**

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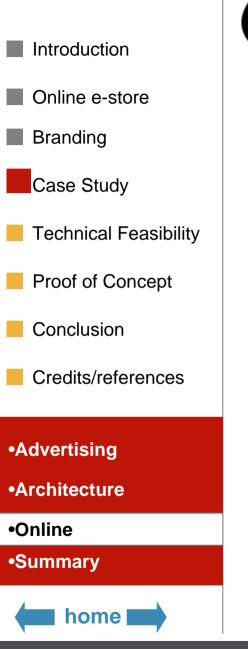
## Multimedia

**Interactive story telling →story of the design concept of shoes**

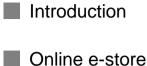**Interactive games →entertainment**

**Videos on the theme 'Art of Speed'**



Art of speed -Nike

# Nike- Online branding

•**Advertising**

•**Architecture**

•**Online**

•**Summary**

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**Nikelab**

**3d Virtual Architecture → Visual Identity**

**Interactivity and Multimedia → Non Visual Identity**

**Shares the qualities of great brand**

•**Clarity**

•**Consistency**

•**Leadership**

# In Summary…

## The case study showed that Nike

•Innovatively used the channel → increasing brand image → increasing sales

•Early adoption of technology → sets the brand apart from the crowd

•**Clarity of vision, consistency and leadership** →success of brand
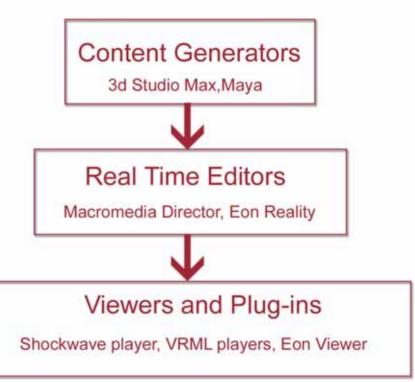
**home**

**home**
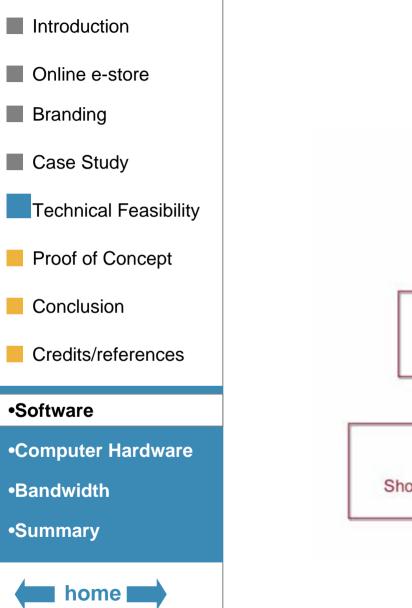
## Technical Feasibility

Real time technology:

http://www.eonreality.com/

1. **Software**

2. **Computer Hardware**

3. **Bandwidth**

•**Software**

•**Computer Hardware**

•**Bandwidth**

•**Summary**

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## Software

### Content Generators
3d Studio Max, Maya

### Real Time Editors
Macromedia Director, Eon Reality

### Viewers and Plug-ins
Shockwave player, VRML players, Eon Viewer

•**Software**

•**Computer Hardware**

•**Bandwidth**

•**Summary**

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## Software- Content Generators
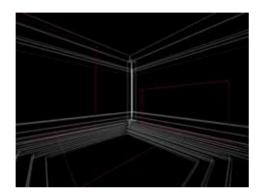


Wireframe model of the
3d geometry



3d Model with textures



Rendered 3d model

**3ds Max**

**Maya**
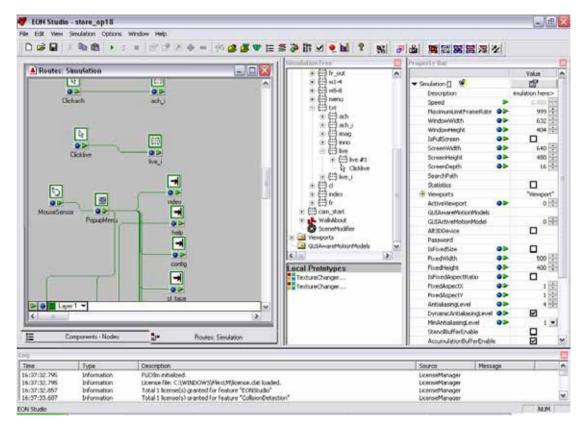
# Software- Real Time Editors

•**Software**

•**Computer Hardware**

•**Bandwidth**

•**Summary**

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Eon Reality interface

**Macromedia Director**

**Eon Reality**

•**Software**

•**Computer Hardware**

•**Bandwidth**

•**Summary**

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## Software- Viewers and Plug-ins

