Behaviour Driven Development at BSkyB

"Collaboratively coding correctly "

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EURO**PYTHON** 2012
FLORENCE, JULY 2–8

sky

Agenda

- BSkyB

- Our test evolution

What we have achieved

- Agile & BDD

- The Agile lifecycle

How we are doing it

- Feature & Steps

- Tools

- Demonstration

- Summary & Questions

Who, what and why

Who is BSkyB?

- **British Sky Broadcasting**

- **10 million + customers**

- **TV, Phone, Broadband, Mobile Apps, IPTV (Xbox)**

Our programme in BSkyB

Our business challenges

- To react to competitive marketplace
  in an 'agile' way

- To be efficient and effective means
  avoiding coding defects
  in production

Product & Offer Management

sky MOVIES HD   **SKY** NEWS HD

sky SPORTS HD   **sky** 3D

sky SPORTS F1 HD   **sky** LIVING

sky ATLANTIC HD   Sky Anytime+

- 'Prospect' sales

- Python 2.7 - REST API

- Defects cost

- Regulatory issues

Why we use BDD?

- Do it right the first time

- Deliver what was required with high quality code

- Testers & Developers write tests

- Easy reuse

- Refactoring

Testing is everyone's responsibility

Developers do testing

Testing is role of a dedicated QA team

Introduction of Agile

Testing is everyone's responsibility
TDD/BDD

Other tools

FitNesse

Selenium

Nose

What we've achieved

Agile Development

- Sprints

- Planning Games

- Retrospectives

- Fail Fast

- Adapt quickly

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Address http://qualitycenter:8080/qcbin/start_a.htm | Go | Links

Quality Center — Domain: IT_SCOTLAND, Project: CUSTOMER_MANAGEMENT, User: timminsp | Logout

Back | Forward > | Tools ▾ | Help ▾

Defects | Edit | View | Favorites | Analysis

New Defect... | Favorite : <None>

Filter: Change Type[Not Incident];

