

Bowling: The Master Plan

By

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Submitted to
the Faculty of the Information Engineering Technology Program
in Partial Fulfillment of the Requirements
for
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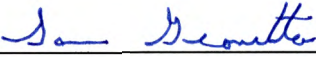
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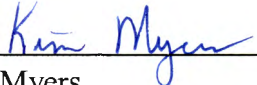
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3/16/00
Date



Dr. Sam Geonetta

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Date



Dr. Kim Myers

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Date

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Abstract

This project presents a master plan to great bowling. To improve the grasp and enjoyment of the game of bowling, all key components of competitive bowling are covered. This includes body movements of the game, understanding surface conditions, playing style, as well as how to withstand and ultimately excel in bowling's challenging "mental game". In addition, bowling terms and bowling videotape will be included to help enhance performance in the sport of bowling.

Bowling: The Master Plan

1. Statement of the Problem

1.1 Definition of the Need

The availability of thorough information on the sport of bowling is limited.

Books, magazines, and Web pages do not provide user-friendly instructions as a human coach would. This takes away from the person-to-person environment that is part of the game of bowling.

2. Review of the Literature

The need of a bowling CD-ROM application, for the audience of bowlers, is to provide user-friendly instructions and information on how to develop a competitive edge in the sport of bowling.

The distribution of the bowling application consists of an auto packaging CD-ROM. This will create a setup program on the system that the application is running on. Users should have Windows 95, Windows 98, or Windows NT 4.0 operating system, (or later).

The technical solution of this project is illustrated with the application tool of Toolbook Assistant II 7.0. With the use of Toolbook, interactivity is added to the CD-ROM application to help engage the user. Toolbook Assistant is a courseware-authoring program used to create, customize, and deliver training and educational activity applications. The browsing environment in the CD-ROM application allows users to discover bowling information in order of their choice. Bowlers can access related topics by way of hyperlinks that “jump” to another page. Hyper linked text and icons allow the users to review content on an as-needed basis.

