

# My First Months with 4.0

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ODTUG - 2010

sumnēva

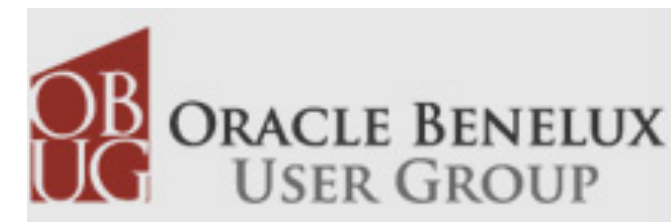
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Application Success

**[dimitri@sumneva.com](mailto:dimitri@sumneva.com)**

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# About Dimitri Gielis



Dimitri Gielis 



<http://dgielis.blogspot.com>

[dimitri@sumneva.com](mailto:dimitri@sumneva.com)

# Agenda

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- The way to APEX 4.0
- What we know (APEX 3.x)
- How things changed with APEX 4.0
- Going from APEX 3.x to 4.0

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# APEX in the beginning

# Oracle Application Express (APEX)

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- Unique Rapid Application Development (RAD) tool for the Oracle Database
- Browser based for Development, Deployment & Use
- Declaratively build professional Web Applications that are fast and secure
- Leverages full Oracle database capabilities and existing SQL & PL/SQL skills
- Standard component of the database
- Fully supported, “no-cost” option with all editions of the Oracle Database

Easy to develop • Easy to deploy • Easy to manage



# History of APEX

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2010

APEX 4.0  
Web 2.0

2009

APEX 3.2  
Forms Conversion

2008

APEX 3.1  
Interactive Reports, BLOB

2007

APEX 3.0  
Flash Charts, PDF Printing, Access Migration

2006

APEX 2.2  
Packaged Applications

2006

APEX 2.1  
Oracle XE

2005

HTML DB 2.0  
SQL Workshop

2004

HTML DB 1.6  
Themes

2004

HTML DB 1.5  
First Release

# Latest major release - 2 years old

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2010

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Web 2.0

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APEX 3.1  
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APEX 3.0  
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Themes

2004

HTML DB 1.5  
First Release

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# Developing in APEX 3.x

# A TYPICAL APEX PROJECT

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- You get a piece of paper to start the project
- You create the application
- You give it to your client
- He starts testing and tells he wants it different
- You refine ...



# LOOKING CLOSER INTO THIS PROCESS

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- Creation of the application
  - Create database objects: tables, views, constraints, sequences, triggers, ...
  - Create logic (in PL/SQL packages?)
  - Create APEX application
    - Chose theme
    - Create pages (based on UI Defaults?)
    - Create shared components

**Basic application ready - web 1.0**

# LOOKING CLOSER INTO THIS PROCESS

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- Getting it more Web 2.0
  - Add javascript (jQuery?)
  - Reuse some components you created before (?)
  - Create CSS and adapt the theme
  - Integrate 3rd party components (Google Maps, Webservices, ...)

# LOOKING CLOSER INTO THIS PROCESS

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- Deploy to test
- End-user tells you his experiences
  - Mail? Paper? External tool e.g. Jira, FogBugz, ... (?)
- Adapt the application
- Redeploy to test
- ...

# DEVELOPERS BECOME STRESSED

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- Because it's hard to
  - get a good project plan
  - create nice looking apps
  - do a lot of the web 2.0 stuff
  - make it browser compliant
  - keep track of test results