Macromedia Director – **Shockwave Player**

Eon Reality –**Eon Viewer**



the edge > 04. Bulletin: Microsoft Internet Explorer Browser Changes

Percentage of Internet-enabled PCs

0    100

Macromedia Flash Player — 97%

Java — 91%

Adobe Acrobat Reader — 81%

Macromedia Shockwave Player — 63%

Microsoft Windows Media Player — 59%

RealOne Player — 56%

Apple QuickTime Player — 41%

Active Content

**63% users have shockwave player installed**

## Computer Hardware

**home**

**Processor Power**

More polygons → more rendering time → more processing power
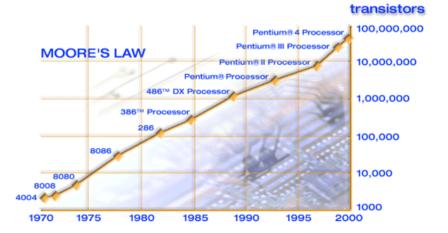
# Computer Hardware

**home**

**Moore's law:**

**Processing power doubles every 18 months**

# Computer Hardware

**Increased fidelity in Games**

•**Software**

•**Computer Hardware**

•**Bandwidth**

•**Summary**

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Image of Doom1(1993)


Image of Quake(1996)


Image of Doom3 (2003)


Prince of Persia (2003)
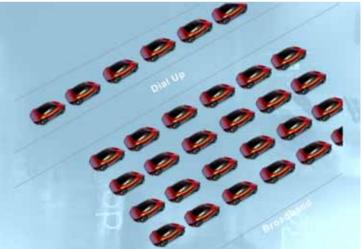
# Bandwidth

**"Bandwidth has the general meaning of how much information can be carried in a given time period (usually in a second) over a wired or wireless communications link. In digital systems, bandwidth is expressed as bits of data per second (bps)"**

**Dial up:** 28.8-56kbps (Kilobits per second) [date transfer rate ]

**Broadband:** (1000kbps) [date transfer rate]

•Cable

•DSL

•WiFi (Wireless)

## Bandwidth

Jupiter analysts forecast that the **number of households** (in the US) accessing the Internet via **broadband** connectivity (cable, DSL, satellite or fixed wireless) **will increase from 5.2 million in 2000 to 35.1 million in 2006**, with cable modems leading the way. (Oct 2001)

**US home broadband connections** have increased from **38% in July2003 to 51% in July2004.** (Nielsen/NetRatings, Aug 2004))

**According to Nielsen /NetRatings, more than 50% of the Web-surfing public is doing so via  broadband connections.**

**59% →18-20 year olds**

**58% → 2-11 year olds**

**55%→25-34 year olds**

**53% →21-24 year olds**

**34% → 65-99 year olds**

-Aug 2004, Adage

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## Issues and further research

**Issues**

•Large File Sizes

•Internet Bandwidth

•Human Computer Interactions (HCI)

**Research** is close to commercialization for the use of **tactile** and **olfactory** features

http://www.trisenx.com/product.html

http://www.immersion.com

Haptic mouse: Nostromo n30
Game mouse **(46$)**

Orbit 3d USB mouse: The Orbit® 3D takes your Web experience to a whole new level, by allowing you to actually feel buttons, icons, links and more as you scroll across them.

## Design of the Swatch e-store

**Online Branding:**

•Visual Design [Visual Identity]

•Interactivity [Non Visual identity]

•Multimedia [Visual identity, Non Visual identity]

**The Swatch e-store has a Virtual Architecture, it is Interactive and has multimedia features to create Online Branding.**

http://www.arch.ttu.edu/visualization/5345-VIZ-Studio-FA03/Amaran/thesis/final/swatch.html

**Attributes of a great brand:**

**Clarity, consistency and leadership**

**Online branding:**
    **Visual Identity → Brand recognition**
    **Visual Design (Color scheme, layout, typography,**
    **navigation, [ IVA-Virtual Architecture] ), multimedia**

    **Non Visual Identity → builds relationship**
    **Taglines, tone of the textual content, interaction design,**
    **multimedia, [ IVA-Interactivity]**

**Interactive Virtual Architecture is a new visual design medium for online branding**

**We have the technology to realize Interactive Virtual Architecture**

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**Further Research**

•**Multi User Interface**

•**Intuitive User Interface for for better HCI in a 3dRT environment**

•**Integration of Virtual Host, Live Chat and Personal Digital Assistant**

•**Tactile and Olfactory features for a more immersive environment**

**Opens a new market for architects to specialize in Virtual Architecture design for the online media**
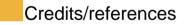
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## And finally…

*Walk into a virtual  store, have a digital assistant assist you in your shopping, interact with other shoppers, interact with the product on display and interact with the architecture. Have the architectural style change to suit your taste, walk into a landscaped court, smell the fresh blossoms and feel the textures and get doused in the virtuality of the environment.*

**Step into the realm of Online Branding!**

Introduction

Online e-store

Branding

Case Study

Technical Feasibility

Proof of Concept

Conclusion

Credits/references

**Thank you!**

**Thanks to every soul\* that was associated
with my thesis!**

Please refer to the thesis manual for a complete list of references.

\* Includes Dell Dimension 8300, books, internet, music and nature and all the people who brightened up the days!

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