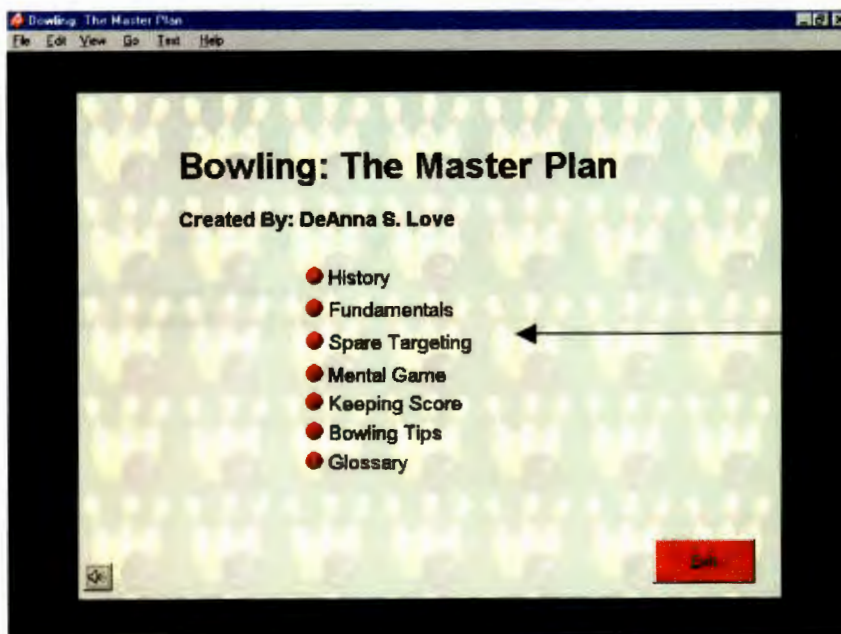


Figure 1: Homepage

***Black arrow line = Main heading components in hyper linked text**

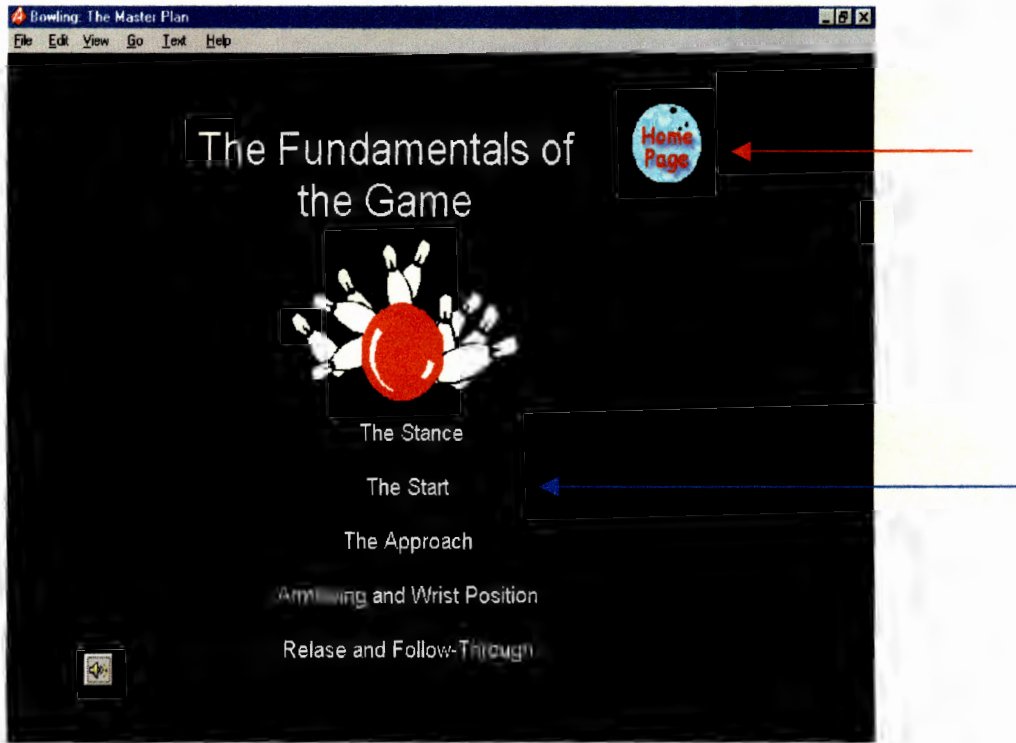


Figure 2: Example of Topic Screen and Home Page Icon

***Blue arrow line = Hyper linked text**

***Red arrow line = Home Page Icon**

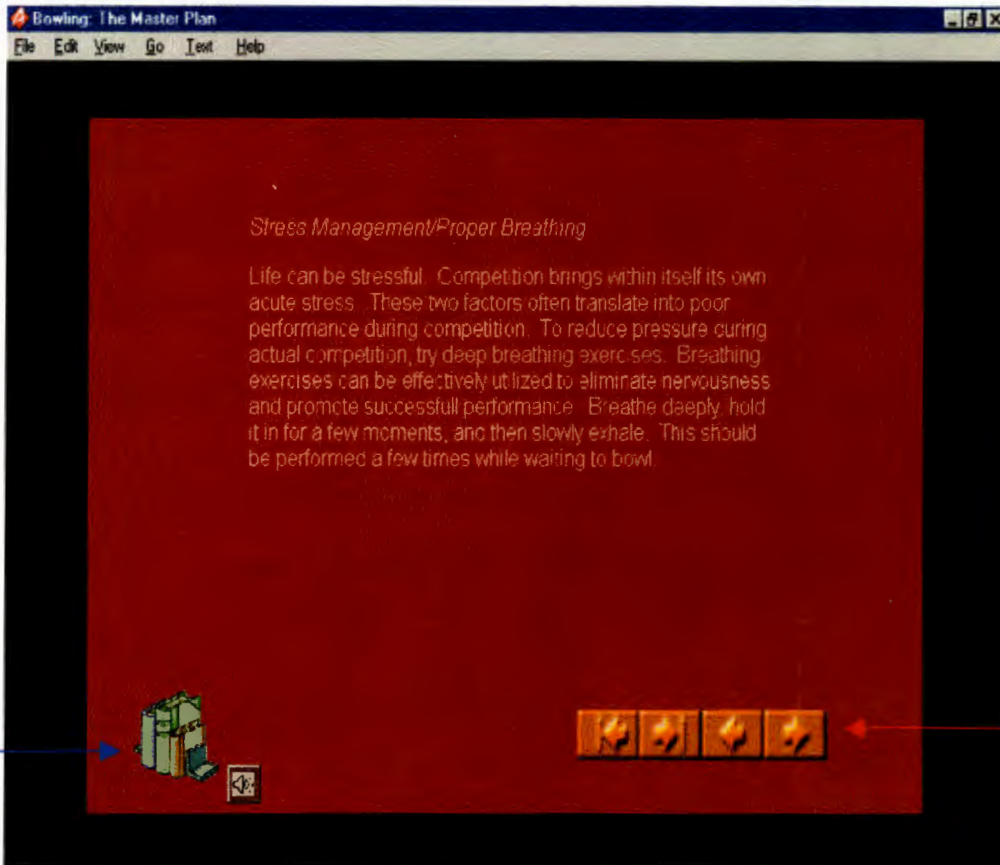


Figure 3: Example of Sub-Topic Page, Glossary Icon and Navigation Bar

*Blue arrow line = Glossary

*Red arrow line = Navigation Bar

3. Description of the solution

3.1 User profile

Any level of bowler and any individual who wants to acquire information about the sport of bowling can use the interactive CD-ROM production. The user's computer experience needs to be at least at a basic level. The CD-ROM is user-friendly so it will guide the user through all avenues of information.

To use this CD-ROM each user should have the following at a minimum:

- ◇ Personal or multimedia computer with a 486 or higher processor
- ◇ 73-150MB of available hard-disk space required
- ◇ CD-ROM drive
- ◇ VGA or higher-resolution video adapter
- ◇ Pointing device (mouse)
- ◇ Multimedia computer required to access sound and other multimedia effects

3.2 Design protocols

Graphical Images and Icons

- ◇ Still pictures, video footage, and animation of bowling information
- ◇ Bowling pins, bowls, equipment and accessories
- ◇ Design background add-ins of bowling

Font

- ◇ Arial
- ◇ Font size ranges 12 – 28

Color Scheme

- ◇ Homepage: bowling pins and ball background, with black text
- ◇ Topic Screen Layout 1: main topic component(s) located on homepage, this is the first page of the topic to navigate to sub-topic(s); with black background and white text
