

Agile Software Development & Visual DataFlex

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MARCH 30 - APRIL 1

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Presentation outline

1. What is Agile
2. Why Agile
3. Agile – VDF
4. How to start

What

Why

VDF

Start

Software Development Methodologies

a framework that is used to structure, plan and control the process of developing an information system

- Waterfall Model(1970 Royce)
- Rapid Application Development (1991)
- Agile Software Development (2001)

What

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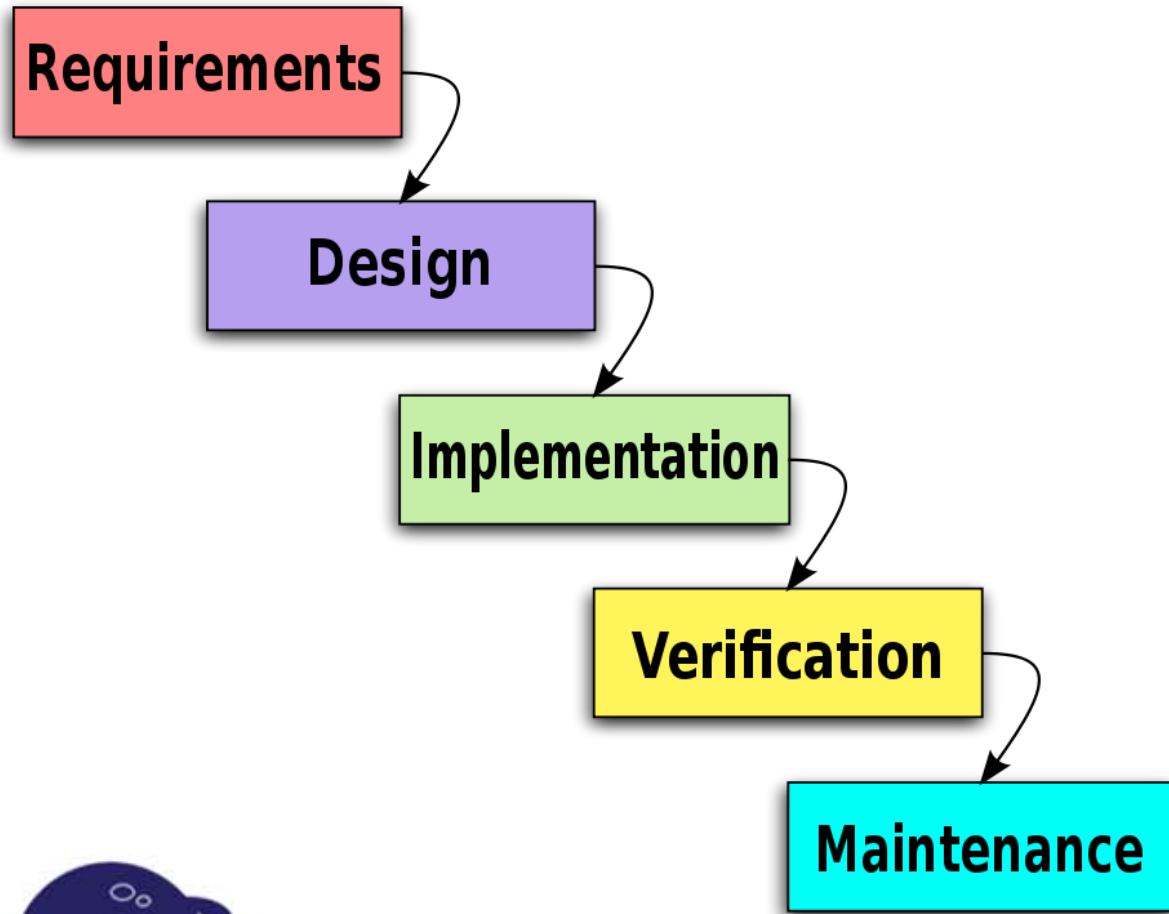


