

Experiences from APEX 3.x to 4.0

ORCAN - 2010

sumnēva

Application Success

dimitri@sumneva.com

About Dimitri Gielis



Dimitri Gielis 



<http://dgielis.blogspot.com>

dimitri@sumneva.com

Audience Knowledge

- Who has experience with APEX 3.x?
- Who played with APEX 4.0 EA?

Agenda

- A happy developer - APEX in de beginning
- A stressed developer - APEX 3.x the last year(s)
- Developer in therapy
- A developer in harmony - APEX 4.0

APEX in the beginning

Oracle Application Express (APEX)

- 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

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

2010

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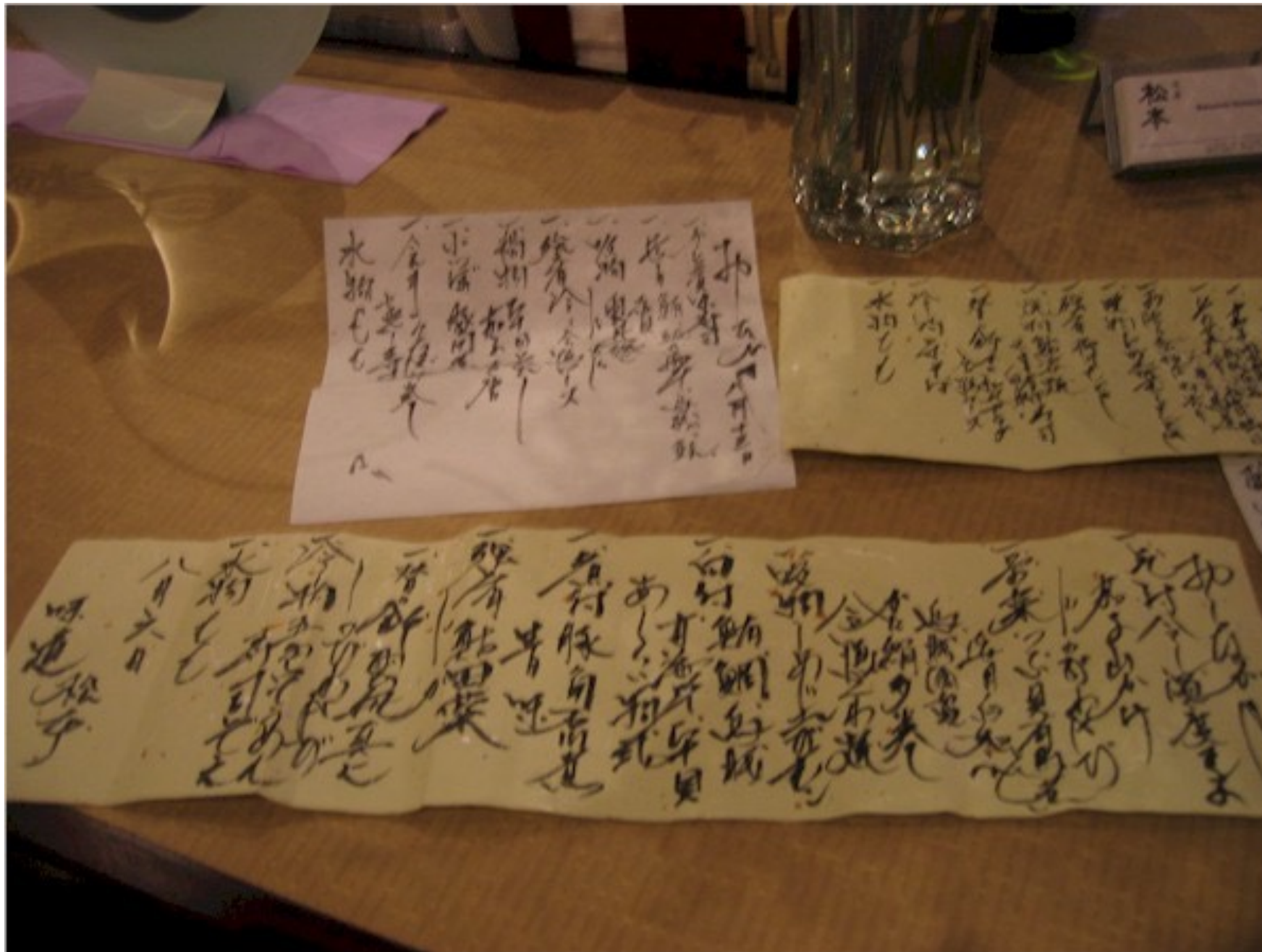
Developing in APEX 3.x

