



From Prototypes to Products Building Commercial Instruments with LabVIEW

NIWeek 2010 Session TS3032

Presented by Omar Mussa

JKI

Products Built with LabVIEW

Prototype

Develop
I/P

Short
Iterations

Instrument Interface

Instrument
I/O

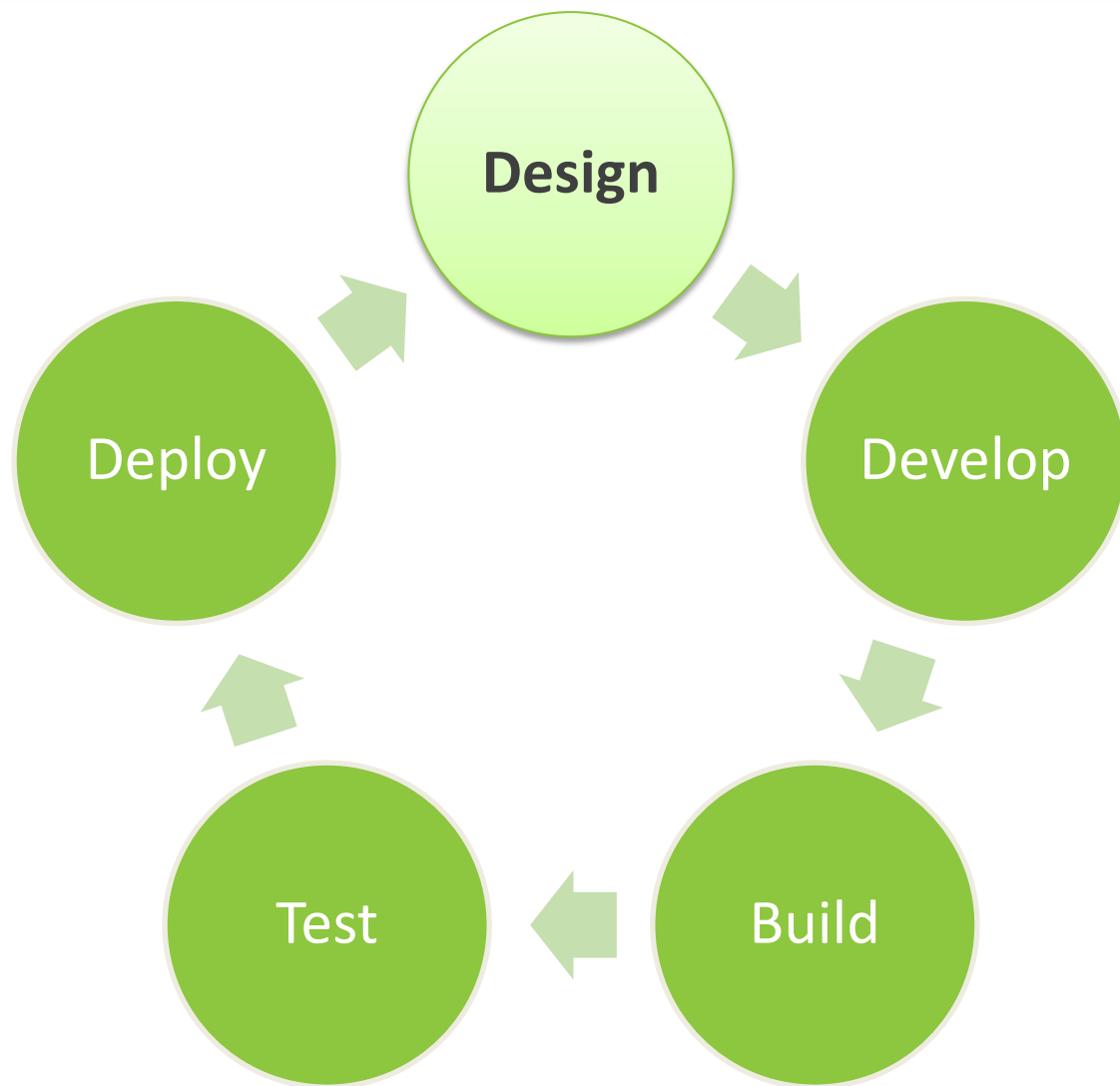
Utilize
Existing
Resources

User Interface

Time to
Market

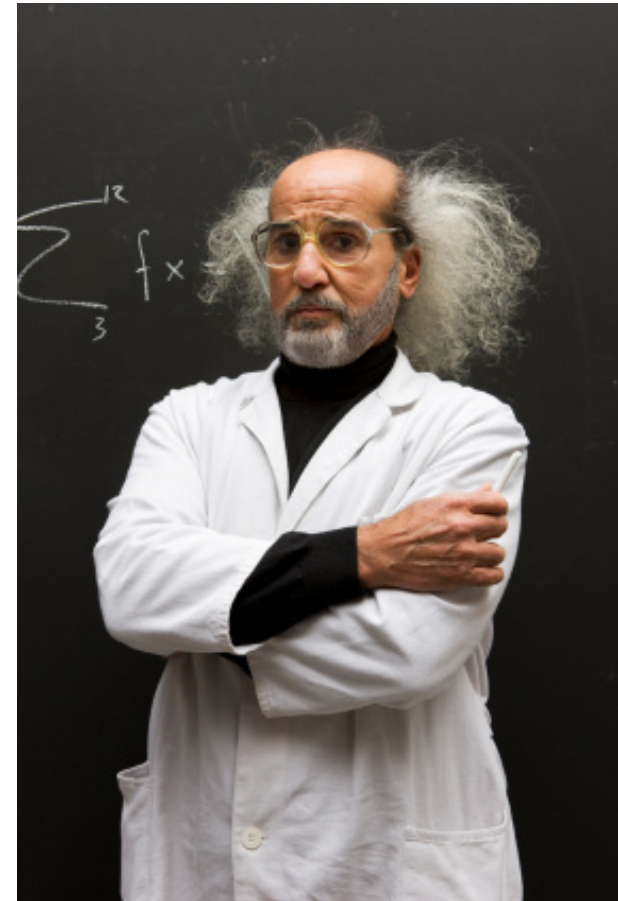
Code
Reuse

Development Process - Design



Prototype Users

Of course it will
work!