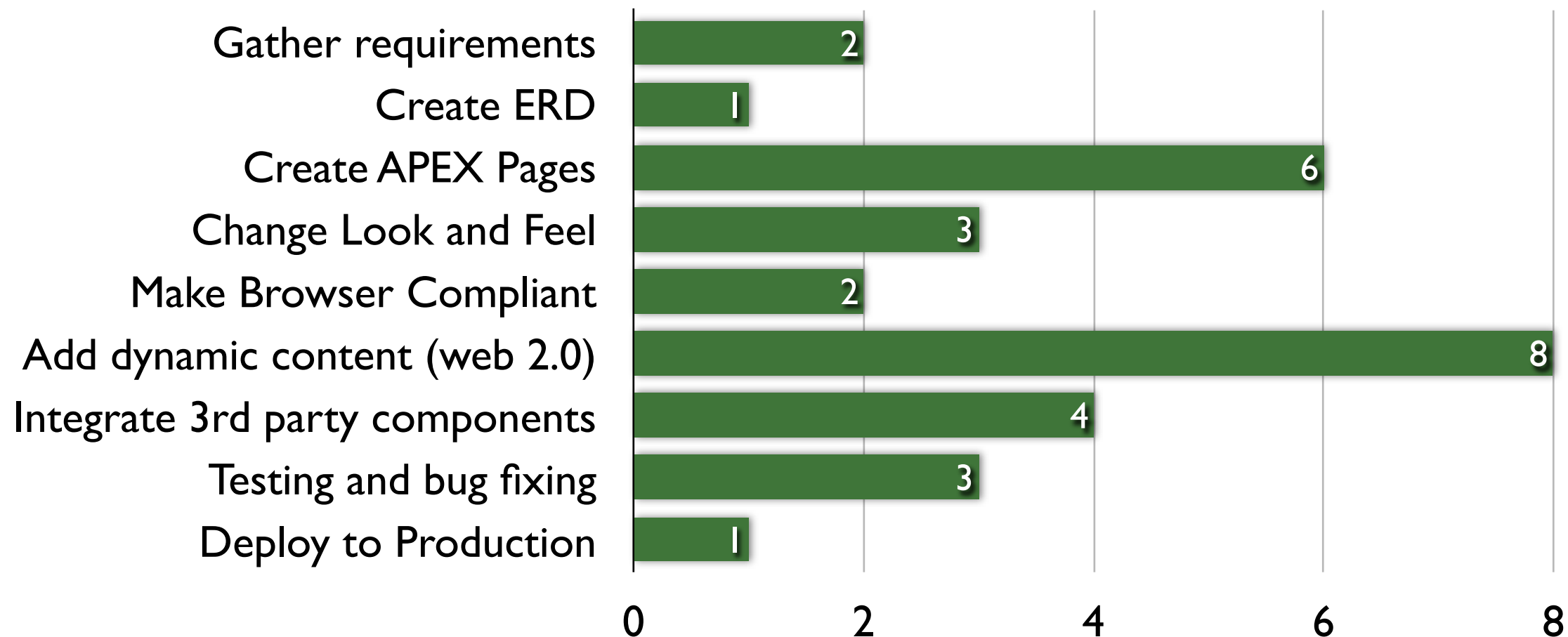
**The end user wants more and more in less and less time**



# TIME SPEND DEVELOPING IN APEX 3.x

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## Project of 30 days



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# How things changed with APEX 4.0





# DG TOURNAMENT BETTING



[Home](#) [Results](#) [Calendar](#) [Bet Rank](#) [Shoutbox](#) [Map](#) [Stats](#) [FAQ](#) [Login](#)

This is the follow-up application of the famous WC 2006 application.

In May 2006 I created the World Cup 2006 application. The goal was to make an application entirely in APEX (Oracle Application Express). In the beginning the application only gave an overview of the scores and the ranking of the teams. Soon the application got interactive: it allowed betting on the games and having discussions through the shoutbox. An other feature was the utilization of Webservices to show some more info about the World Cup. More than 400 people played with us. At "peak"-moments we had over 10.000 hits an hour.

I got a lot of positive reactions. That kept me motivated to make this follow-up application...

In May 2008 I updated the application to work with the latest version of Oracle Application Express and bet on the games of Euro 2008. As Belgium is not in the World Cup 2010 I didn't think about updating the app for the World Cup 2010, but after many requests I finally did...

You may put your suggestions and remarks in the ShoutBox or on my [Blog](#).

If you need some APEX services (consulting, training, development) you can send me a [mail](#) or look at [my company's website](#).

Enjoy this application,  
Dimitri Gielis

## Games in progress



World Cup 2010

## Games due to play



World Cup 2014

## Games played



Roland Garros 2006



World Cup 2006



UEFA Champions  
League 2006-2007



UEFA Euro 2008

## Latest News

### Brazil 3 Chile 0: That was a bit good

06/29/2010 00:17:11

Regular readers will know that we have fancied Argentina for this World Cup but after that performance from Brazil - we might ...

### Netherlands 2 Slovakia 1: The Dutch cruise to last eight

06/28/2010 19:20:11

The scoreline suggests that it wasn't as easy as I am making out with the title of this post, but it was and the Dutch always ...

### World Cup 2010 last 16: Brazil v Chile

06/28/2010 18:12:14

The earlier game today is our bet of the day - you won't lose money on the Dutch, but you could lose money on Brazil tonight as ...

Live Demo  
from APEX 3.2 to 4.0

# INSTALL APEX 4.0 (OR UPGRADE)

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- Installation of APEX 4.0
  - Download (2 minutes)
  - Install (17 minutes)
    - `@apexins SYSAUX SYSAUX TEMP /i/`
    - copy images
    - permissions
  - Configure Webserver (EPG, Apache, APEX Listener)
  - Test it

# UPGRADE APEX 3.2 APPLICATION TO 4.0

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- Export your APEX 3.2 application
- Import into APEX 4.0 workspace
- Run the application
- Make use of the APEX 4.0 features

