BPM+ HEALTH

Teaching BPM+ Interoperable Clinical Pathway Standards through Modeling Tools

Presented by
Michael Cesino, Visible Systems Corporation
mcesino@visiblesystemscorp.com

and

Anna Orlova, Tufts University
Anna.orlova@tufts.edu

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Visible Systems Corporation and Tufts University

• Visible Systems Corporation  [www.visiblesystemscorp.com](http://www.visiblesystemscorp.com)
  • Leading provider of modeling software to universities throughout the world.

• Tufts University [https://www.tufts.edu/](https://www.tufts.edu/)
  • Recognized as a premier university dedicated to educating new leaders for a changing world.

Headquarters: Boston, MA
Visible Systems Corporation

Key Commercial Offerings

• Self Service Data Discovery - NEW
  • Cross-Platform Interactive Analytics
  • Ad-hoc, Interactive Queries

• Information Governance/Change Management
  • Metadata Management
  • Requirements Management
  • Documentation Management

• Enterprise Agile Frameworks
  • Model/Metadata Development
  • Zachman, BPMN, ERD, UML, IHE, FHIR

Data Analytics

Application and Knowledge Management

Knowledge Representation, Business Analysis and Application Design
LIVE DEMONSTRATION

Business Cases

- Patient Registration*
- Immunization
- Diabetes
User Role in Information System Development Process: Requirement Elicitation

**Information system development process** is comprised of the following activities:

- Requirements elicitation
- Design
- Development
- Pilot testing
- Implementation
- Evaluation
- Deployment
Data, Information & Knowledge Sharing in Healthcare

Health Organization Knowledge Artifacts

Guideline Manager

Practice Manager

Data Analytics

Data Sources

Meaning
Knowledge
Information
Data

Integrating the Healthcare Enterprise (IHE). Patient Care Coordination Technical Framework. URL: www.ihe.net
Data, Information & Knowledge Sharing in Healthcare

Clinical Guidelines, Best Practices, Publications

1. Updated Clinical Guidelines

Health Organization Knowledge Artifacts

Guideline Manager

2. Clinical Pathways, Standard Operational Procedures (SOP)

3. CDI Data Capture Templates

Data Sources

4. Decision Support Algorithms

5. Quality Measures
   - Public Health Reports
   - New Knowledge

Data Analytics

Meaning
Knowledge
Information
Data

Integrating the Healthcare Enterprise (IHE). Patient Care Coordination Technical Framework. URL: www.ihe.net

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Visible Analyst: User Interface
Visible Analyst: Modeling Components

**Planning Statements**
- Specify Policies, Procedures, Goals and Objectives

**Business Processes**
- Implement Procedures as Clinical Pathways

**Data Entities and Relationships**
- Derive Data Rules from Clinical Pathways
Visible Analyst: Publishing

Publish the current model in the cloud
Demonstration: Patient Registration

Invitation to Everyone:
Discussion on Patient Registration

Additional Resources
Visible Educational Software

Visible has been the market leader in providing educational tools for Information systems classes at over 3,000 colleges and universities for more than 17 years. During that time, we have partnered with many of the premier college publishers and bundled Visible Analyst with more than thirty [30] college textbooks and workbooks.

Professor comments...

"By concurrently teaching and coaching structured analysis techniques using Visible Analyst and developing an actual project at the same time, the whole process is more relevant and cost effective."

"Without a tool like Visible Analyst, students could spend an enormous amount of time trying to define their system. This is because the complexity just isn't obvious."
Visible eLearning metrics over the last 2 years

Udemy.com is an online learning platform aimed at professional on-demand on-line education.

- 2,245 New Students Enrolled
- 113 Countries Taught
- 94 New Reviews
- 11 New Courses Published
- 56,588 Minutes Consumed
Visible Analyst – New Capabilities
Data Discovery and Data Analytics

Dr. Ernest Hughes:

“Could use it in my business classes on Information Management & Analysis and possibly my capstone course, Strategic Management”.

“Would use it for high level planning statements which ties in nicely with work already done in Visible Analyst”.
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<tr>
<th>Lesson</th>
<th>Topic</th>
<th>Description</th>
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<td>1</td>
<td>Getting to Know Visible Analyst</td>
<td>Learn how Visible Analyst uses a Model Driven Approach (MDA) to help you define, design, build, test, document, and support information systems. The lesson covers the user interface and the basic menu structure. During Lessons 1 – 4, students will</td>
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<td>2</td>
<td>The Zachman Framework</td>
<td>Work with the Zachman Framework, which provides a common vocabulary and cell-like structure for complex enterprise systems. The lesson shows you how the Zachman Framework can help you model, manage, and view key system components.</td>
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<td>3</td>
<td>Business Planning Techniques</td>
<td>Use business rules and precise logic to describe processes, procedures, and systems. The lesson shows you how to create strategic planning statements that support a model driven approach and document the design’s assumptions and constraints.</td>
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<td>4</td>
<td>Structured Modeling Techniques</td>
<td>Apply basic modeling techniques to assure correct and consistent diagrams and documentation. The lesson covers both structured and object techniques, including planning, process modeling, data modeling, object modeling, state transition modeling, and structured design.</td>
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<td>5</td>
<td>Diagramming and Repository Basics</td>
<td>Learn basic techniques for creating and modifying any type of diagram in Visible Analyst. The lesson shows you how to create new projects and diagrams, and how to edit a diagram, using symbols, lines, and text. At the end of this lesson, you will begin work on the Rent-Rite case study, which you will in future lessons.</td>
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<td>6</td>
<td>Planning and Using Functional Decomposition Diagrams</td>
<td>Create functional decomposition diagrams (FDDs) that describe business functions and relationships, and can translate into data repository entries. In the Rent-Rite Case study, you will develop a data model, and work with entities, symbols, and relationship lines. You also will learn how to analyze a diagram and automatically generate a view of the data model.</td>
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<td>7</td>
<td>Entity Relationship Diagrams</td>
<td>Draw an entity relationship diagram (ERD) that shows the major entities and how they relate to one another. You will work with fundamental, associative, and attributive entities. In the Rent-Rite Case study, you will work with entities, symbols, relationship lines and cardinality notation.</td>
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Important to note that each one of these Learning Outcomes comply with the Modeling Notation Standards as prescribed by the Object Management Group (OMG) of which Visible Systems Corporation is a member.

**Why is this important?** Student skills learned on Visible Analyst are transferable to other modeling toolsets of other vendors.

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<td>Develop a data flow diagram (DFD) that shows how data is transformed by system processes. You will start with a top-level context diagram that shows the major entities, inputs, and outputs. You will learn how to create lower-level diagrams that show more detail. In the Rent-Rite Case study, you will work with entities, processes, data stores, and data flows.</td>
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<th>Structured Design and Structure Charts</th>
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<td>Use structured design and structure charts to produce a top-down plan of how the new system will be built, tested and operated. You will create reusable modules that are easier to maintain and edit. In the Rent-Rite Case study, you will work with modules, invocation sequences, control architectures, calling and return flows, decision logic, and looping.</td>
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<td>Use object-oriented modeling techniques to describe objects and their relationships. In the Rent-Rite Case study, you will work with classes, instances, cardinality, attributes, association, inheritance, aggregation, operations, and methods.</td>
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<td>Draw a state transition diagram that describes real-world dynamic changes that occur in the life history of an object, and the events that</td>
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<td>Business Process Diagramming with BPMN</td>
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<td>Working with the Repository Functions</td>
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<td>Where To Go From Here</td>
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