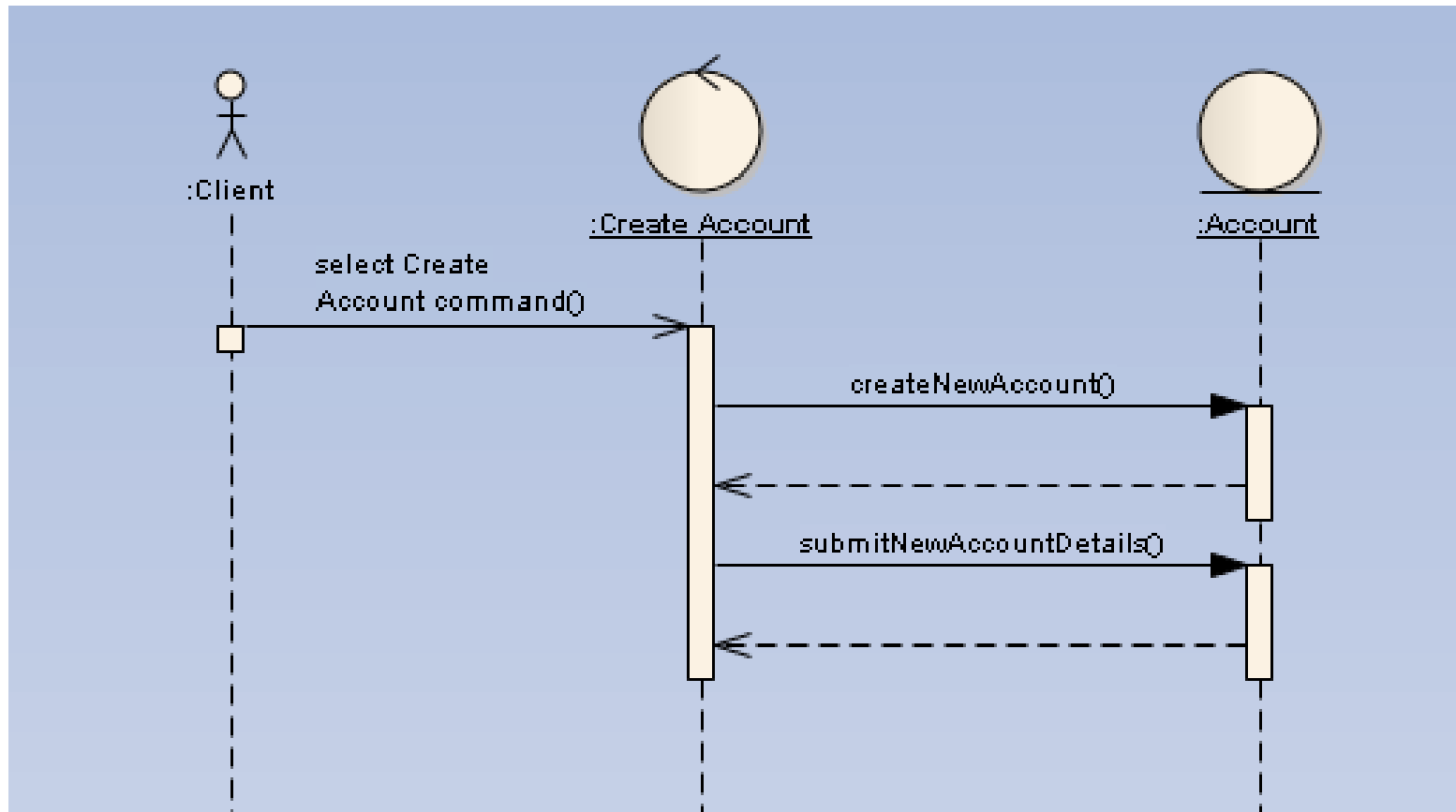


Customers



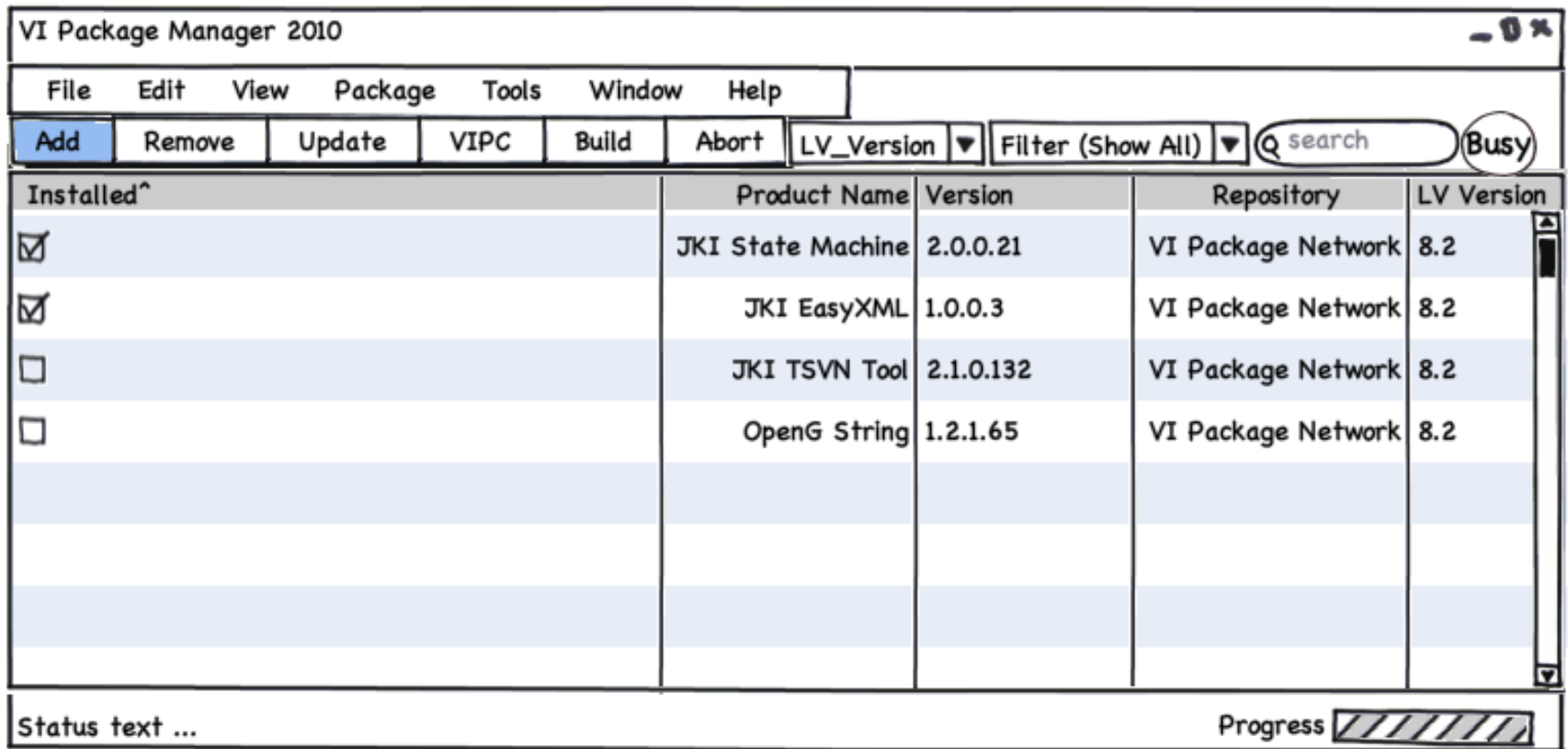
Workflow Design