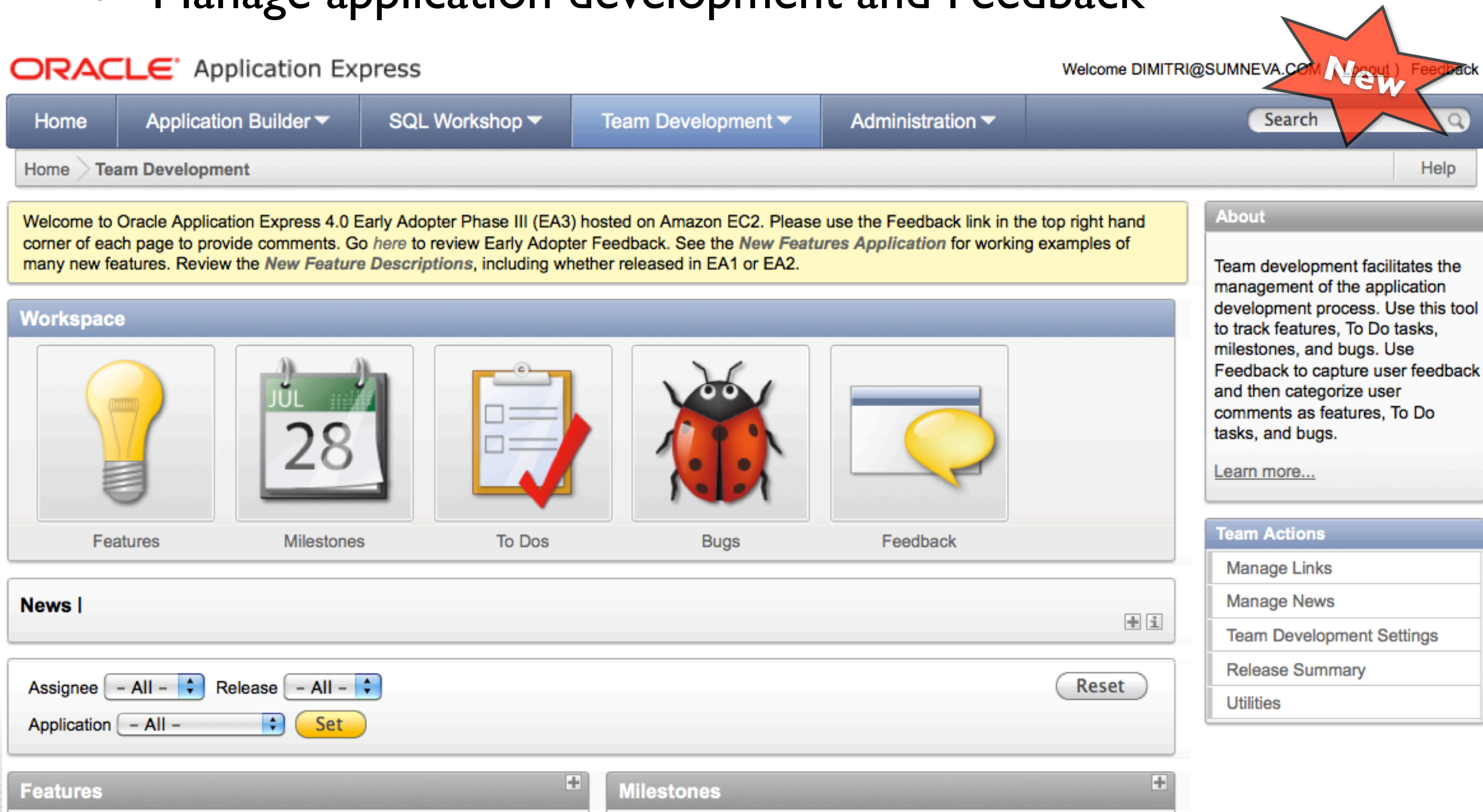
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# APEX 3.2 to 4.0

D E M O N S T R A T I O N

# LOOKING CLOSER INTO THIS PROCESS

- Create your Project Plan with Team Development
  - Manage application development and Feedback



**ORACLE** Application Express

Welcome DIMITRI@SUMNEVA.COM (Logout) Feedback

Home Application Builder ▼ SQL Workshop ▼ Team Development ▼ Administration ▼ Search

Home > Team Development Help

Welcome to Oracle Application Express 4.0 Early Adopter Phase III (EA3) hosted on Amazon EC2. Please use the Feedback link in the top right hand corner of each page to provide comments. Go [here](#) to review Early Adopter Feedback. See the **New Features Application** for working examples of many new features. Review the **New Feature Descriptions**, including whether released in EA1 or EA2.

### Workspace

- Features
- Milestones
- To Dos
- Bugs
- Feedback

### News |

Assignee - All - Release - All - Application - All - Set Reset

### Team Actions

- Manage Links
- Manage News
- Team Development Settings
- Release Summary
- Utilities

### About

Team development facilitates the management of the application development process. Use this tool to track features, To Do tasks, milestones, and bugs. Use Feedback to capture user feedback and then categorize user comments as features, To Do tasks, and bugs.