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Waterfall Model

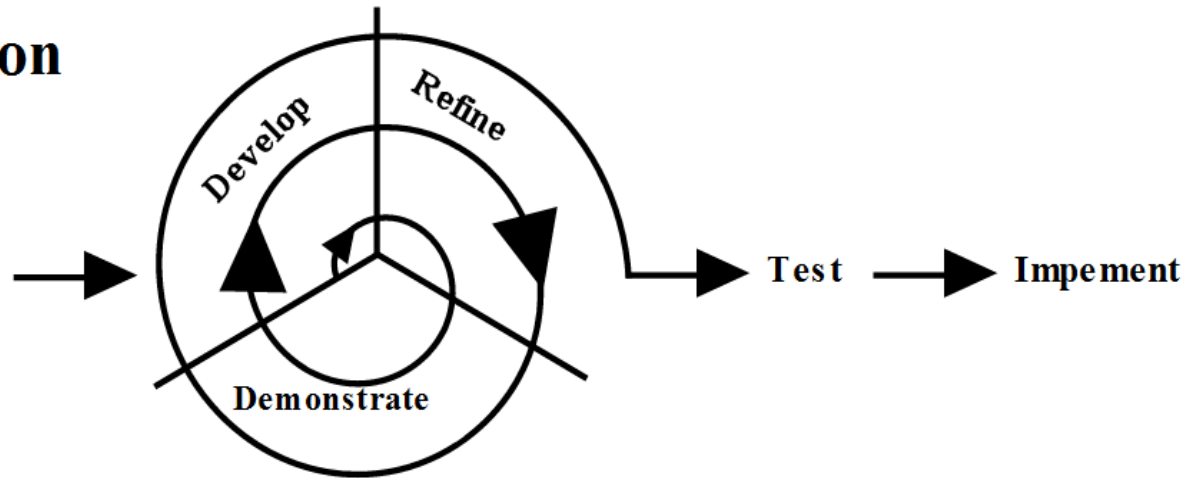


What
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Rapid Application Development

Rapid Application Development

Determine Objectives



What

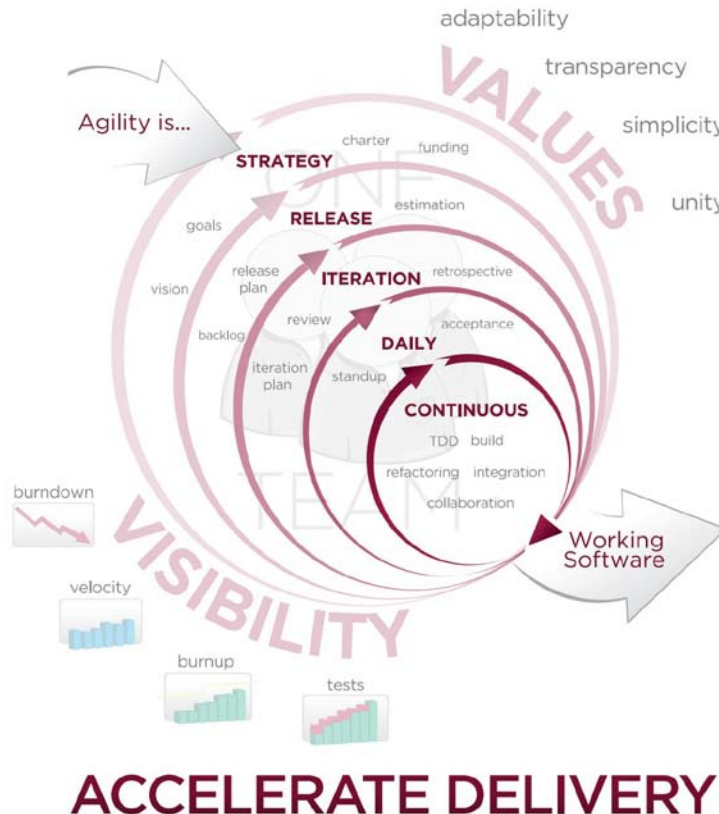
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Agile Software Development

AGILE DEVELOPMENT



- Time boxed iterations 1 to 4 weeks
- Iteration produces a working system
- Includes whole of Software development cycle Requirements, Coding, Testing, documentation & Demonstration
- An iteration may not add enough functionality to warrant a market release
- Re-adjust priorities of product backlog
- Determine items for next iteration

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Traditional / Waterfall

- Build successive layers like a building construction
- Changes later are typically costly
- Need of big design up-front
- Significant change is considered only for version 2.0
- Zero business value until 100% complete

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Agile

- Vertical slices of complete functionality
- We know, we don't know all the answers yet
- Business value grows each delivery
- All layers must be a candidate for complete rewrite
- Unless we use tools and practices to manage constant change, it will result in chaos!