- UML for Use Case and Sequence Analysis



Workflow Design

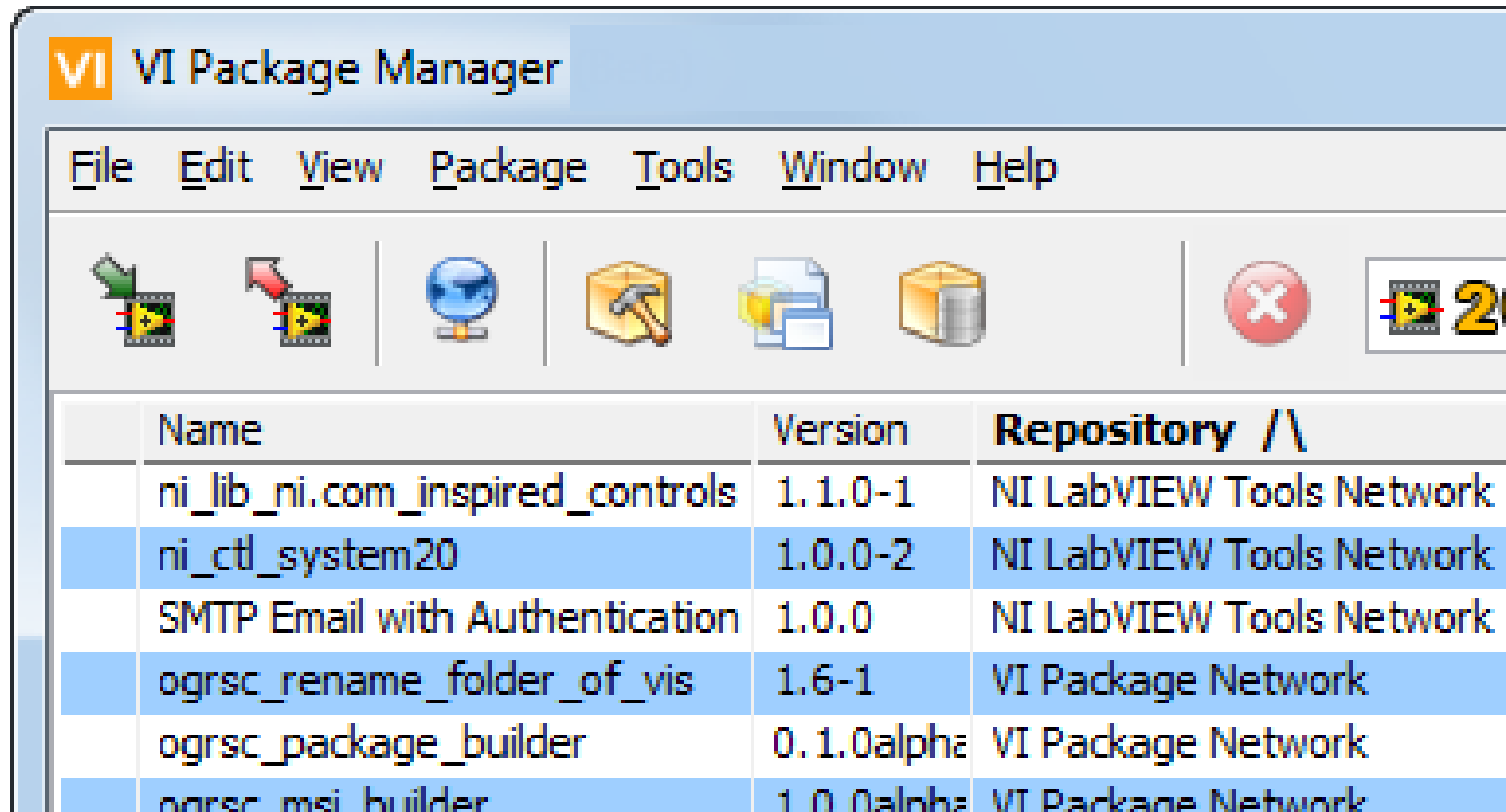
- Storyboard solutions (Mockups)



