Introduction

- The purpose of this session is to discuss the problems associated with sizing web based applications

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Topics of Discussion

- What problems triggered this investigation?
- Some sizing examples
- What problems were encountered
- Conclusions & further work
Current Practice

- At the moment there is no agreed mapping of web-based applications to
  - IFPUG
  - MkII
  - COSMIC
- So practice is different
- and ideas spread slowly
What motivated this study

Current practice is unsatisfactory

- there is an increase in the number of web based applications
- there are only a few ‘experienced’ counters
- cannot be sure of standard of count
Sizing Examples 1

- Basic web site
- Minimal interactivity
- Provides information only
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Listings of Events & Courses
Software Metrics

Mathsemantics: Making Numbers Talk Sense
Edward MacNeal

Price: out of print
Format: Softback

The Goal/Question/Metric Method
Rini van Solingen & Egon Berghout

Price: £33.50 (UK)
Format: Hardback
Web Site ILF’s

- The first thing is what are the internal logical files?
- IFPUG 4.1 requires an ILF to be
  - A group of data that is logically related and user recognisable
  - Maintained by an elementary process of the application
- We have data that meets the first of these rules
- But not the second
Web Site EIFs

- If the files are not ILF’s, are they EIFs?
- IFPUG 4.1 requires an EIF to be:
  - A group of data that is logically related and user recognisable
  - The group of data is external to and referenced by the application
  - The group of data is NOT maintained by the application
  - The group of data is maintained in another application as an ILF
IFPUG White Paper

- IFPUG publish White papers
  - Web Sites
  - Client Server
- Intended as guidance
- NOT approved by CPC
White Paper on Web Sites

Discusses Files as:-

- the logical group of data is either an ILF or an EIF
- depending on how and where the data contained on the Web Site is maintained
- and provided that the data is maintained by a User using available tools.
SMS Web Site

- Has data stored in Files
- This data is updated by the developer
- So whichever description you care to use
  - There are no Files
- We can argue that the data is maintained at the User’s request so
  - We can treat them as EIFs
  - But it’s a fudge
Sizing the SMS Site – the Fudge method

- OK, so if we call them EIFs then there are 11 EIFs. All simple
- The Transactional Function types consist of 27 Queries again all simple
- Size = 11*5 + 27 *3 = 136
- Effort was approx 840 hrs +-25%
- Time to deliver was 6.18 hrs/UFP limits 4.6 – 7.7
Sizing Example 2 – Shipping bookings

Client Browser

Java Server Page

E-Mail Messaging System

Message Broker

Customer Database

Booking System

Booking System

Client Browser
What’s the Problem?

- A system to allow shippers to book space for containers on a ship
- Straight forward extension of the current booking system
- BUT we are only sizing the web subsystem
Sizing Example 2 – Shipping bookings

We need to size this subsystem.
There are No Files
Certainly No ILFs

A User is any person that specifies Functional User Requirements and/or any person or thing that communicates or interacts with the software at any time

One EIF Customer Information From web site log-on
What’s going on?

Core Application

Web Server

Client Server

PC
The Logical View

So what we have is the same as a remote terminal.
We should size this as an enhancement to the core application.
What will that mean?

- IT Management needs to size the web site
- Productivity will look low with 1 EIF
- We could use the fudge approach
- We need a method that allows us to size the web site
So let’s try COSMIC-FFP

- Functional sizing measure
- Across wide range of domains
- World wide usage
- Compatible with ISO 14143-1
- Best principles of current methods
Allocation of Requirements

User Domain

Client

Booking

Client Browser

Customer Care

Middleware

DBM

Message Broker

Java Page Server

Applicatio

Operating system

Device Domain

Device Drivers

Printer

FAX

Disk

Server

By Tony Rollo CIT Ltd
What This Means

- We can now size our Web Sites
- Because we can always identify the Data Movements

Example from SMS Site

Hyperlink press.
Request Entry
Exit Book List

View Book List

Read Book-List page

This counts as 3 Cfsu
SMS Web Site

- Consists of 28 Processes
- These contribute 3 Cfsu’s each
- Hence the functionality available to the User on the SMS Web Site is 84 Cfsu
Booking System – Some Functions

- View bookings list
- View existing booking
- Get Customer Details
- Edit existing booking
- View trading partner list
- View current trading partner
- Enter partners to booking
- Enter transport chain details
- Enter cargo container details
- View terms of transport
View Booking List: The PC as the User of the Java Server requests to retrieve a current booking

User request (Triggering Entry)

Display current booking (Exit)

Read Customer Account No

Read Current Booking

Functional Process size = 4 Cfsu
(Aside: how does the Message Broker handle the request to retrieve a current booking?)

Assumed answer = two Functional Processes, each 2 Cfsu
Conclusion

- Current IFPUG method rules need amending to work properly for sizing Web Site front-ends to existing systems
- The COSMIC FFP method appears to work
- We now need COSMIC based data for estimation, benchmarking etc.