- ◇ Topic Screen Layout 2: information on main topic component(s), background color stays constant throughout pages of information; (white background with black text, and light blue background with black text)
- ◇ Sub-Topic Screen Layout: all sub-topic pages consist of a constant background and text color throughout the pages of the main topic, and each main topic has a different color scheme; (purple background/white text, olive green background/white text, maroon background/white text, and grey background/black and red text)

Media

- ◇ Sound file of bowling alley background
- ◇ Video tape of instructions and demonstrations

4. Objectives of the project (“Deliverables”)

4.1 Goal

Design an interactive multimedia CD-ROM composed to assist the user in obtaining a better understanding of the sport of bowling.

4.2 Project Objectives

- ◇ This bowling CD-ROM will be an interactive autopackaging tool that will guide users easily through the specified topics of bowling.
- ◇ Insertion of CD-ROM will result in an autorun demo displaying a splash screen with Table of Contents of main topics.
- ◇ Clicking the topic and/or sub-topic can access each category.
- ◇ Topic Screen Layout 1 will direct the user to a layout of topic information.
- ◇ Topic Screen Layout 2 will direct the user to sub-topic main screen, listing the sub-topics if there is more than one. Otherwise, guides user to Sub-Topic Screen.
- ◇ Sub-Topic Screen will direct the user to a layout of the sub-topic information.
- ◇ Ending options of sub-topic(s) will have navigation back through selected sub-topic, return to sub-topic main screen, and return to selected topic.
- ◇ Each screen will allow the user to return to home page.
- ◇ Topic screen(s) and sub-topic screen(s) will be color coordinated to indicate to the user what type of section they are displaying.