created with Balsamiq Mockups - www.balsamiq.com

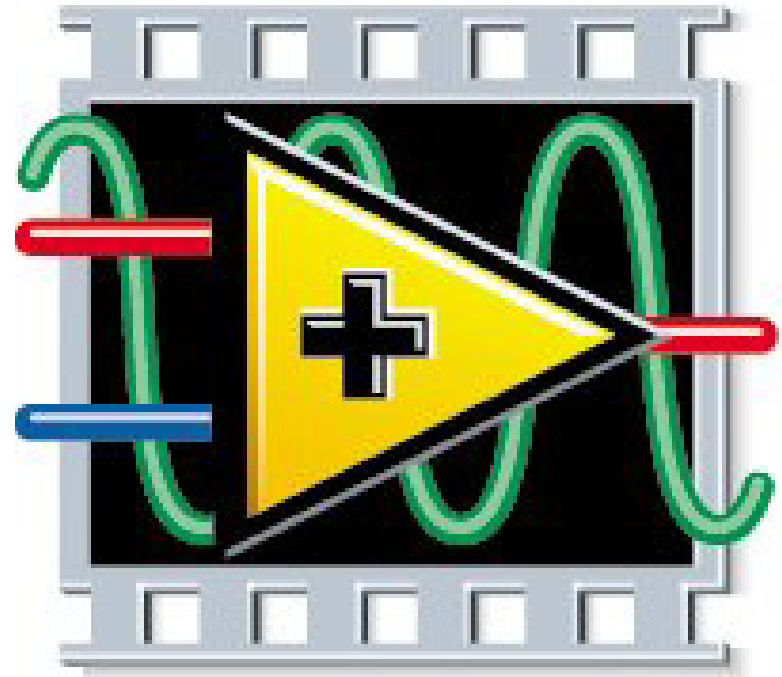
UI Considerations

- User experience
- Branding



LabVIEW Considerations

- System Palette
- Strict Type Defs
- X-Controls
- Subpanels
- Picture Control



Data

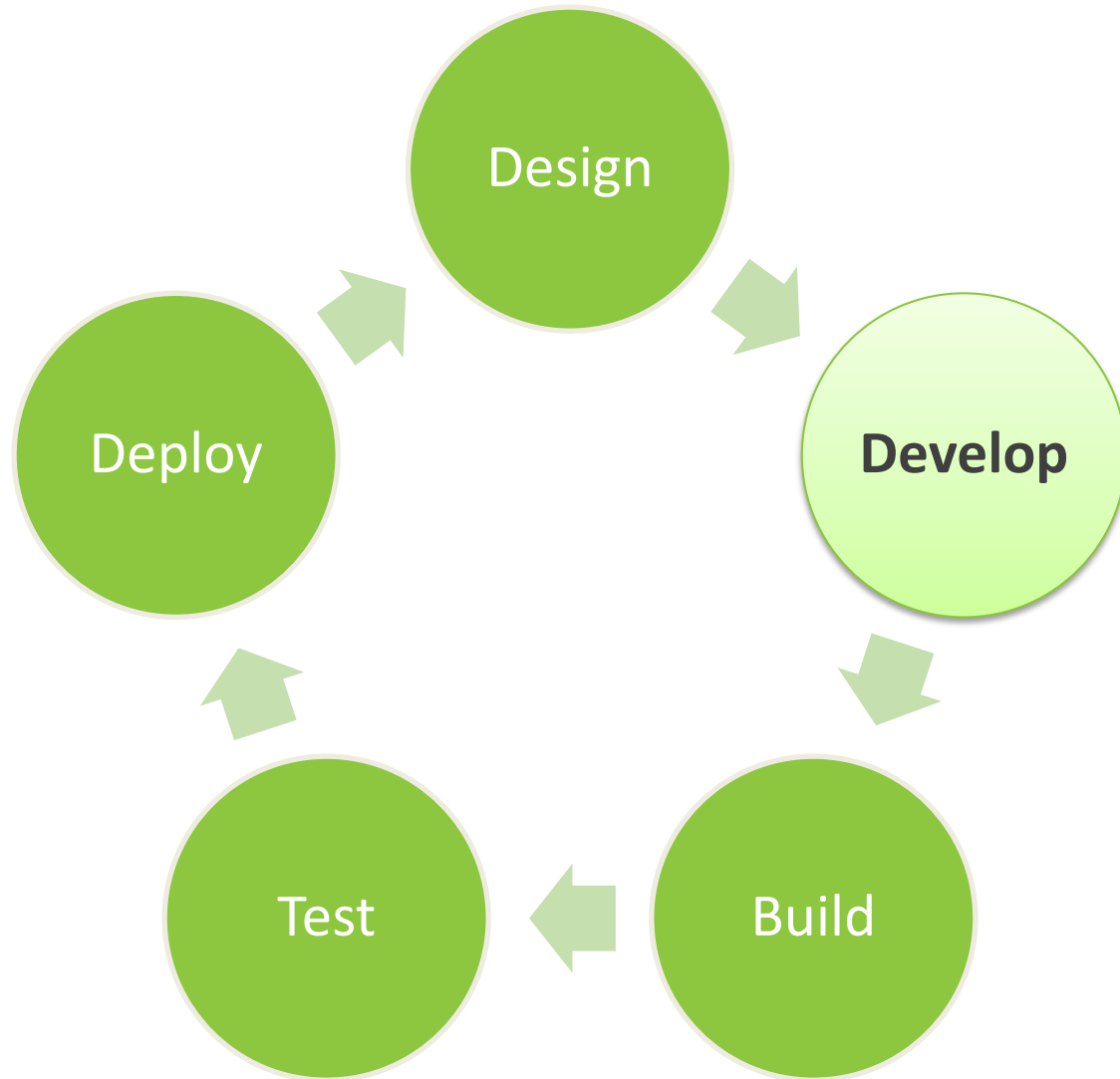


Identification

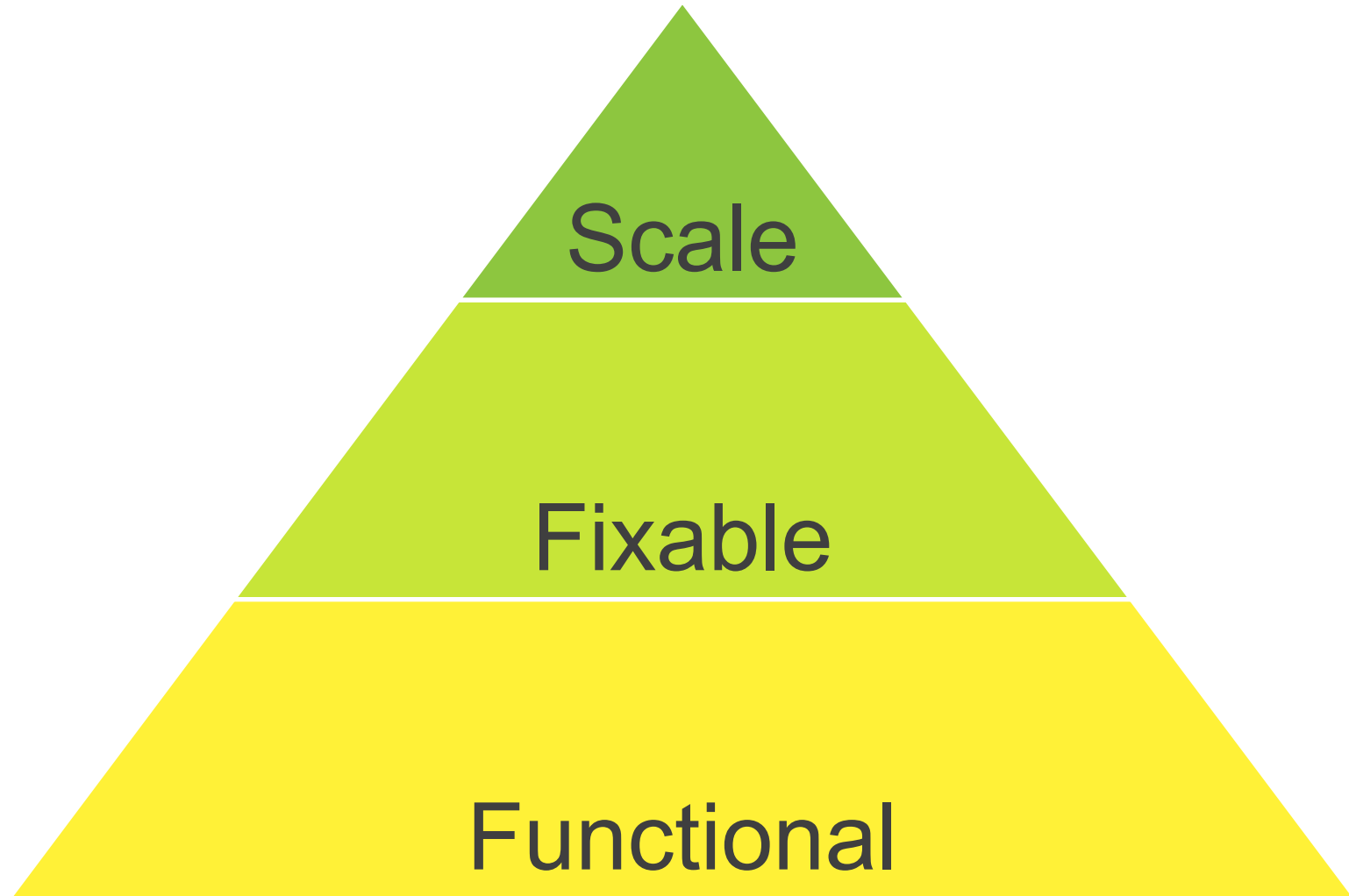
Storage



Development Process - Develop

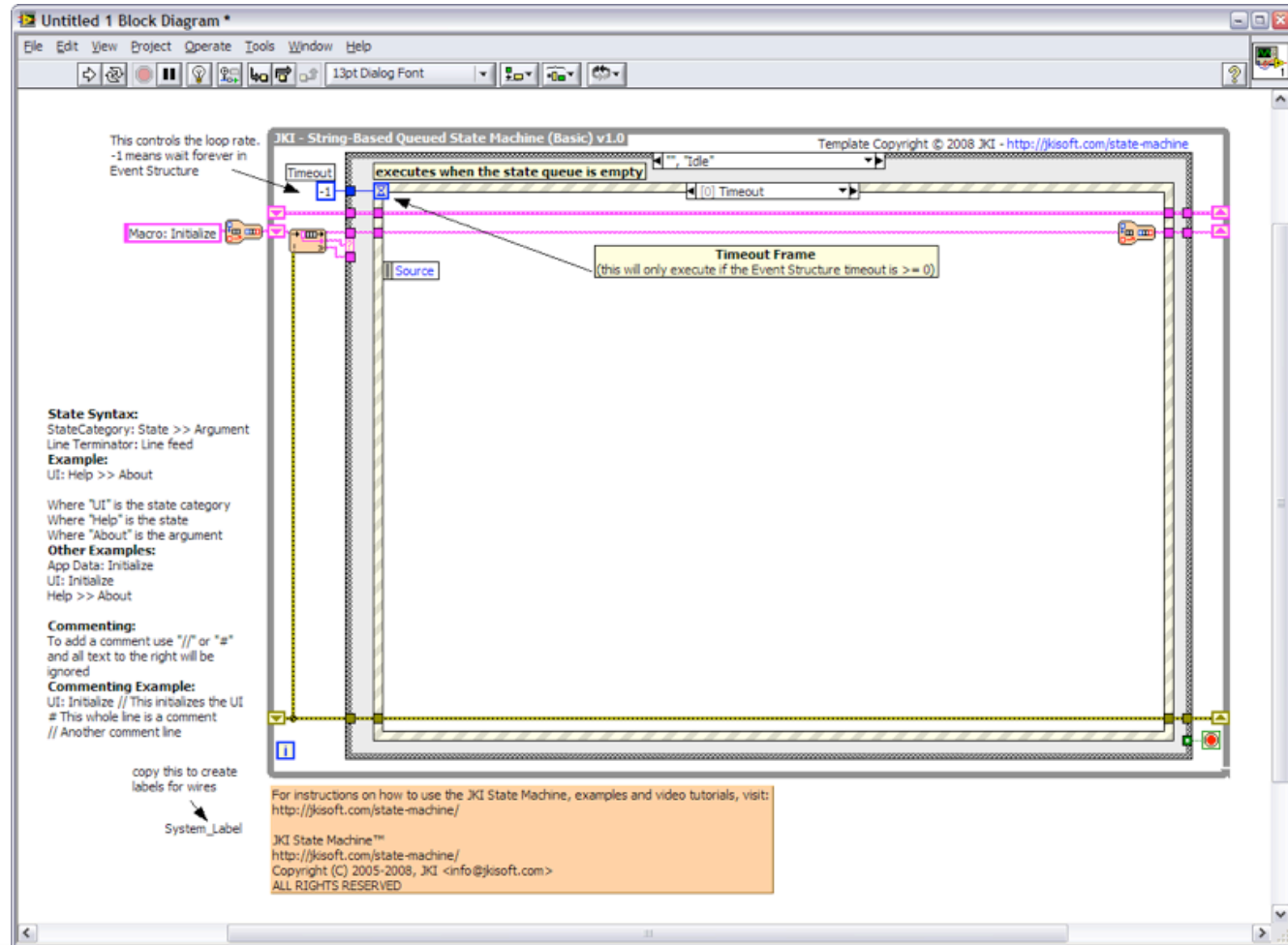