[Learn more...](#)

### Features

### Milestones

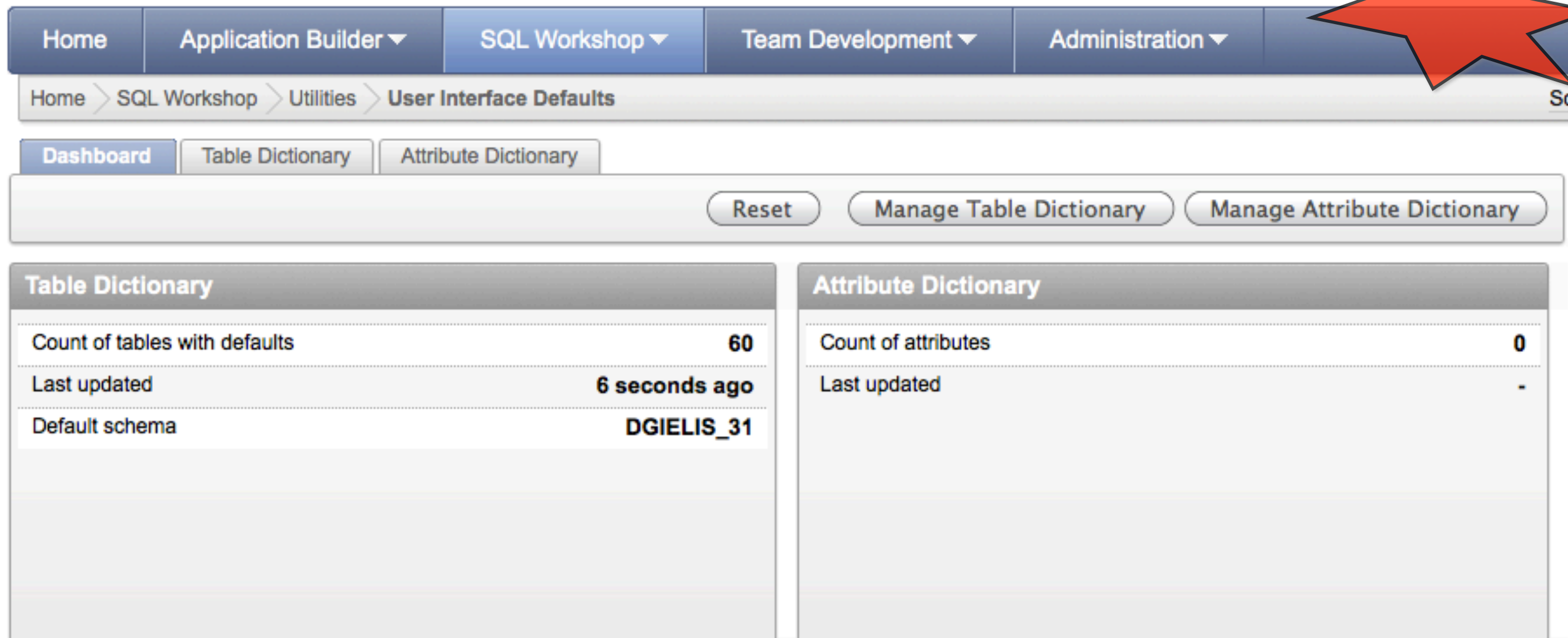
# LOOKING CLOSER INTO THIS PROCESS

- Creation of the application
  - Create database objects: tables, views, constraints, sequences, triggers, ...
  - Create logic in PL/SQL packages



# LOOKING CLOSER INTO THIS PROCESS

- Creation of the application
  - Create UI Defaults for your tables and columns



The screenshot shows the 'User Interface Defaults' page in the SQL Workshop. The breadcrumb trail is 'Home > SQL Workshop > Utilities > User Interface Defaults', with 'User Interface Defaults' highlighted by a red star. Below the breadcrumb, there are tabs for 'Dashboard', 'Table Dictionary', and 'Attribute Dictionary'. The 'Table Dictionary' tab is active, showing a summary of table defaults. The 'Attribute Dictionary' tab is also visible, showing a summary of attribute defaults. The 'Reset' button is visible in the top right of the main content area.

| Table Dictionary              |               |
|-------------------------------|---------------|
| Count of tables with defaults | 60            |
| Last updated                  | 6 seconds ago |
| Default schema                | DGIELIS_31    |

| Attribute Dictionary |   |
|----------------------|---|
| Count of attributes  | 0 |
| Last updated         | - |

# LOOKING CLOSER INTO THIS PROCESS

- Creation of the application
  - Create APEX application

Home Application Builder SQL Workshop Team Development Administration

Home > Application Builder > Create Application

Method

Define Application

Confirm

Create Application

Cancel Next >

Application Type:

