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**Disclosures**

- The Department of Radiation Oncology at the University of Alabama has several research agreements with Varian Medical Systems.
- Research supported in part by Varian Medical Systems
- Teaching honoraria received Varian Medical Systems

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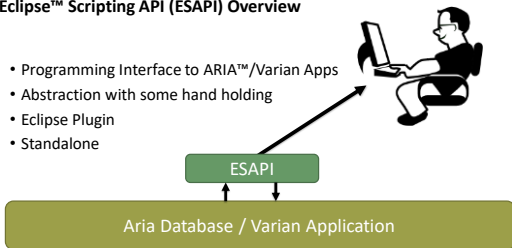
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**Eclipse™ Scripting API (ESAPI) Overview**

- Programming Interface to ARIA™/Varian Apps
- Abstraction with some hand holding
- Eclipse Plugin
- Standalone




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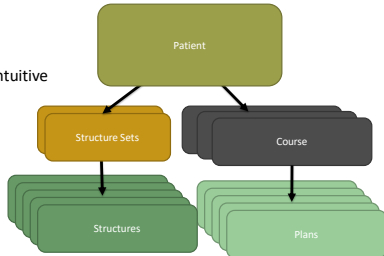
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**The Abstraction**

- Table structure to intuitive objects




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**.NET Framework**

- Supported Languages: C#, F#, VB.net, Iron Python
- Collection of common code libraries installed on Windows
- Intellisense support

```

namespace WISShowcase
{
    class Program
    {
        static void Main(string[] args)
        {
            //
        }
    }
}
  
```




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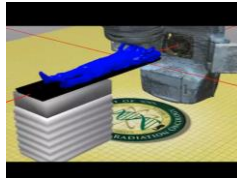
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**WPF – Windows Presentation Foundation**

- Rich User Interfaces
- 3D graphics
- Same framework used in Varian native apps
- Also supports Console applications, and Windows Forms




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### The Future of ESAPI

- Clinical writing!
  - Field arrangement
  - Plan generation/Optimization
  - Structure creation
- New Tools for Easier Code Generation



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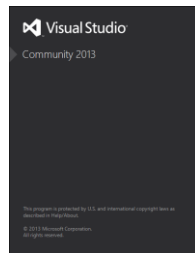
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### Getting Started

- Basic Tools
  - Varian Eclipse 11.0 +
    - No additional cost
  - Visual Studio Community Edition
    - Free
- Imagination



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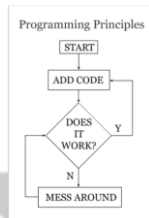
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### Where To Learn More

- Varian Developer
  - Codeplex - strong community
  - Oncopeer.com
  - Developer workshop
- Youtube ("ESAPI")/CarlosJAnderson.com
- Explore with Visual Studio and Intellisense
- .NET Programming
  - Pluralsight
  - Microsoft Virtual Academy



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**Guidelines?**

- Current Risks
  - Clinical decision making
  - Bad data collection for research
- Future Risks
  - Incorrect structure creation
  - Non-optimal planning



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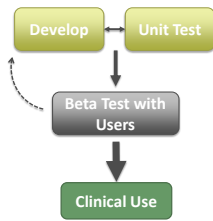
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**Three Tiered Approach to In-House Clinical Software Rollout**

1. Unit testing critical software pieces
  - Minor/Major code errors
2. Beta launch with small subgroup of advanced users
  - Usability errors
  - Unknown use case errors
3. Clinical Rollout



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**Summary**

- Powerful application framework
- Read access clinically available now
- Clinical write access coming
- Strong community and manufacturer support
- No Guidelines

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Thanks



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