Elegance



LabVIEW Keys

- Architecture
- Style
- Team
- C/M
- Agile



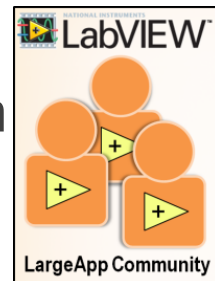
Maintenance Focused

- Simulation
- Error handling
- Reuse
- Modular
- APIs



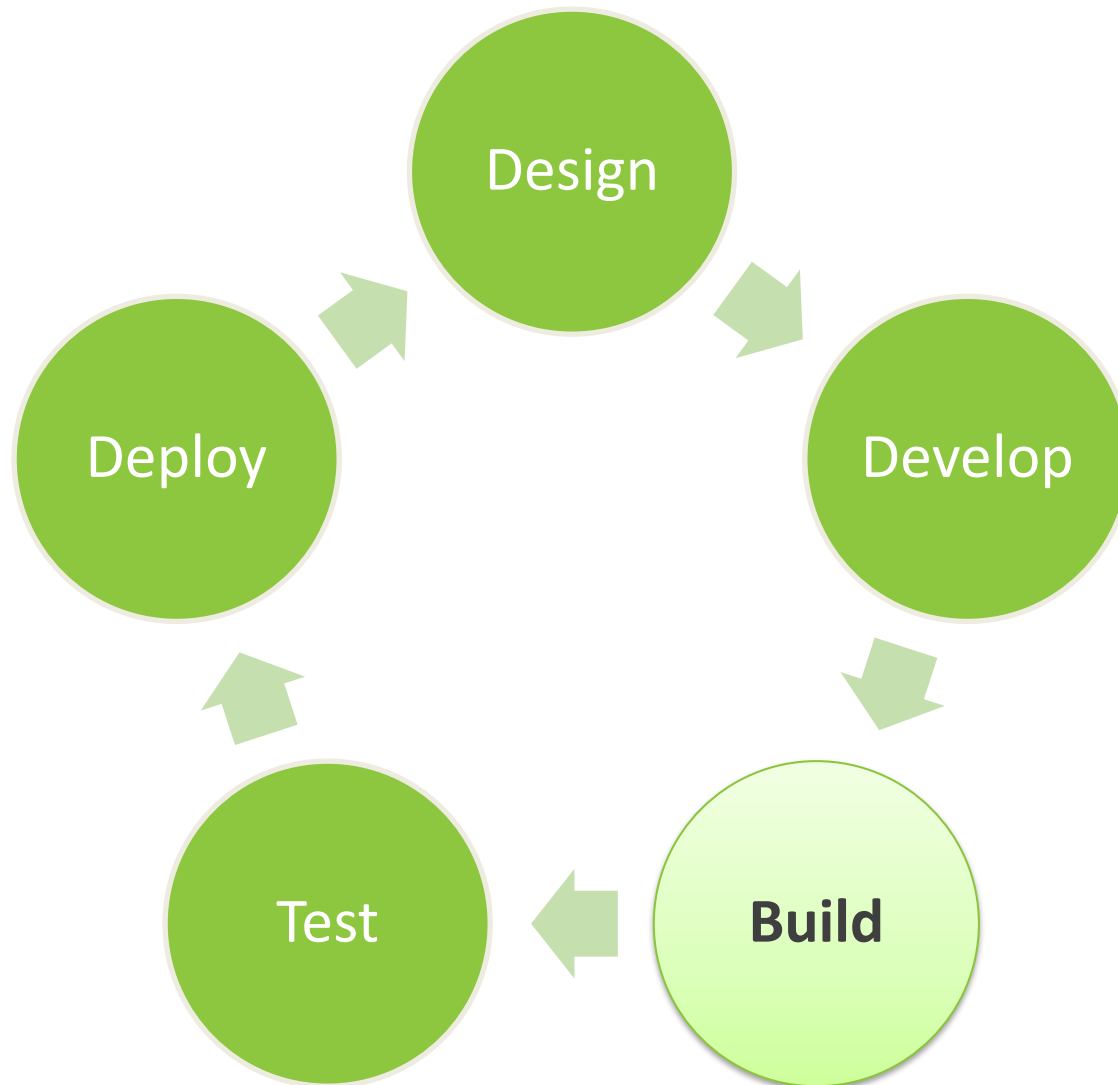
Support Tools

- JKI.NET Tools
 - VI Package Manager
 - JKI State Machine
 - VI Tester
- NI - Large LabVIEW Application Development
 - Software Engineering with LabVIEW Presentation
 - by Elijah Kerry