Business Se	Assigned To	Defect ID	Detected on I	Summary	Description	Fix Priority	Enviro
Query	pfr78	62663	20/06/2012	F42 - I2.17 - Correspondence - 1503 - Customer Notice template is not	Hi Paul, 1503 - Customer Notice template is not getting triggered while cuscanning standalone Wifi agreement(s). Could you please confirm if sh	P2	F42
SEV1	png04	62664	20/06/2012	Merging error removed code for 56935	Due to a merging error a line of code for defect QC56935 was removed from 12.53. This needs to be put back in.	P1	D03
SEV3	fhi01	62665	20/06/2012	SCR 7463	adding the CALLREASON via ETL table through to Midas	P3	N/A
SEV4	sbb98	62666	20/06/2012	Propagate OR_ARB_12_52_321 to 12_53 branch	Propagate OR_ARB_12_52_321 to 12_53 branch	P4	N/A
SEV3	fhi01	62667	20/06/2012	change to INT_CONTACT_ACTIVITY_TEMP to add the callreason colum	add callreason column through to the warehouse to enable capturing the reason of the phone call from the customer. m_intam_11020_IFC1025_	P3	Test
SEV3	roo02	62668	20/06/2012	Propagation of PROD00063941/QC62516: E05 - Cancel type for in-flight	Added null checks to BskybProductFlagHelper.areProductFlagsContainedByCatalogueProduct and BskybProductFlagHelper.areFlagsInProductFla	P3	Path 4
SEV2	drd03	62669	20/06/2012	propagation of 62661 Broadband Not Available Not Available message	As part of the Harp changes to handle Expected Line Speed the Not Available text, normally displayed if the Max and Min line speed	P2	D03
SEV2	drd03	62670	20/06/2012	Propagation of 62664 Merging error removed code for 56935	Due to a merging error a line of code for defect QC56935 was removed from 12.53. This needs to be put back in.	P2	D03
	dwi52	62671	20/06/2012	Sprint 28 - KM Rules needs to differentiate between green MLT pass a	KM stored procedure needs to differentiate between green MLT pass and amber MLT pass for line 6 and 15 of talk stage 2 on the spreadsheet		N/A
SEV2	chk02	62672	21/06/2012	E05: Upgrade from Sky Wirelss N Router to Sky Hub (Fibre) is adding w	Steps to recreate problem: ID&V a customer with Sky Wireless N Router at installed stats. Run Change Subscription and select BB subscription	P2	E05
SEV3	tmanga	62673	21/06/2012	String "Null" has been spotted in CCSKB020.ksh batch report on bookin	Steps to recreate problem: 1.Book MHO visit for a existing BB customer via move service instance offering 2.Modify customer address with bl	P3	E05
SEV2	jwi17	62676	21/06/2012	PROD: Unable to tag accounts (group tagging)	When selecting to tag the Group/IMO by selecting the tick box and then putting "Pizza Express" in the Group/IMO name search, the attached erro	P2	Produc
SEV3	trs03	62678	21/06/2012	BSBBillingItems is not Updating to XC 04 for the Supplement when the D	BSBBillingItems is not Updating to XC 04 for the Supplement when the DTV is Activated on an Account with the Supplement at Pending Cancel S	P3	E05
	spa54	62680	21/06/2012	Placeholder - new database columns for Mobile Number declines for cu	New columns required on Customer Contact to identify why/when a Customer declines supplying a mobile number. Also identify when a mobile		N/A
SEV3	jbh90	62682	21/06/2012	Propagation defect for QC62388.	Propagation defect for QC62388.	P3	E05
SEV3	crc03	62683	21/06/2012	Introduce mobile number not supplied reasons in dropdown when runn	Change the number not supplied reason dropdown to include options for not supplying a mobile phone number when the phone type is Mobile. A	P3	N/A
SEV1	ddf02	62684	21/06/2012	F42 - CLOUD - Assurance - Unable to access ticket mangement due to	Unable to access ticket mangement due to error " Internet explorer cannot display webpage" - Attempted to access ticket management via view	P1	F42
SEV2	ryo92	62685	21/06/2012	Dialler - Call is not connected to agent when a callback is made to cust	Steps to recreate problem: 1. Make an outbound dialler call to a customer 2. Set up a call back for a specific time Expected Behaviour: Call ba	P2	G02
SEV4	rdu23	62686	21/06/2012	TransComm - High Transaction Response Time (Issue Correspondence	High response times seen against the Issue Correspondence transaction when trying to select particular templates on the chordiant client. Wait t	P3	N02