A TYPICAL APEX PROJECT

- 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

- The paper looks like this



LOOKING CLOSER INTO THIS PROCESS

- 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
 - Create shared components

Basic application ready - web 1.0

LOOKING CLOSER INTO THIS PROCESS

- 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

- Deploy to test
- Look at the test results
 - Paper? External tool e.g. Jira, FogBugz, ... (?)
- Adapt the application
- Feedback end-user <-> developer
- Redeploy to test
- ...

DEVELOPERS BECOME STRESSED

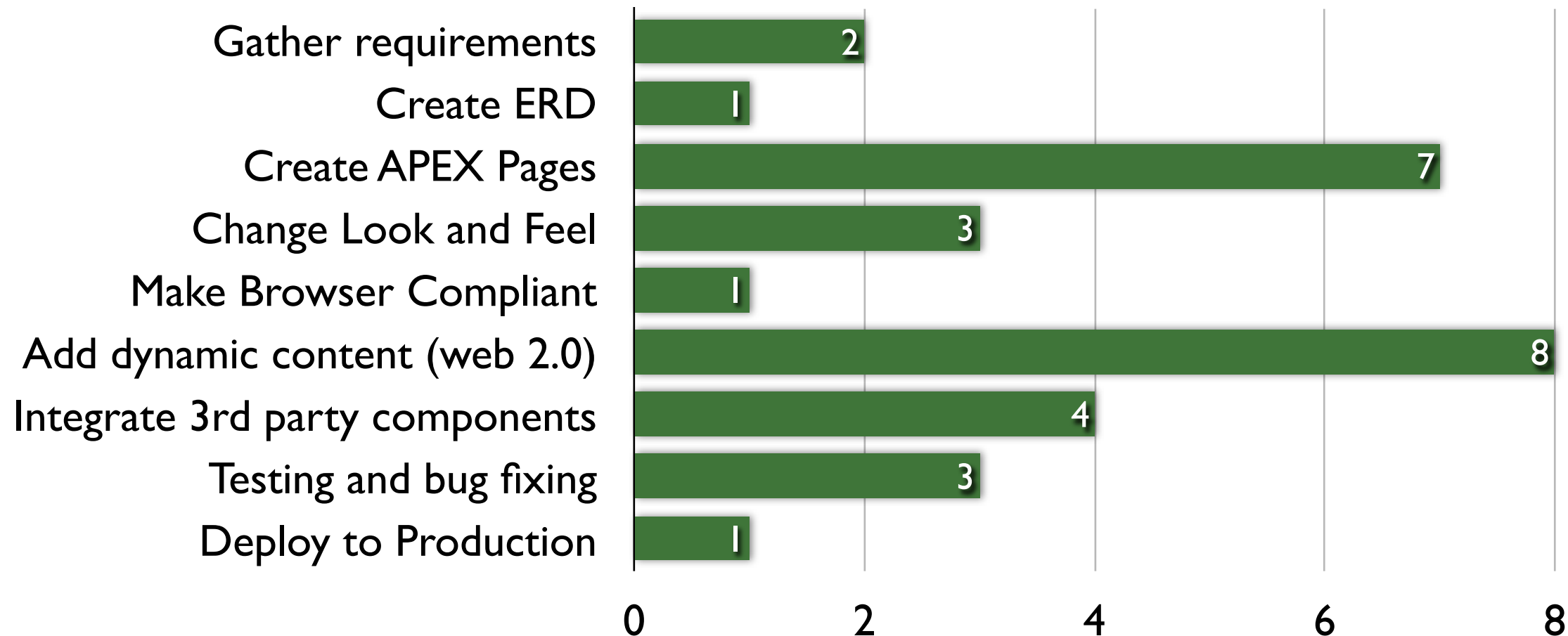
- Because it's hard to
 - get a good project plan
 - create nice looking apps
 - do a lot of the web 2.0 stuff
 - make it browser compliant
 - keep track of test results