- New: NI LabVIEW Tools Network for LabVIEW Addons

Development Process - Build

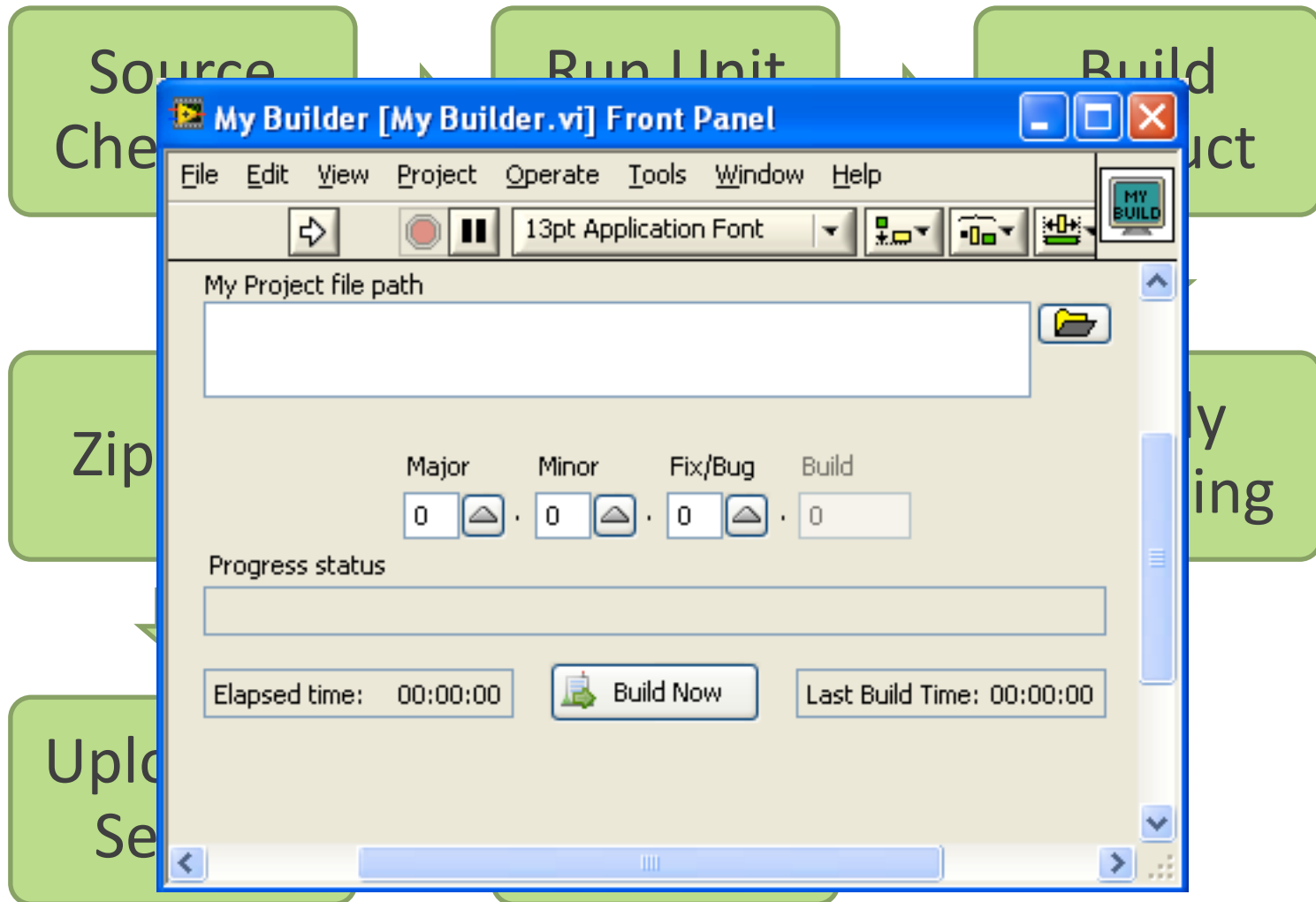


Build Process

- Build Early and Often
- Automate Build Steps
- Integrate Security/Licensing
- Build Server