☒ Database

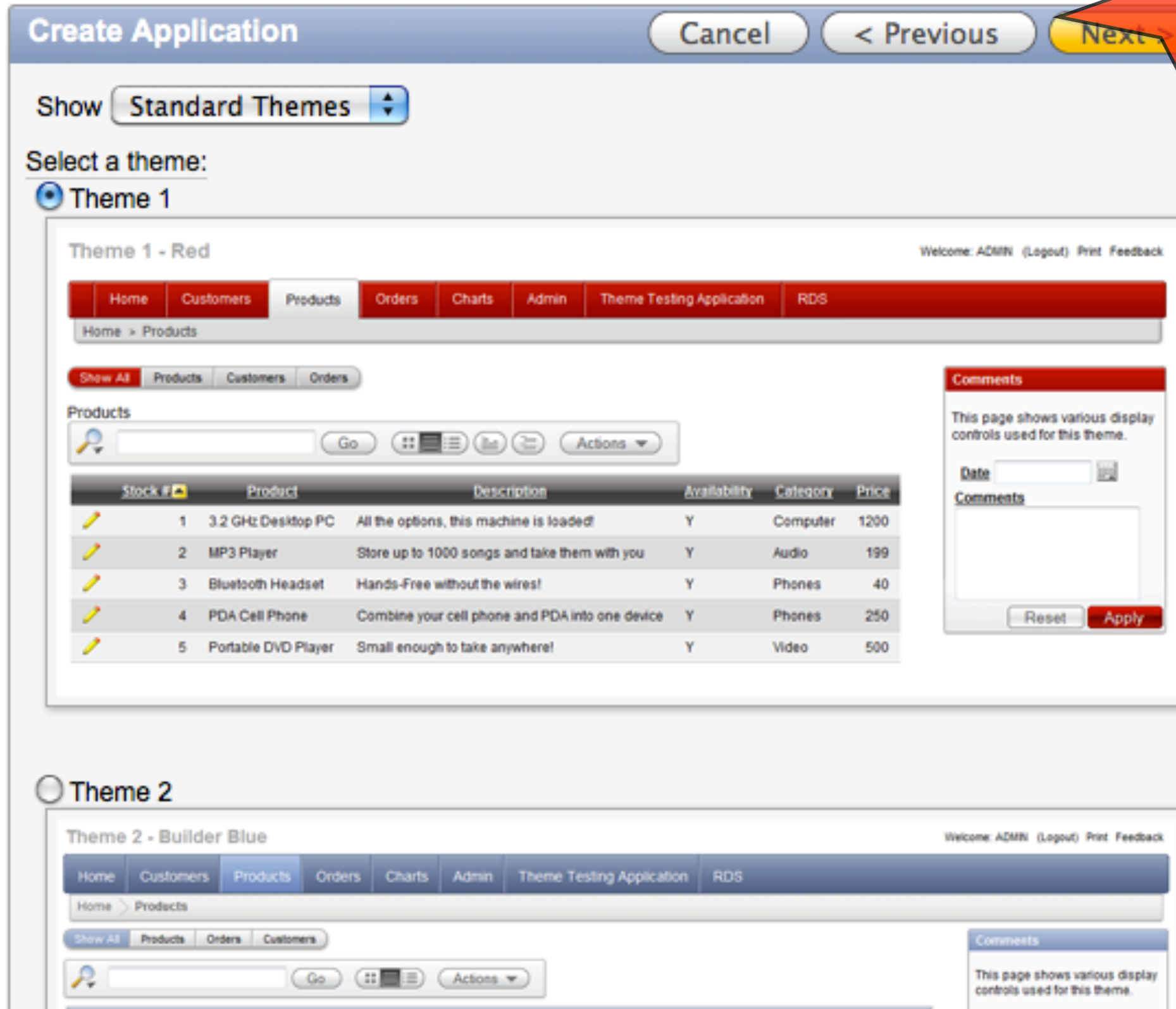
☐ Worksheet

☐ Sample Applications

New

# LOOKING CLOSER INTO THIS PROCESS

- Chose Theme



**Create Application** Cancel < Previous **Next >**

Show **Standard Themes**

Select a theme:

☒ Theme 1

**Theme 1 - Red** Welcome: ADMIN (Logout) Print Feedback

Home Customers **Products** Orders Charts Admin Theme Testing Application RDS

Home > Products

Show All Products Customers Orders

Products

Go [Icons] Actions

| Stock # | Product             | Description                                     | Availability | Category | Price |
|---------|---------------------|-------------------------------------------------|--------------|----------|-------|
| 1       | 3.2 GHz Desktop PC  | All the options, this machine is loaded!        | Y            | Computer | 1200  |
| 2       | MP3 Player          | Store up to 1000 songs and take them with you   | Y            | Audio    | 199   |
| 3       | Bluetooth Headset   | Hands-Free without the wires!                   | Y            | Phones   | 40    |
| 4       | PDA Cell Phone      | Combine your cell phone and PDA into one device | Y            | Phones   | 250   |
| 5       | Portable DVD Player | Small enough to take anywhere!                  | Y            | Video    | 500   |

**Comments**

This page shows various display controls used for this theme.

Date [Input]

Comments [Text Area]

Reset Apply

☐ Theme 2

**Theme 2 - Builder Blue** Welcome: ADMIN (Logout) Print Feedback

Home Customers **Products** Orders Charts Admin Theme Testing Application RDS

Home > Products

Show All Products Orders Customers

Go [Icons] Actions

**Comments**

This page shows various display controls used for this theme.