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



TIME SPEND DEVELOPING IN APEX 3.x

Project of 30 days



Treatments



Team collaboration

- Work as a team
 - Project leaders
 - Developers
 - End users
- Team Development - new in APEX 4.0
 - Manage application development
 - Get integrated feedback of your end users

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 Release

Application

Features

1. User story

4 days ago

Milestones

No Milestones defined.

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...](#)

Team Actions

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

Team Development

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



Why Websheets

- Designed so “anyone” can build & deploy web based data entry and reporting applications
- Experienced APEX developers can develop even faster
- Broadening the APEX Community
 - No need to create Tables, Triggers, Sequences
 - Simplified declarations
- “Builder” integrated with “Runtime”
- Integrated attachments, tags, notes...

Page ▾

Data ▾

Administration ▾

Search



Home



Help

Section saved.



Welcome

[Edit](#)

This is my first websheet...

I can type html in here and make things **bold**. Or change **colors**...

- Page created 6 days ago by DIMITRI@SUMNEVA.COM
- Content last updated Now by DIMITRI@SUMNEVA.COM, [View history](#)

[Set Screen Reader Mode On](#)

Page

- New Section
- Edit Sections
- New Page
- Copy Page
- Edit Page
- Page Directory
- New Data Grid

Peer Pages

No peer pages exist

Annotations

- [Add](#) [View](#)
- [Add](#) [View](#)
- [Add](#) [View](#)

Application Express 4.0.0.00.33

User: DIMITRI@SUMNEVA.COM

Language: en

Worksheet

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

APEX Applications vs Websheets

	APEX Applications	Websheets
Database Objects	Created using SQL Workshop	Automatically managed (APEX\$ tables)
Primary Key Management	Triggers and sequences	Automatically managed
Validations	Created using wizards	Defined using runtime UI
Report Layout	Created using SQL	Defined using runtime UI
List of Values	SQL or Static	Defined using runtime UI
Page Flow	Controlled by branches	Limited
Form Layout	Items and regions	Column groups
Look and Feel	Themes and templates	Basic control



New Themes

- Cleaner look and feel
- More use of divs and css to control the look and feel

Home

Application Builder ▾

SQL Workshop ▾

Team Development ▾

Administration ▾

Search Application

Home > Application Builder > Application 148 > Shared Components > Themes > Create

Page 1 Help

Method

Identify Theme

Confirm

Create Theme

Cancel

< Previous

Next >

Show All Themes

Theme:

☒ *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 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		
6	512 MB DIMM	Expand your PC's memory and gain more performance	Y	Computer	200		
7	54" Plasma Flat Screen	Mount on the wall or ceiling, the picture is crystal clear!	Y	Video	3995		
8	Classic Projector	Does not include transparencies or grease pencil	Y	Video	50		
9	Ultra Slim Laptop	The power of a desktop in a portable design	Y	Computer	1999		

Comments

This page shows various display controls used for this theme.

Date

Comments

☐ Theme 3

Theme 3 — Midnight Blue

Feedback Print (Logout) Welcome: DEMO

Home	Customers	Products	Orders	Charts	Theme	RDS	Form
Home > Products							
Show All Button Bar Products							
Go Actions							
Stock #	Product	Description	Availability	Category	Price		
5	Portable DVD Player	Small enough to take anywhere!	Yes	Video	500		

About

This page shows various display controls used for this theme.

Date

Comments

Themes

A theme is a named collection of templates that defines the application user interface.

Each theme contains templates for every type of application component and page control, including individual pages, regions, reports, lists, labels, breadcrumbs, buttons, and list of values. Templates contain HTML and variables that the Application Express engine substitutes with dynamic values at runtime.