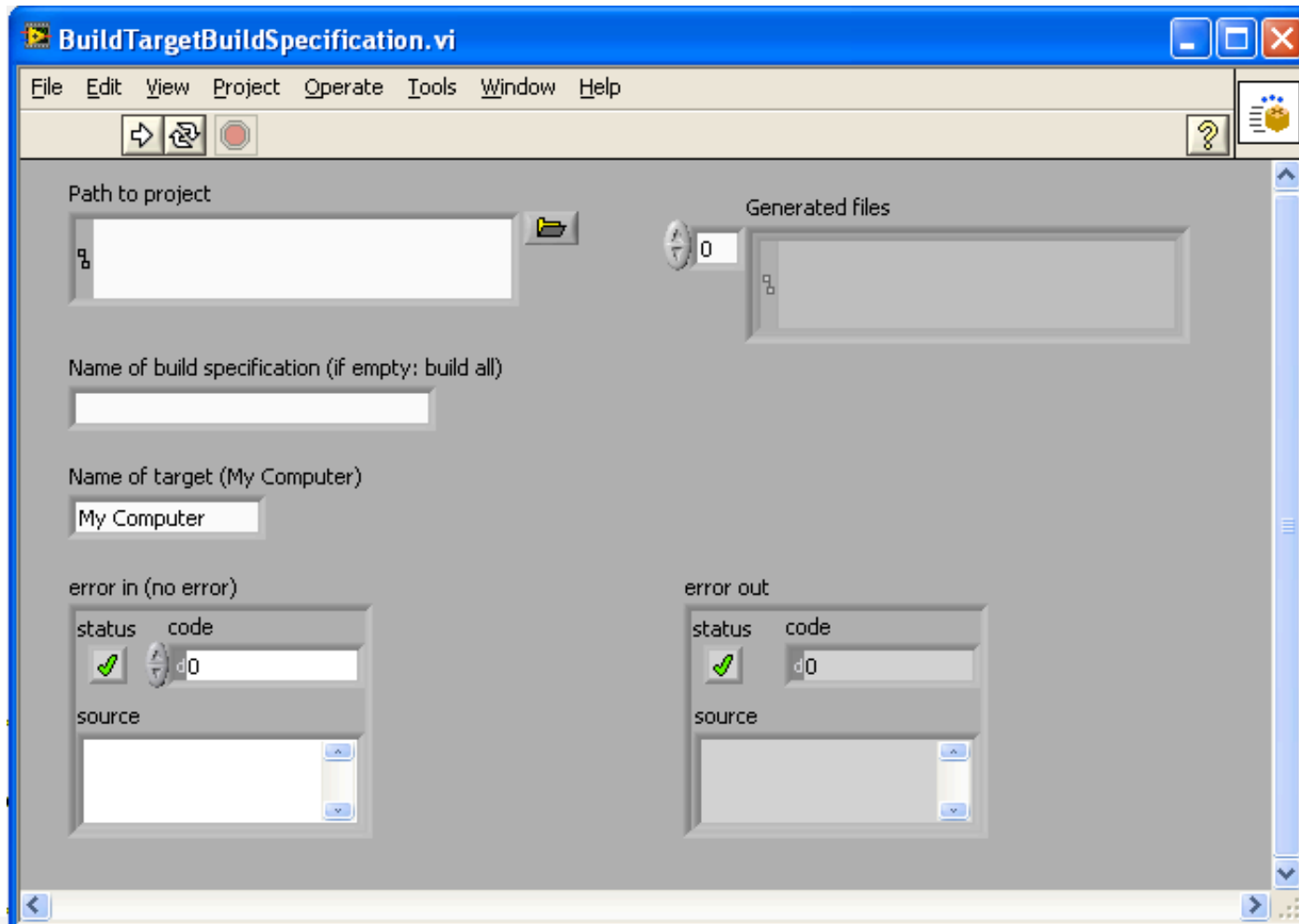


Build Steps

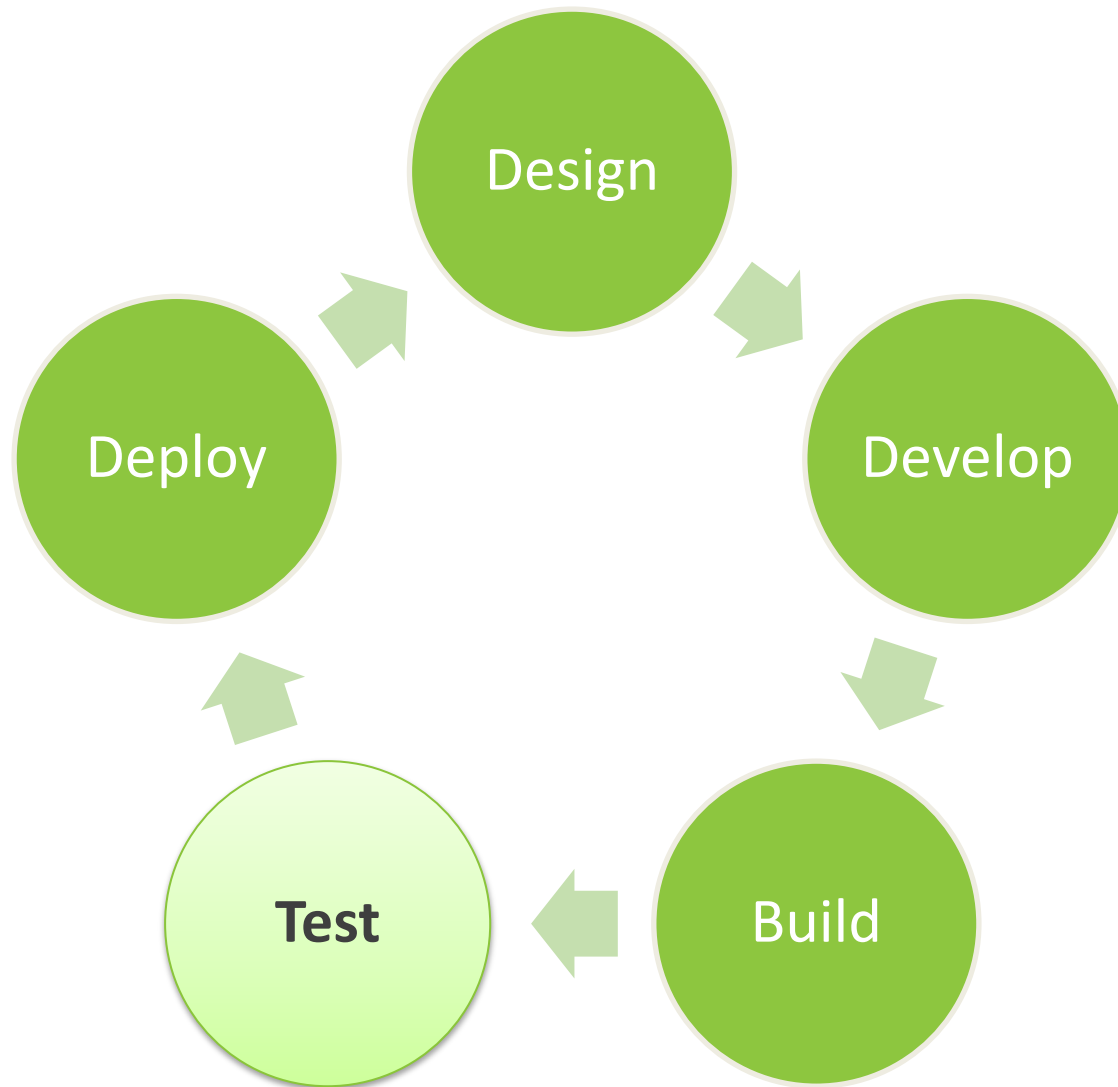


Automated Build

- vi.lib\AppBuilder\BuildTargetBuildSpecification.vi



Development Process - Test



Product Testing

Development	Deployment
Static Analysis	Session-based Testing
Unit Testing	Pilot Release
Functional Testing	Beta Release