# LOOKING CLOSER INTO THIS PROCESS

- Create Pages

**Create Page** [Cancel] [Previous <] [Next >]

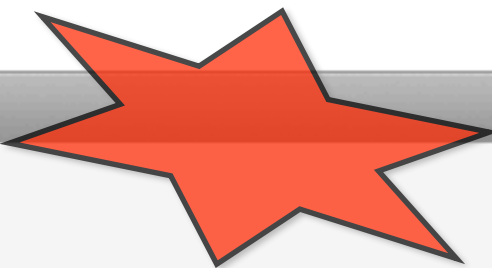
Application: 35481 - DIMI 01

Select a page type:

- ☒ Blank Page
- ☐ Multiple Blank Pages
- ☐ Report
- ☐ Chart
- ☐ Form
- ☐ Wizard
- ☐ Calendar
- ☐ Tree
- ☐ Login Page
- ☐ Access Control
- ☐ Page Zero
- ☐ Map
- ☐ Feedback Page

# LOOKING CLOSER INTO THIS PROCESS

- Create/Re-use Shared Components



The image displays a grid of seven panels representing different components of a development process, arranged in three rows. Each panel has a title bar and a list of items with associated icons.

| Logic                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Navigation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                   |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"><li> Application Items</li><li> Application Processes</li><li> Application Computations</li><li> Web Service References</li><li> Build Options</li></ul> | <ul style="list-style-type: none"><li> Tabs</li><li> Lists</li><li> Breadcrumbs</li><li> Navigation Bar Entries</li></ul>                                                                                                             |                                                                                                                                                                                                                                                                   |
| Security                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | User Interface                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                   |
| <ul style="list-style-type: none"><li> Authentication Schemes</li><li> Authorization Schemes</li><li> Session State Protection</li><li> Security Attributes</li></ul>                                                                                               | <ul style="list-style-type: none"><li> Themes</li><li> Templates</li><li> Lists of Values</li><li> Shortcuts</li><li> Plug-Ins</li></ul> |                                                                                                                                                                                                                                                                   |
| Files                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Globalization                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Reports                                                                                                                                                                                                                                                           |
| <ul style="list-style-type: none"><li> Cascading Style Sheets</li><li> Images</li><li> Static Files</li></ul>                                                                                                                                                                                                                                          | <ul style="list-style-type: none"><li> Translate Application</li><li> Text Messages</li><li> Globalization Attributes</li></ul>                                                                                                                                                                                    | <ul style="list-style-type: none"><li> Report Queries</li><li> Report Layouts</li></ul> |

# LOOKING CLOSER INTO THIS PROCESS

- Getting it more Web 2.0
  - Use Dynamic Actions instead of writing your own javascript

Welcome: DIMITRI.GIELIS@APEX-EVANGELISTS.COM

Examples

Disable / Enable

Hide / Show

Set Value (SQL)

Set Value (PL/SQL)

Stripe Report

Set CSS

Slider Sliding

Drag and Drop

Information

This page contains 1 dynamic action called 'JOB EQUALS SALESMAN'. This fires whenever a different 'Job' is selected from the radio buttons and checks if the value is equal to 'SALESMAN'. If it is equal to 'SALESMAN' the 'Commission' page item is enabled, otherwise it is disabled.

It uses 2 native actions ('Enable' and 'Disable').

Disable / Enable

Cancel

Delete

Apply Changes

Name

WARD

☐ ANALYST

☐ CLERK

☒ MANAGER

☐ PRESIDENT

☐ SALESMAN

Manager

BLAKE

Hiredate

22-FEB-81

Salary

1250

Commission

500

Department

SALES

New

# LOOKING CLOSER INTO THIS PROCESS

- Getting it more Web 2.0
  - Use Plug-ins to extend APEX



## Welcome to the Plug-in Sample Application



Oracle APEX 4.0 allows to develop and use plug-ins to extend the built-in item-, region-, process- and dynamic action types. This sample application showcases some of them and should give you an idea about how plug-ins should be develop. Have a look at the Tutorials tab as well for information on how to develop plug-ins.

You can download this application as well and try it out in your own workspace on

# LOOKING CLOSER INTO THIS PROCESS

- Getting it more Web 2.0
  - Use an updated theme of APEX 4.0 which is easier to change (css) and is more w3 compatible and more accessible for disabled people