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Twelve Principles of Agile

1. Customer satisfaction by rapid delivery of useful software
2. Welcome changing requirements, even late in development
3. Working software is delivered frequently (weeks rather than months)
4. Working software is the principal measure of progress
5. Sustainable development, able to maintain a constant pace
6. Close, daily co-operation between business people and developers
7. Face-to-face conversation is the best form of communication (co-location)
8. Projects are built around motivated individuals, who should be trusted
9. Continuous attention to technical excellence and good design
10. Simplicity
11. Self-organizing teams
12. Regular adaptation to changing circumstances

What

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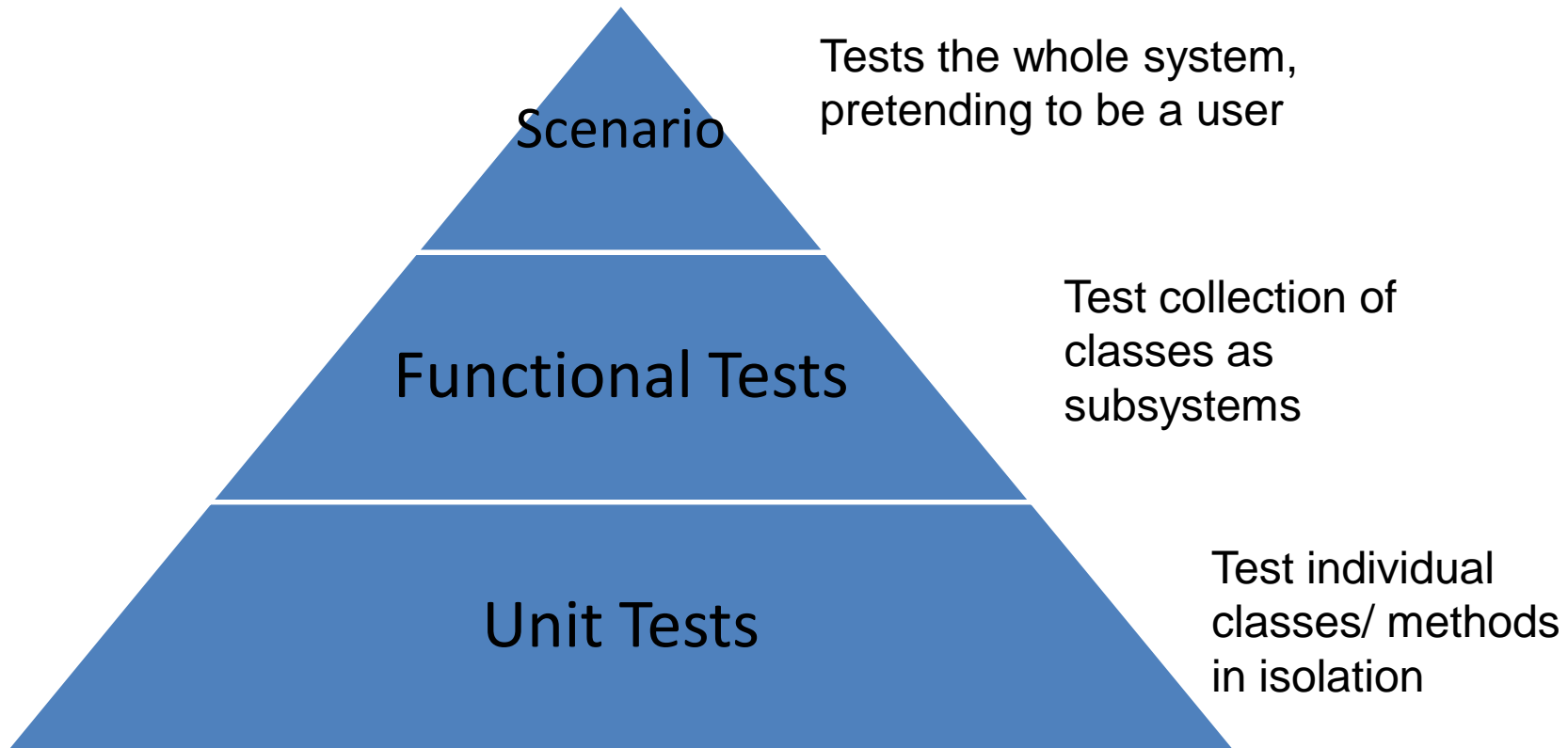
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Manage constant change

Automated testing



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Automated testing - Why

1. Improve quality
2. Improve agility
 1. Customers deserve the right to change their mind, they are paying
 2. make change with confidence, even if late in development cycle
3. Tests documents the usage of the code
4. Much easier to share code:
New developer can confirm all tests run successful before touching one line
5. Much easier to extend a shared library:
You know that you have not broken any usages' in other projects

What

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Unit testing – More work?

- You write a piece of code
- You go through the effort of properly test the code
- You fix, compile, retest, fix, compile, retest etc
- You document the test plan right?
- When acceptance testing comes back, you need to make some more changes
- You code the changes, and retest anything right?