Compatibility

* Indicates theme is IE 6 compatible

Themes

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



Web 2.0 - Dynamic Actions

- Provides a way to define client-side behavior declaratively within Application Express, without the need to know JavaScript
- Simple Wizard to create
 - Select Page Item
 - Select Condition (e.g. equal to, greater than, is null, etc.)
 - Enter value
 - Select Action (Show, Hide, Enable, Show Item Row)
 - Enter list of items
 - Add Condition (Optional)

Web 2.0 - Dynamic Actions

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

Job ☒ MANAGER

☐ PRESIDENT

☐ SALESMAN

Manager BLAKE

Hiredate 22-FEB-81

Salary 1250

Commission 500

Department SALES

Dynamic Actions

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

Web 2.0 - Plug-Ins

- Easy way to enhance the existing built-in functionality of Oracle APEX with new item types, region types, dynamic actions, etc.
- Developers use in similar fashion to native widgets
- Wizard support and declarative setting of attributes
- Included in APEX application export
- By providing this plug-in system in APEX, we want to engage the APEX community to create a rich ecosystem around Oracle APEX

Web 2.0 - Plug-ins

Home	Item Type Plug-ins	Region Type Plug-ins	Dynamic Action Plug-ins	Process Type Plug-ins	Tutorials
Home					

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 <http://tryapexnow.com/>.

<http://tryapexnow.com/apex/f?p=888:1>

Plug-Ins

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



Advisor

Home Application Builder SQL Workshop Team Development Administration

Home > Application Builder > Application 173 > Utilities > Advisor

Page 1

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

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

Other APEX 4.0 New Features

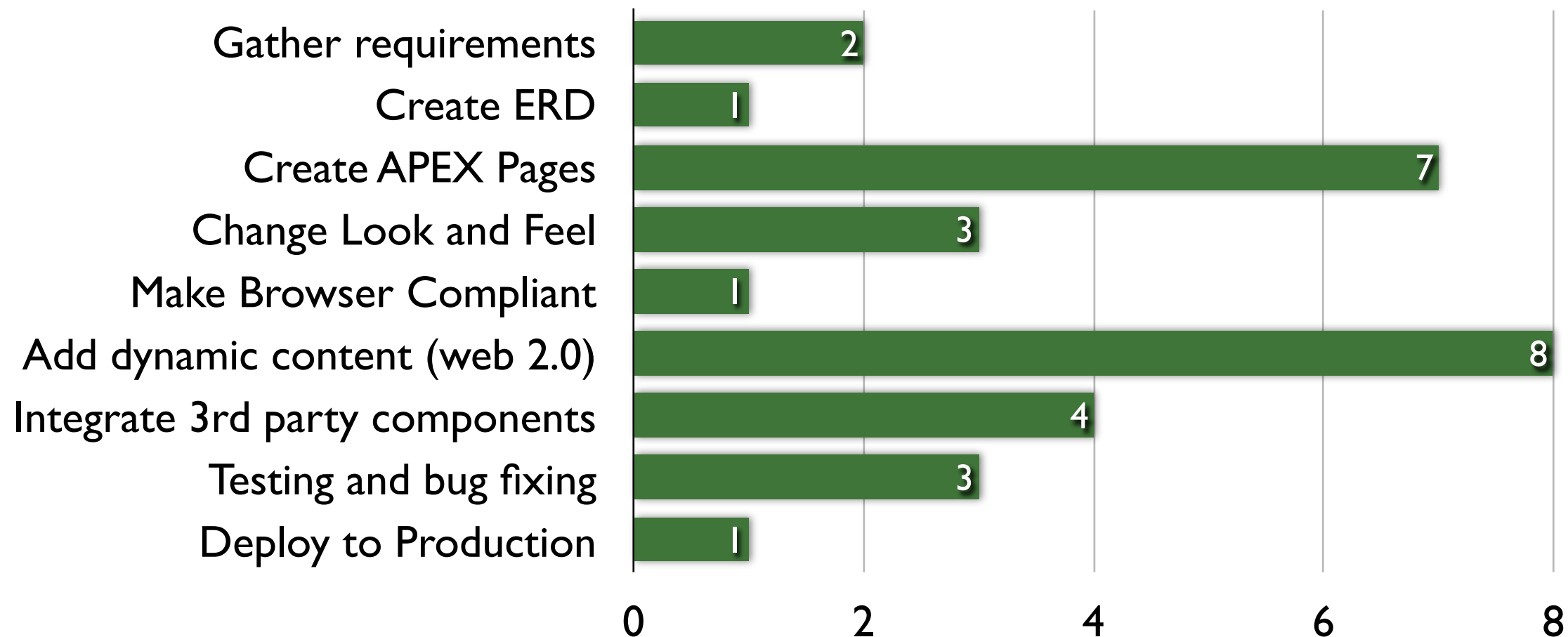
- Improved User Interface Defaults
- Improved Administration
- Improved Tree Controls
- Improved Error Handling
- Improved Tabular Forms
- ...