SEV3	png04	62687	21/06/2012	E05 - Invalid ROI number does not default to the Rule contained in the R	When entering an Invalid ROI number and overridding this, the number does not automatically default to the isDefault Rule contained in the attach	P3	E05
SEV3	dag20	62688	21/06/2012	Propagation Defect for PROD00063147/QC61858	Propagation Defect for PROD00063147/QC61858 ETC DTV - Subscription not displayed in manage ETC	P3	Path 4
SEV3	cam25	62695	21/06/2012	The Logic Group - HSM Certificate Renewal (Critical)	Annual replacement of The Logic Group HSM Certificate and Key . This is required to ensure no loss of service with Retail Logic application .	P2	Produc
SEV3	aro29	62696	21/06/2012	Recontract - Modify BSBOfferProductRule	Recontract - Modify BSBOfferProductRule. Added new attribute MinTermDaysRemaining	P3	Path 4
SEV3	ryo92	62697	21/06/2012	Dialler - When agent is set to Unavailable before customer answers ca	Steps to recreate problem: 1. Start a Campaign to make an outbound call 2. Before customer answers the call set the agent to unavailable 3. Ar	P3	G02
SEV2	sku30	62702	21/06/2012	E05: Downgrade order not created on change subscription on a force p	Steps to recreate problem: Create customer using *040 and EH88BA with Fibre Pro and WLR3.Choose a force provision reason that allows sing	P2	E05
SEV2	nke11	62703	21/06/2012	E05: Unknown State/Event combination error when downgrading to fibr	Steps to recreate problem: Create customer using *040 and EH88BA with Fibre Pro and WLR3.Choose a force provision reason that allows sin	P2	E05
Query	nke11	62704	21/06/2012	E05: hasExistingCalls tag is set to false in case of existing WLR3 and fi	Steps to recreate problem: Create customer using *040 and EH88BA with Fibre Pro and WLR3.Choose a force provision reason that allows sin	P3	E05
SEV3	nke11	62706	21/06/2012	E05: Correspondence 4404 doesnt contain correct inserts for fibre BB	Steps to recreate problem: Run change subscription and confirm order 1. Customer with Fibre Pro & WLR3 changing to Fibre 2. Customer with F	P3	E05
SEV2	gsc02	62708	22/06/2012	PROD: Unable to remove an outlet from a transfer instruction	Once an outlet has been added to a transfer instruction users are unable to remove this outlet via portal (even if it's in a draft status)	P2	Produc
SEV2	gsc02	62709	22/06/2012	PROD: Unable to untick agreements within a transfer instruction in a DR	Once a transfer instruction has been submitted for validation if the transfer instruction has been returned as being DRAFT_INVALID the user is u	P2	Produc
SEV2	gsc02	62710	22/06/2012	PROD: Time outs when submitting transfers with over 25 outlets	If a transfer instruction has been submitted with over 25 outlets (depending on how many agreements are present) this causes portal to time ou	P2	Produc
SEV2	gsc02	62711	22/06/2012	PROD: Issue when processing multiple transfer instructions for the san	When processing transfer instructions in batches of 25 (to avoid time outs) impacting the same billing level requires Technology support so that	P2	Produc
SEV2	gsc02	62712	22/06/2012	PROD: Transfers are sitting in a partially completed state due failures in	When processing an external transfer this can result in the Chordiant updates to complete successfully but result in the Kenan updates not to cc	P2	Produc
SEV2	gsc02	62713	22/06/2012	PROD: CUSCAN outlets are failing in Kenan	When a CUSCAN outlet is included in a transfer request, the Chordiant updates are applied, but the Kenan updates are failing due to the charges	P2	Produc
SEV2	gsc02	62714	22/06/2012	PROD: Transfer status is not being updated correctly upon completion	The transfers use case indicates that the transfer instruction should be updated to COMPLETELY_FAILED if none of the included outlets is succe	P2	Produc
SEV3	geh05	62716	22/06/2012	UAT: Outbound Dialler - Dialler information are not present in Chordiant	Dialler information do not appear in Chordiant Contact history Steps to recreate problem: 1. Login in to Chordiant 2. Set Agent to Ready 3. Start	P3	UAT