What

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The Unit Testing Way

- You write a piece of code
- You write a test class for the code.
- You fix, compile, rerun test...
- The tests become technical documentation
- When acceptance testing comes back, you need to make some more changes
- You code the changes, and can comfortably know that no bugs previously tested are re-introduced

What

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Unit Testing - Feedback

- Rapid feedback on effect of any change
 - on Compile or on Version control Check-in
- If I know, the moment I make a change, exactly what the consequence of the change is I can:
 - Freely change anything anytime
 - Rapidly evaluate the consequence of the change on the rest of the system

What

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Unit Testing - VDF

Writing testable code

Last day of invoicing

<input type="button" value="Calculate"/>	Date	<input type="text"/>
--	------	----------------------

What

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Unit testing

- Each class has a test class
- Each function has at least one tester function
- Separate decision making logic to functions – out of OnClicks
- Trust the UI, DAW takes care of that
- Make sure all your usages of YOUR CODE are tested

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Unit Testing - VDF

```
Use VDFUnit.pkg
Use cLstInvDtOfM.pkg

Object oLstInvDtOfM_Tests is a cTestFixture
  Object oLstInvDtOfM_LastDayOfFeb is a cTest
    Procedure Setup
      Object oTestLstInvDtOfM is a cLstInvDtOfM
      End_Object
    End_Procedure

    Procedure Test
      Date dInput
      Date dExpected
      Date dActual
      Move '28/2/2011' to dInput
      Move '23/2/2011' to dExpected
      Move (LstInvDtOfM(oTestLstInvDtOfM(Self), dInput)) to dActual
      Send AssertDAreEqual dExpected dActual // optional custom message
    End_Procedure

    Procedure TearDown
      Send Destroy of oTestLstInvDtOfM
    End_Procedure
  End_Object
End_Object
```

Last day of invoicing

Calculate

Date

What

Why

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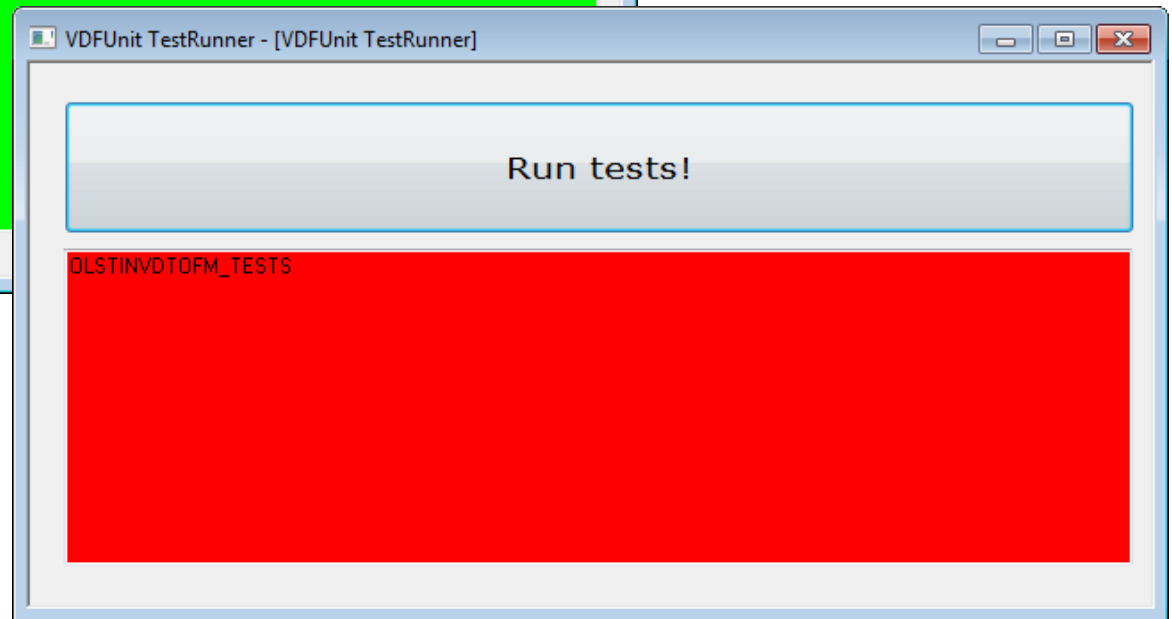
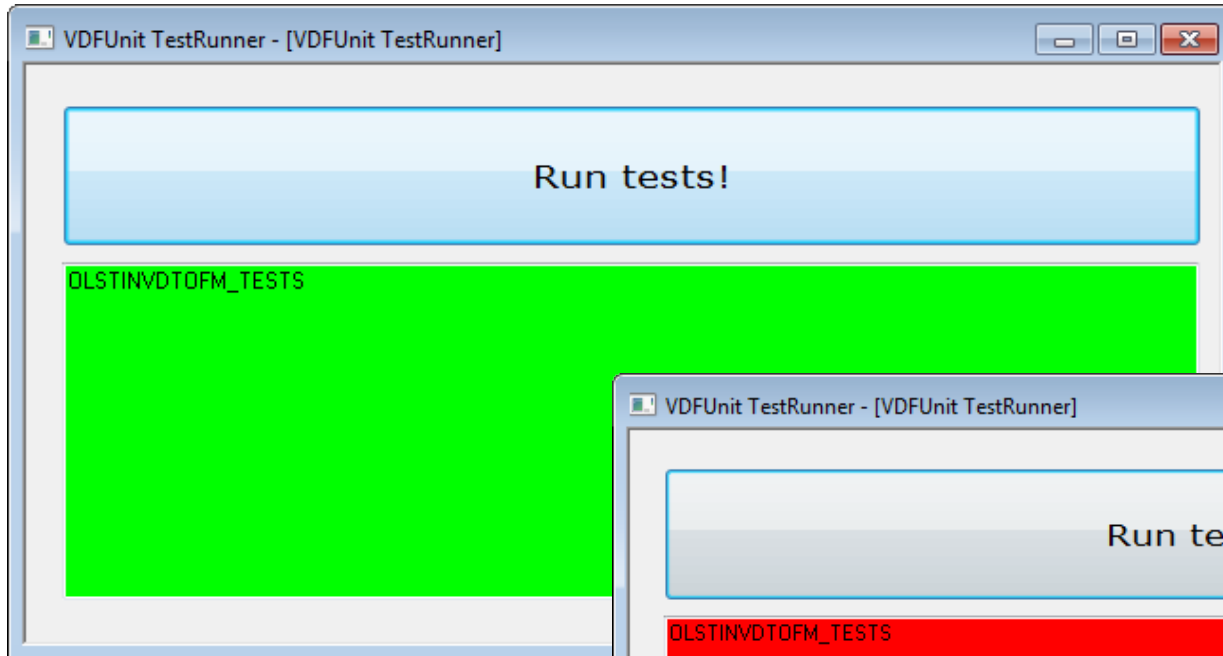
Unit Testing – VDFUnit TestRunner