## Definition

### \* Header

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
<html lang="&BROWSER_LANGUAGE." xmlns="http://www.w3.org/1999/xhtml" xmlns:htmldb="http://htmldb.oracle.com"
xmlns:apex="http://apex.oracle.com">
<head>
  <title>#TITLE#</title>
  <link rel="icon" href="#IMAGE_PREFIX#favicon.ico" type="image/x-icon">
  <link rel="shortcut icon" href="#IMAGE_PREFIX#favicon.ico" type="image/x-icon">
  #HEAD#
  <link rel="stylesheet" href="#IMAGE_PREFIX#themes/theme_1/css/theme_4_0.css" type="text/css" />
  <!--[if IE]><link rel="stylesheet" href="#IMAGE_PREFIX#themes/theme_1/css/theme_4_0_ie.css" type="text/css" /><![endif]
  <!--[if IE 6]><link rel="stylesheet" href="#IMAGE_PREFIX#themes/theme_1/css/theme_4_0_ie6.css" type="text/css" /><![er
  <!--[if IE 7]><link rel="stylesheet" href="#IMAGE_PREFIX#themes/theme_1/css/theme_4_0_ie7.css" type="text/css" /><![er
</head>
<body #ONLOAD#>
<!--[if lte IE 6]><div id="outdated-browser">#OUTDATED_BROWSER#</div><![endif]-->
```

### \* Body