Description | Attachments | History

* Summary: STRAP - Received Easynet (CDR) Files CASKR001 - Filenaming Convention

* Description:
STRAP - Received Easynet (CDR) Files CASKR001 - Filenaming Convention

Env: D99

Rel: ARBOR_LOCAL_DATA_2.3.12.04.00

R&D Comments: | Add Comment

In the FTP directory, and file prefixed by **arbor.cdr.data.T02** and ending with .DAT.Z is regarded as an Easynet file.

James Baird <bairdj>, 09/11/2006: modified

Paul Lewis <lewisp>, 01/06/2009:

Defect 1 of 54198 | Server Time: 22/06/2012 10:15

HP Quality Center 10.00 | Local intranet

Thursday, 5 July 12

BDD in Agile

- **Focus**

- **Collaboration**

- **Simple**

- **Feedback cycle**

Gherkin Syntax

Given

Feature:

When

And

Then

Scenario:

Background:

Scenario Outline:
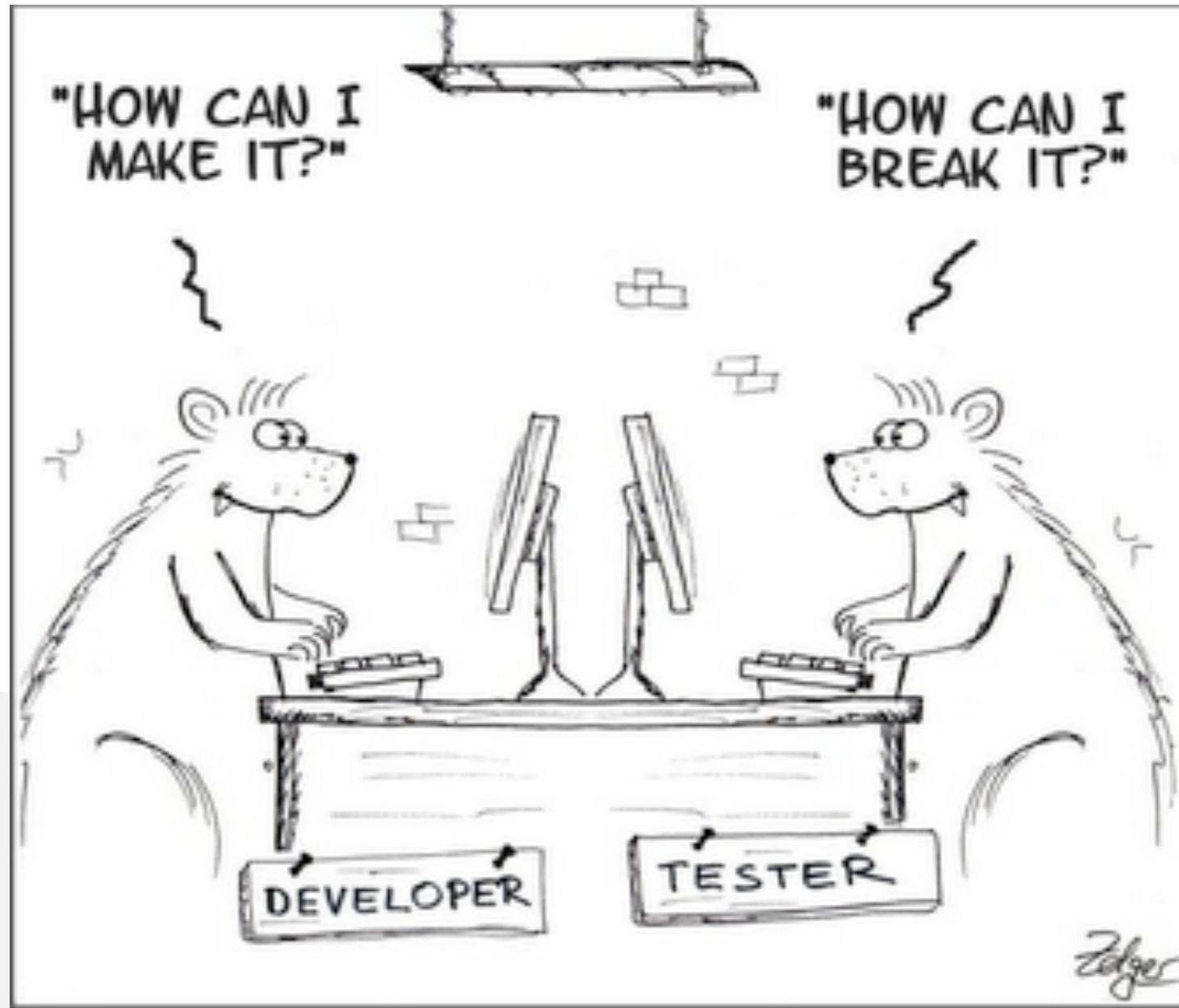
It's not a battle

The Agile lifecycle

Story Card → "Defuzz" → QA -> BDD → Write Code → QA Checks → Card Complete → Story Card