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How to start?

- Next library?
- Any class you do from now?
- 'Just' start with moving logic from objects into classes.
- Download a unit test library like vdfUnit from Ola Eldoy
<https://bitbucket.org/olaeld/vdfunit>
- Join discussions on the forum



Ola Eldoy 
Emma EDB AS

What

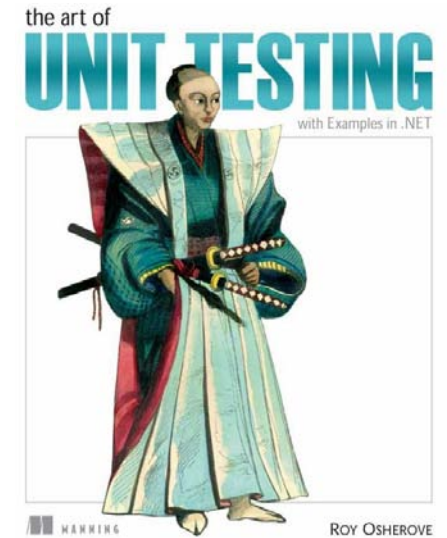
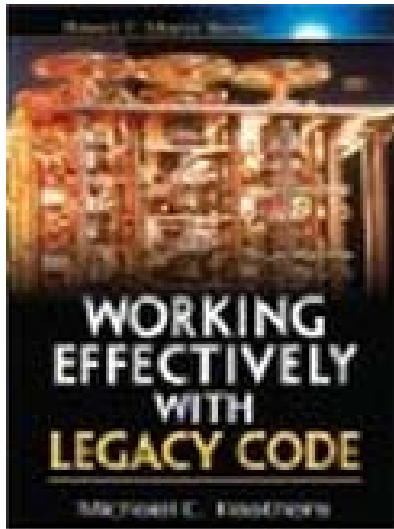
Why

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Start

How to start?

- Just start or read more...
- Youtube presentation video's
- Wikipedia
- Project Management Institute (PMI) has announced they are working on releasing Agile certification



What

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Questions



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SYNERGY 2011

ORLANDO, FL, U.S.A.



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Thank You!

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