```
<div id="header">
  <div id="logo"><a href="#HOME_LINK#">#LOGO##REGION_POSITION_06#</a></div>
  #REGION_POSITION_07#
  <div id="navbar">
    #NAVIGATION_BAR#
    <div class="app-user">#WELCOME_USER#</div>
    #REGION_POSITION_08#
  </div>
```

# Advisor

Perform Check

## Checks to Perform

### Errors:

- ☒ References with Substitution Syntax
- ☒ References with Column Syntax
- ☒ References with Bind Variable Syntax
- ☒ Declarative References of Application, Page Items, Interactive Report Filters
- ☒ Referenced Page Number Exists
- ☒ Is Valid SQL or PL/SQL Code
- ☒ Fetch, DML, MR\* Processes are Valid
- ☒ Unconditional Branch before other Branches
- ☒ Referenced Button in When Button Pressed exists

### Security:

- ☒ Target Page Authorization equals current Component Authorization
- ☒ Inappropriate use of Substitution Syntax

### Warnings:

- ☐ Referenced Item is on Current Page
- ☒ Referenced Item is Page Item of Target Page
- ☒ References of Page Item in a String
- ☒ Clear Cache Page Number equals Target or Current Page
- ☒ Length of Item Name

### Performance:

- ☒ V Function used in SQL Statements

### Usability:

- ☐ Target Page Authorization is also set for Current Component
- ☒ Associated Item of Validations

### Quality Assurance:

- ☒ Hardcoded Application ID
- ☒ Report has Default Order
- ☒ Page Item has Help Text

Select All

Deselect All

# Other APEX 4.0 New Features

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- Improved Application Builder - WORK FASTER
- Improved Charting
- Improved Interactive Reports
- Improved Item Properties
- New Item Types
- New REST Web Services
- APEX Listener

# Other APEX 4.0 New Features

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- Improved Administration
- Improved Tree Controls
- Improved Error Handling
- Improved Tabular Forms
- ...

**Over 200 new features in APEX 4.0!!**

# LOOKING CLOSER INTO THIS PROCESS

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- Deploy to Test by using Supporting Objects
- Look at the user feedback in Team Development
- Do iterations with fixes
- Deploy to Production

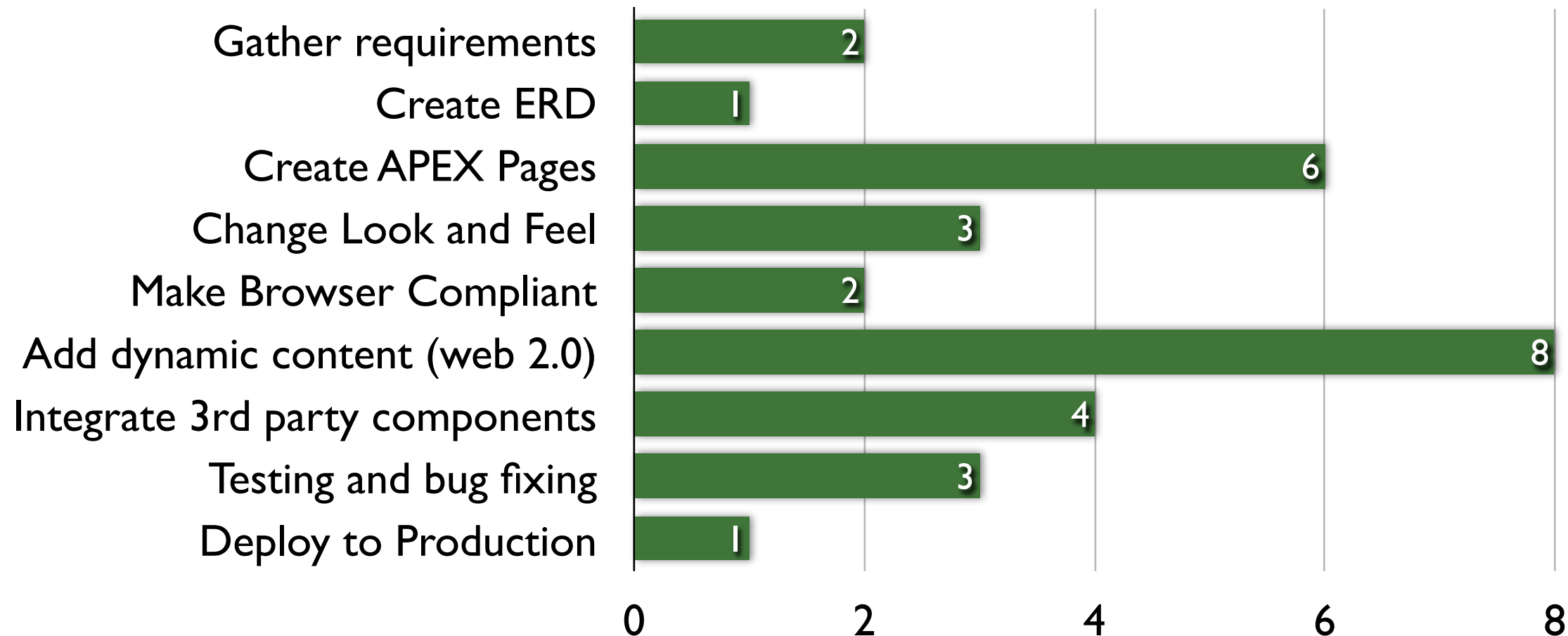
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# APEX 3.x Project compared to APEX 4.0

# TIME SPEND DEVELOPING IN APEX 3.x

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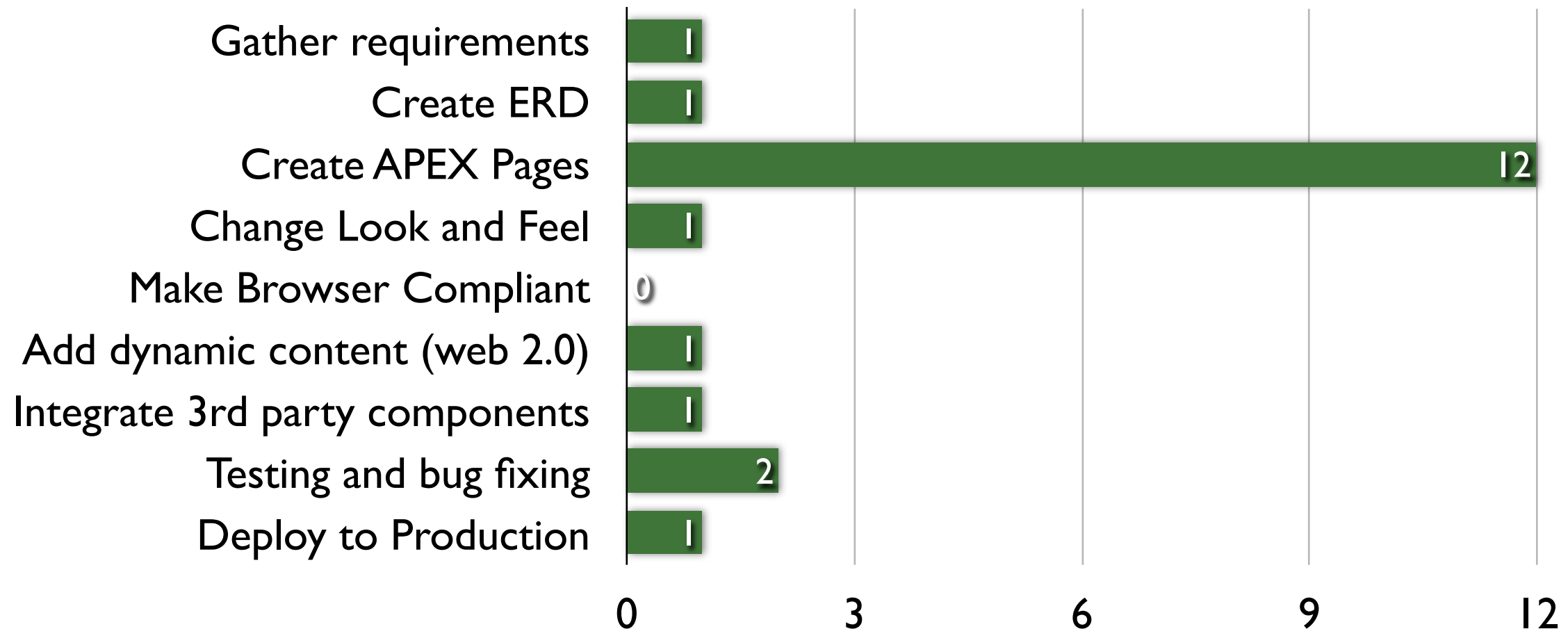
## Project of 30 days



# TIME SPEND DEVELOPING IN APEX 4.0

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## Project of 30 days (20!)



# Summary

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- APEX was revolutionary in the beginning
- But building web 2.0 applications, wasn't the easiest with APEX 3.x
- APEX 4.0 has become revolutionary again and will change the way we develop web applications
- Going from APEX 3.x to 4.0 in no time

# sumnēva

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## Application Success

<http://sumneva.com>