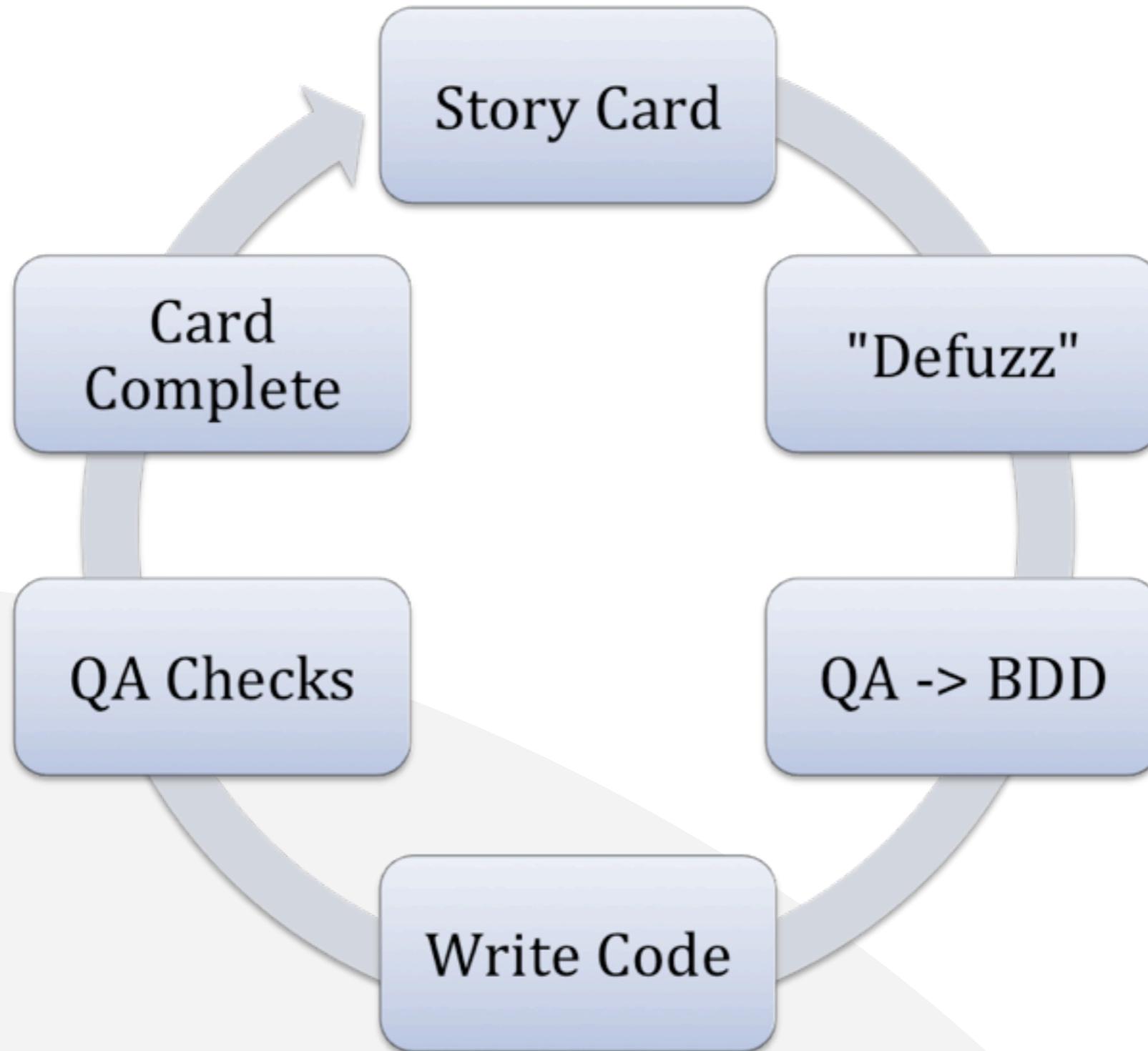
Continuous integration

- Hudson
- Team awareness
- Instant feedback
- Confidence in code

How we did it

Feature File

```
1   Using step definitions from: 'steps/path_to_steps_file'
2
3   Feature: Get Price from Catalogue
4           As a client
5           I want to retrieve the prices of products
6           When I call the get catalogue service
7
8   Background:
9           Given the channel is 'online'
10          And the date is "now"
11
12  Scenario: Check the pricing is returned for products
13          When I call the GetCatalogue service
14          Then the following products should have these prices:
15              | product               | price   |
16              | Example_Box           | 50.00   |
17              | Example_Channel_Pack  | 20.00   |
18              | Example_A_La_Carte    | 10.00   |
```