- ◇ A glossary will help the user to understand the terminology used to describe the sport of bowling.
- ◇ Hyperlinks to bowling terms listed in the glossary will be located throughout the text for the users' convenience.
- ◇ Creating an enhanced multimedia application of bowling by using Toolbook Assistant 7.0 and various technologies used throughout the IET field.
- ◇ Illustrating key concepts to the users without overwhelming them with the use of today's technology.

5. Design and Development

5.1 Budget

Item #	Qty	Description	Cost
1	4	CD-ROM Recordable Read/Write Disk	\$ 2.00
2	1	Toolbook Assistant 7.0 (furnished)	\$1,999.00
3	1	Perfecting The Release	\$ 21.95
4	1	The Master Plan to Great Bowling Video Tape (furnished)	\$ 14.95
5	1	Package of Bowling Pictures (23)	\$ 115.00
6	1	Memorex CD LabelMaker Kit	\$ 28.49
7	4	Binding Final Report	\$ 3.95
8	1	Reproduction of Video Tape	\$ 20.85

SUB-TOTAL \$2218.04

- **FURNISHED ITEMS** \$1,999.00
\$ 14.95

TOTAL \$ 204.09

5.2 Timeline

Activity	Total Time	Completion Date
Organizing Computer Resources	1 Week	Nov 3, 1999
Design Working Module	3 Weeks	Nov 24, 1999
Demonstrate Working Prototype	1 Month	Dec 1, 1999
Creating Design	1 Month	Dec 1, 1999
Revising Design	1 Month	Jan 10, 2000
Editing Design	1 Month	Feb 10, 2000
Project Completion	1 Month	March 3, 2000

5.3 Software

Specific Software

- ◇ Toolbook Assistant II 7.0
- ◇ Microsoft Office '97 and 2000
- ◇ Goldwave 4.02
- ◇ PaintShop Pro 5
- ◇ Adaptec Easy CD Burner
- ◇ Adobe Premiere 5.0
- ◇ Quick Time Player
- ◇ Visioneer Paperport 6.1

5.4 Hardware

Specific Hardware

- ◇ Gateway Performance 700 PC
- ◇ Motherboard with Intel 700MHz Pentium III Processor
- ◇ 128MB Memory Module
- ◇ VX900 19" monitor with 18" viewable
- ◇ 32MB nVidia RIVA TNT2 AGP Graphics
- ◇ 27.2GB 7200RPM UATA Hard Drive
- ◇ Ultra ATA 66 Controller
- ◇ 8X/32X DVD ROM Drive
- ◇ Read and Write 4X/4X/24X IDE CDROM Drive
- ◇ 3.5" 1.44 MB Floppy Diskette Drive
- ◇ Iomega 100MB Zip IDE Drive-Internal 5.25
- ◇ SoundBlaster Live
- ◇ 3COM US Robotics 56K PCI Voice Ready Winmodem
- ◇ Visioneer OneTouch 7600 USB Scanner

6. Proof of design

- Auto packaged CD-ROM using Toolbook Assistant II 7.0
- Toolbook Application demonstrating the components of the sport bowling.
- Home page with bullet point listings with hyperlink navigation of each subject.
- Each subject with components has its own sub-sections of key bowling information.
- Components and text information subject(s)
 - ◇ History
 - ◇ Fundamentals
 - ◇ Spare targeting
 - ◇ Glossary
- Text information subject(s)
 - ◇ Mental Game
 - ◇ Keeping Score
 - ◇ Bowling Tips
- Icons:
 - ◇ Bowling Ball icon = Homepage
 - ◇ Book Set = Glossary
- *Navigation Bar*
 - ◇ First button navigates the user back to the beginning page of the current subject
 - ◇ Second button navigates the user forward to the beginning page of the next subject in sequence
 - ◇ Third button navigates the user to the previous page of the book
 - ◇ Fourth button navigates the user to the next page of the book

7. Conclusions and Recommendations

This project helped me discover that more than 100 *million people now play bowling* in more than 100 countries. It has been around for a long time. The roots of the sport go back thousands of years.