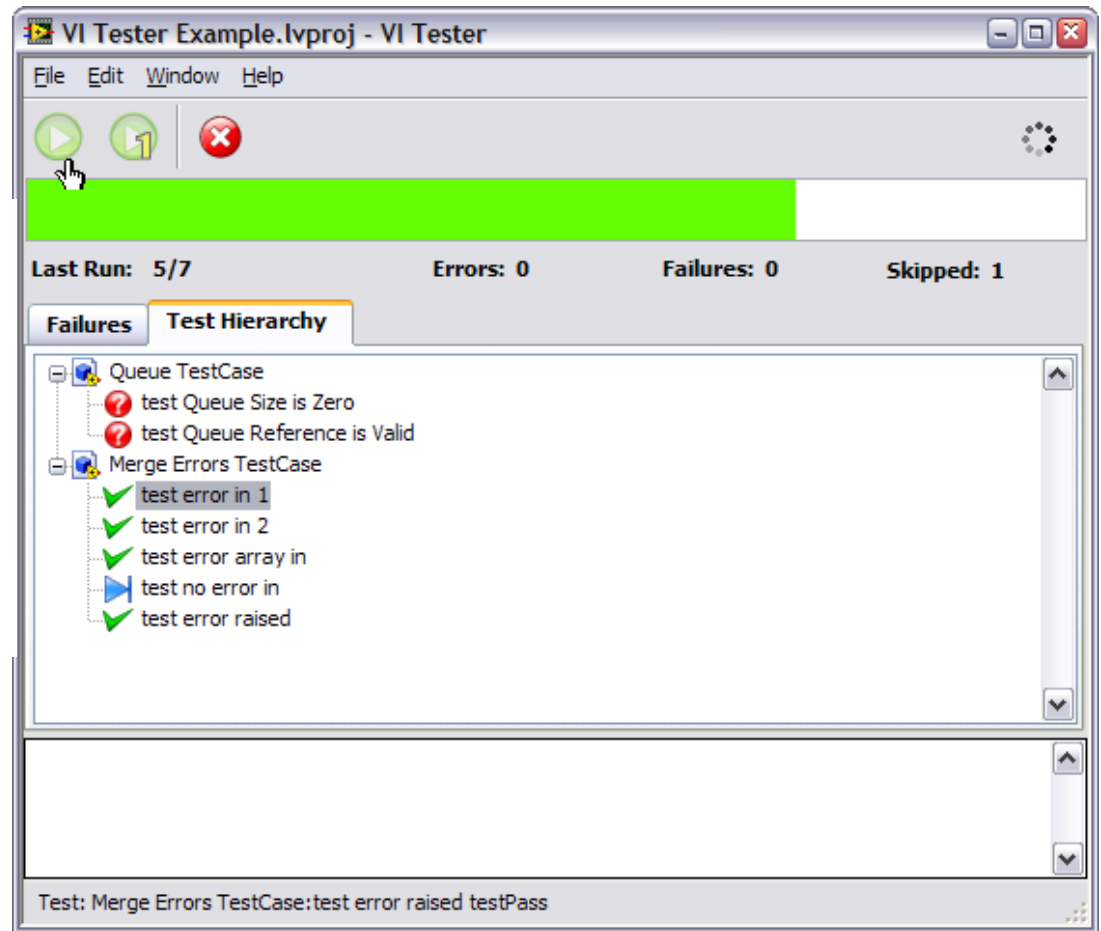
Unit to Functional Testing

VI Tester API.lvlib:Run Tests.vi



Run test classes (TestCase or TestSuites) programmatically using VI Tester test engine.

JKI VI Tester for LabVIEW
<http://jkisoft.com/vi-tester>
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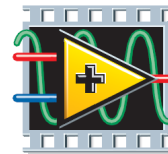


Quality

- Awards
- Quality
- Reputation



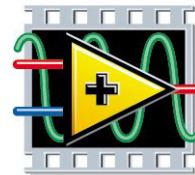
COMPATIBLE WITH



NATIONAL INSTRUMENTS

LabVIEW™

GOLD PRODUCT

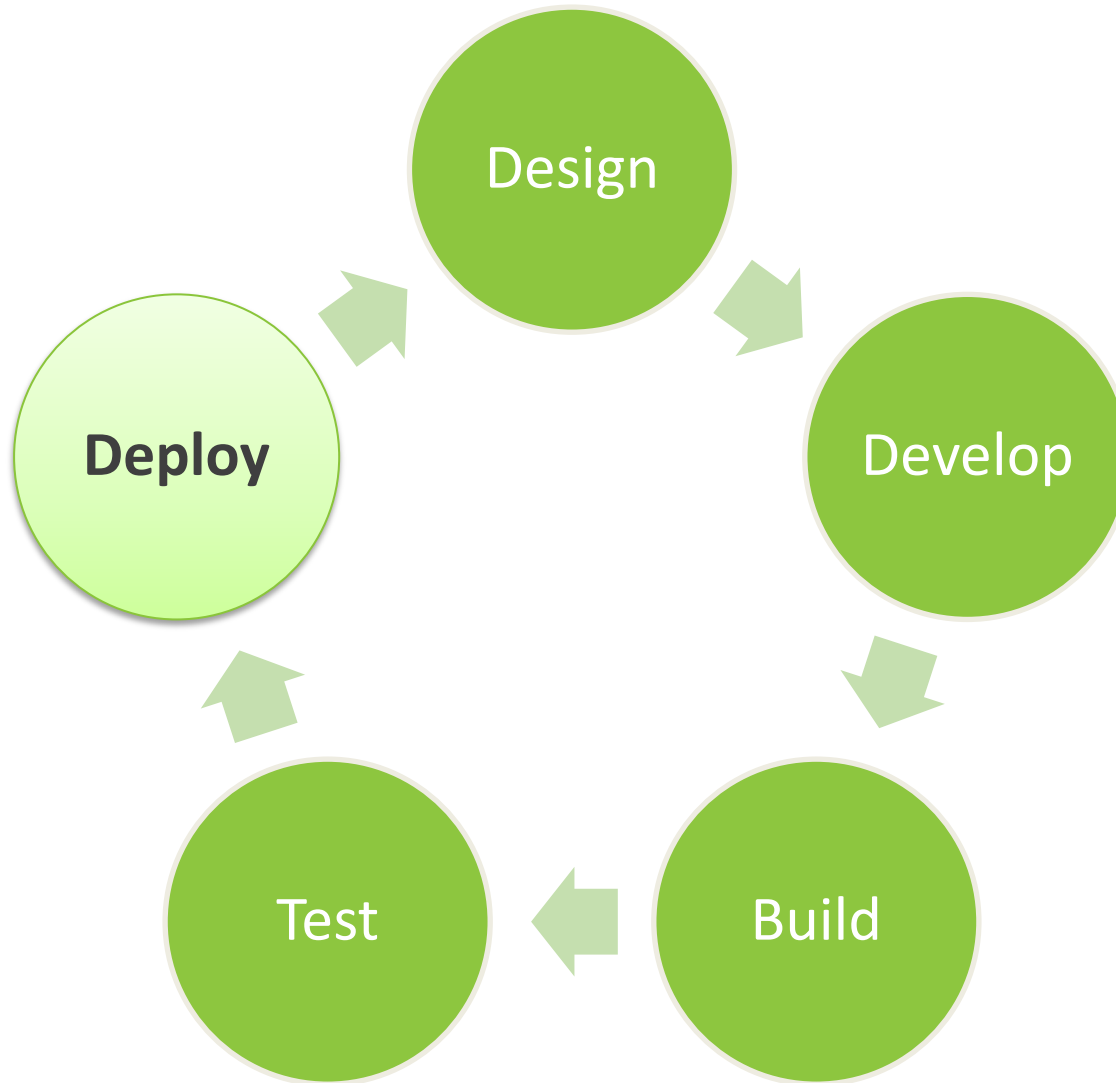


NATIONAL INSTRUMENTS

LabVIEW™

Certified Architect

Development Process - Deploy



Product Activation

- New NI Licensing and Activation Toolkit
- Development and Deployment Licensing
- Manual and Automated Activations
- Trial Modes



Other Deployment Considerations



Deployment Targets

- Hardware



- O/S



Mac



- Build Target



Support



Next Steps

- Product is outcome of process ...
- Improve your process ...



You CAN use LabVIEW to build commercial products!



QUESTIONS?

Visit Us

NIWeek 2010: booth #841

Online: jki.net