Understood by all stakeholders

Simple - plain English

Precise and logical

Step before running

- Steps File – 'The magic'

- Regular expressions

- Execute Python code

Example Step file

```python
@Given(r'the channel is "([^"]+)"')
def set_channel(channel):
    scc.channel = channel

@When(r'I call the GetCatalogue service')
def call_get_catalogue():
    response = requests.get('http://localhost/catalogue')
    scc.response = response

@Then(r'the following products should have these prices:')
def check_prices(table):
    for row in table:
        expected_price = prices[product]
        product = row['product']
        actual_price = row['price']
        assert_equal(expected_price, actual_price)
```

Regular expressions

Row iteration

Helper functions

Tools
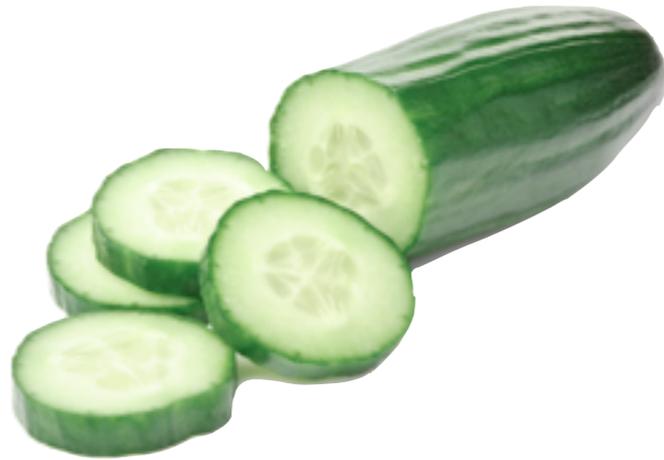
Cucumber

Lettuce

Freshen

Behave

Freshen

- **Virtualenv + pip**

- **"pip install freshen"**

- **"nosetests --with-freshen /path/to/tests.feature"**

freshen 0.2

Clone of the Cucumber BDD framework for Python

File	Type
freshen-0.2.tar.gz (md5)	Source

Author: Roman Lisagor
Home Page: http://github.com/rlisagor/freshen
License: GPL
Categories
> Development Status :: 4 - Beta
> Intended Audience :: Developers
> License :: OSI Approved :: GNU General Public License (GPL)
> Operating System :: OS Independent
> Programming Language :: Python
> Topic :: Software Development :: Testing

**Package Index Owner:** rlisagor
DOAP record: freshen-0.2.xml

DEMO

Key points

- **Feature File written by Business**

- **Steps written by Testers or Developers**

- **Deliver EXACTLY what was asked for**

- **Know precisely when you are done.**

- **DO IT RIGHT THE FIRST TIME, EVERY TIME.**

Summary
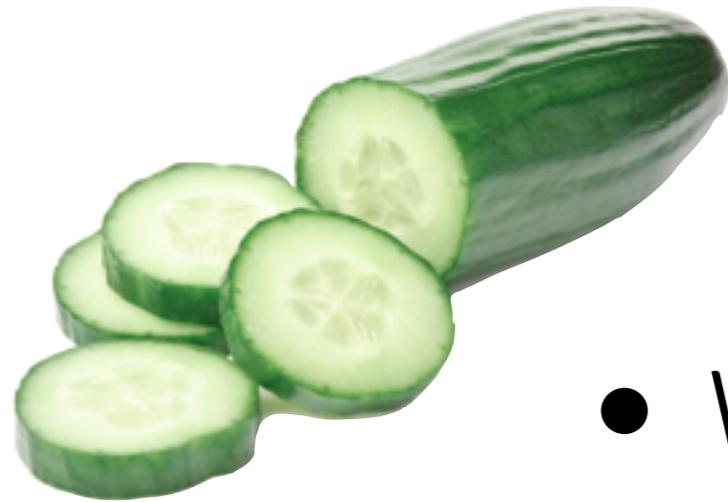
- Who, what and why

- What you can achieve

- How you do it

Questions?

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