Over 170 new features in APEX 4.0!!

APEX 3.x Project compared to APEX 4.0

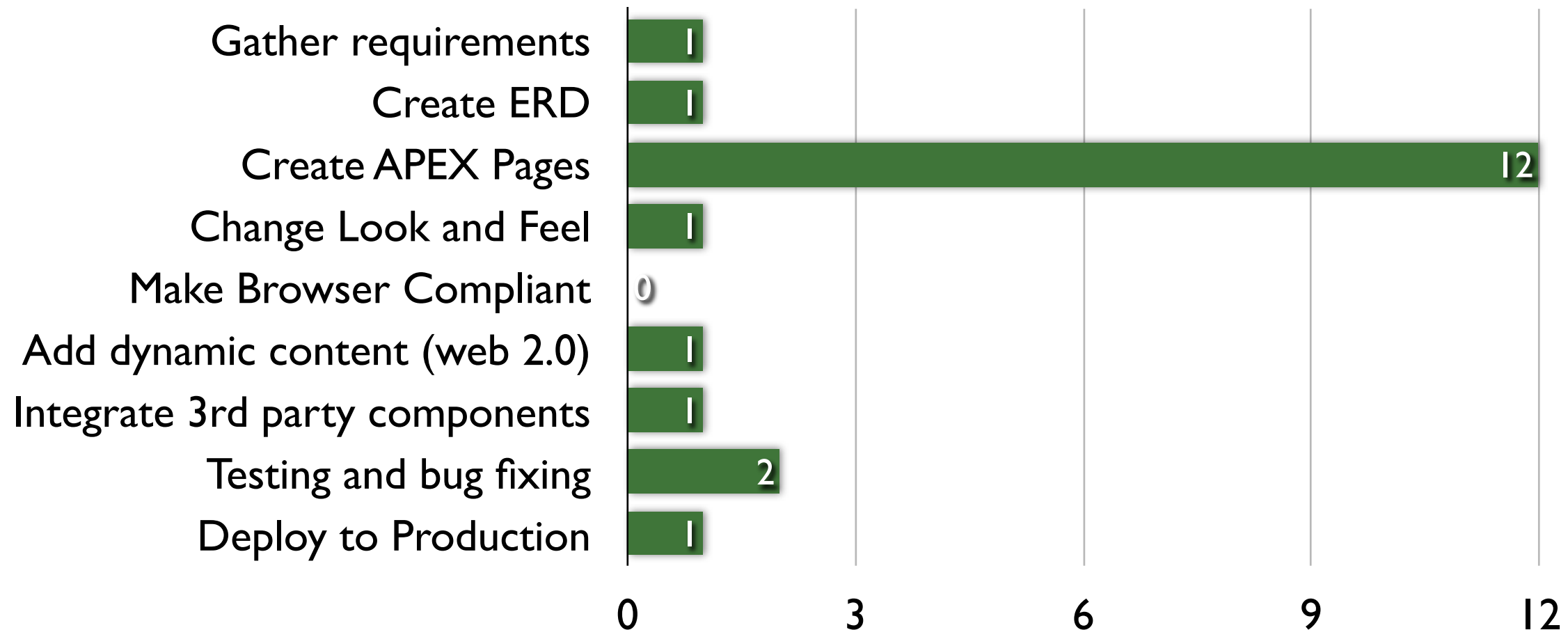
TIME SPEND DEVELOPING IN APEX 3.x

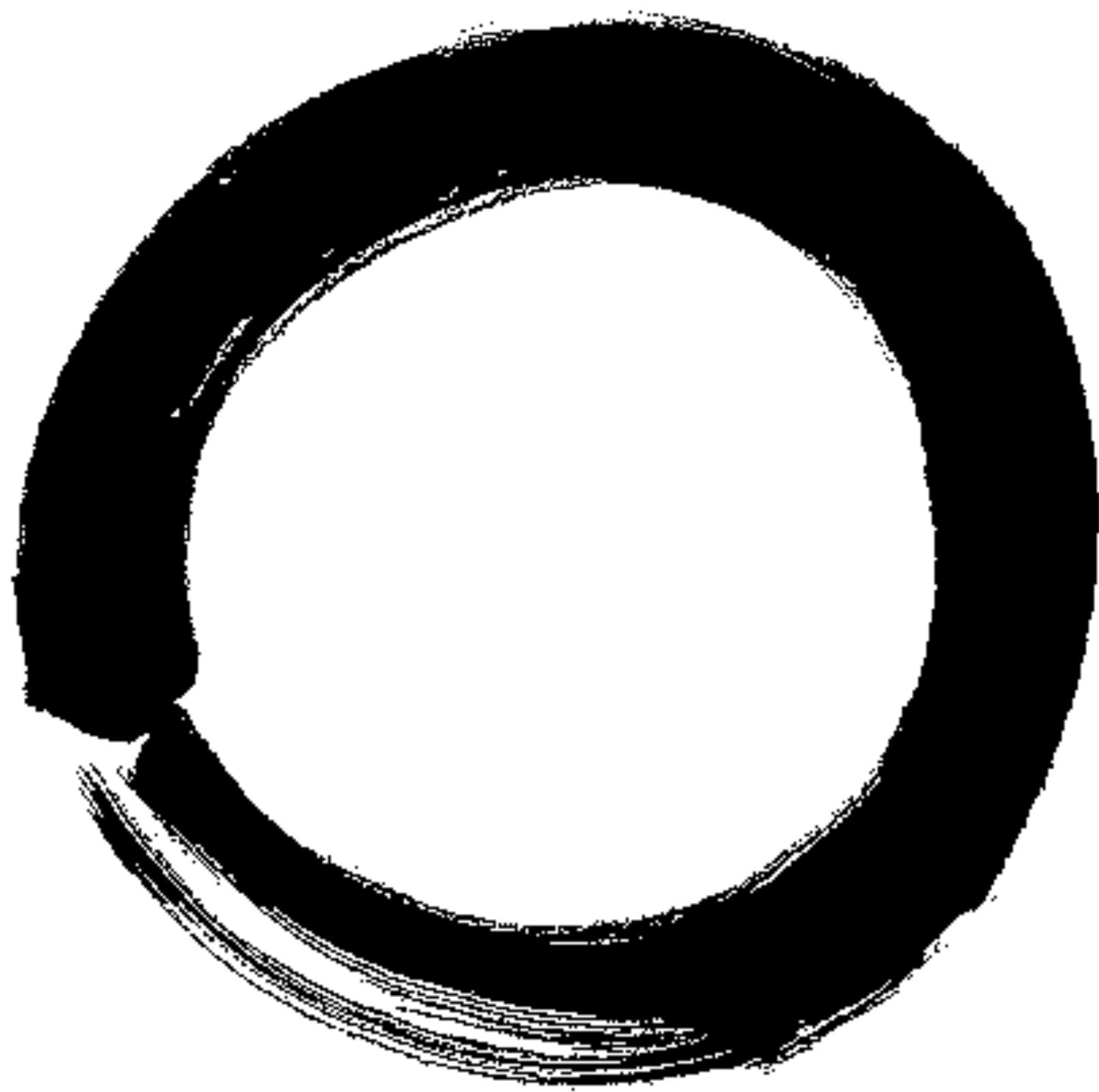
Project of 30 days



TIME SPEND DEVELOPING IN APEX 4.0

Project of 30 days (20!)





Summary

- 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
- An APEX developer is back in full harmony

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<http://sumneva.com>