In order to provide thorough information on the sport of bowling, an interactive CD-ROM was created. By gathering bowling information from bowling Web pages, magazines, books, videotapes, and personal experience as a semi-professional bowler, the CD-ROM illustrates key components of competitive bowling.

The application demonstrates the interactivity of the users' development of the sport of bowling. The ease of navigation through this application is the strength for a user. The weakness of this application is the level of information presented for beginner to intermediate level. With enhancements to the advance level, the depth of interactivity will increase with more components of bowling.

This application provides the availability of thorough information on the sport of bowling. With this information, the user has the means to become a truly proficient bowler. It is recommended to review the references to incorporate more information on bowling, and also, when ready, to explore to the advance level of bowling. So learn the fundamentals, groove the game and live it up on the lanes with the world's fastest – growing recreational sport.

References

Textbooks

- ◇ Carlson, Gerald P. and E. Harold Blackwell. Bowling Basics: A Step-by-Step Approach.
- ◇ Durbin, Mike, Dan Herbst and Dan Herbs. From Gutterballs to Strikes: Correcting 101 Common Bowling Errors.
- ◇ Herbst, Dan. Bowling 300.
- ◇ Steele, H. Thomas. Bowl – O – Rama : The Visual Arts of Bowling.
- ◇ Taylor, Dawson. Bowling Strikes.
- ◇ Taylor, Dawson, Taylor Jones and Earl Anthony. How to Talk Bowling.

Videotapes

- ◇ Bowl To Win: The Master Plan To Great Bowling. Fred Borden, U.S. Olympic Committee Coach of the Year. Ebonite.
- ◇ Perfecting The Release. Dick Ritger Enterprises.

Web Pages

- ◇ <http://www.amf.com>, AMF Bowling Inc.
- ◇ <http://www.brunswickbowling.com>, Brunswick Bowling & Billiards Corp.
- ◇ <http://www.bowl.org>, Bowling Headquarters Bowling Association
- ◇ <http://www.bowlersjournal.com>, Bowlers Journal International Magazine
- ◇ <http://www.bowlingthismonth.com>, Bowling This Month Magazine
- ◇ <http://www.bowlingworld.com>, Bowling World Magazine
- ◇ <http://www.columbia300.com>, Columbia 300
- ◇ <http://www.ebonite.com>, Ebonite
- ◇ <http://www.excite.com>, Excite
- ◇ <http://www.inlink.com/~tnbainc>, The National Bowling Association, Inc.
- ◇ <http://www.pwba.com>, The Professional Women Bowling Association
- ◇ <http://www.pbatour.com>, The Office Professional Bowling Association
- ◇ <http://www.stormbowling.com>, Storm Products Inc.
- ◇ <http://www.trackbowling.com>, Track Inc.
- ◇ <http://www.yahoo.com>, Yahoo
- ◇ <http://www.Y2Kball.com>, The Millennium Ball Co.
- ◇ <http://www.webopaedia.com>, Webopedia
- ◇ <http://www.zdnet.com>, ZDNet

Bowling

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Mechanicsville, VA 23111

Brunswick Bowling & Billiards Corp.

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Columbia 300

5005 West Ave.
San Antonio, TX 78213

Ebonite

PO Box 746
Hopkinsville, KY 42241-0746

Storm Products Inc.

165 S. 8th West
PO Box 212
Brigham City, UT 84302

Track Inc.

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San Antonio, TX 78213

The Millenium Ball Co.

7003 Mechanicsville Turnpike
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Mechanicsville, VA 23111