

Using Active & Peer Feedback to develop Professional Software Engineering Skills

Leif Azzopardi
School of Computing Science
University of Glasgow
leifos@acm.org
@leifos





I need feedback!

A student's lament

Design and Develop Web Applications

The goal is to build a web application

Making use of bright colours and icons, the interface takes its inspiration from the newly renovated Emma Children's Hospital (see below)

search functionality is provided via either a search box or a **Body Browser**

primary and secondary **Query Suggestions**

Klik mij en zoek door het lichaam!

Ik wil graag vinden...

hart

zoek

Wat dacht je van het HART ??

...of misschien een van deze??

HARTING bank

HART- en bloedvaten

HART- en vaatziekten

je HART luchten

liefde in je HART

over je HART

Emma's Informatie Centrum

Medische Websites

Vertrouwde Websites

Overige Websites

Hart voor hart
Deze DVD is voor iedereen die wil weten hoe het is om te leven met een aangeboren hartafwijking. Negen indringende persoonlijke portretten van + AskEmma

Het sleutelkruid
Het hart van de oeroude koning Mansolein dreigt het te begeven. De wonderdokter wordt erbij geroepen en schrijft sleutelkruid voor. Dit is te vinden + AskEmma

Paultje en de draak
Deze avontuurlijke en komische animatiefilm laat zien hoe heldhaftig het gevecht van een kind met kanker is. De film steekt kinderen met kanker en + AskEmma

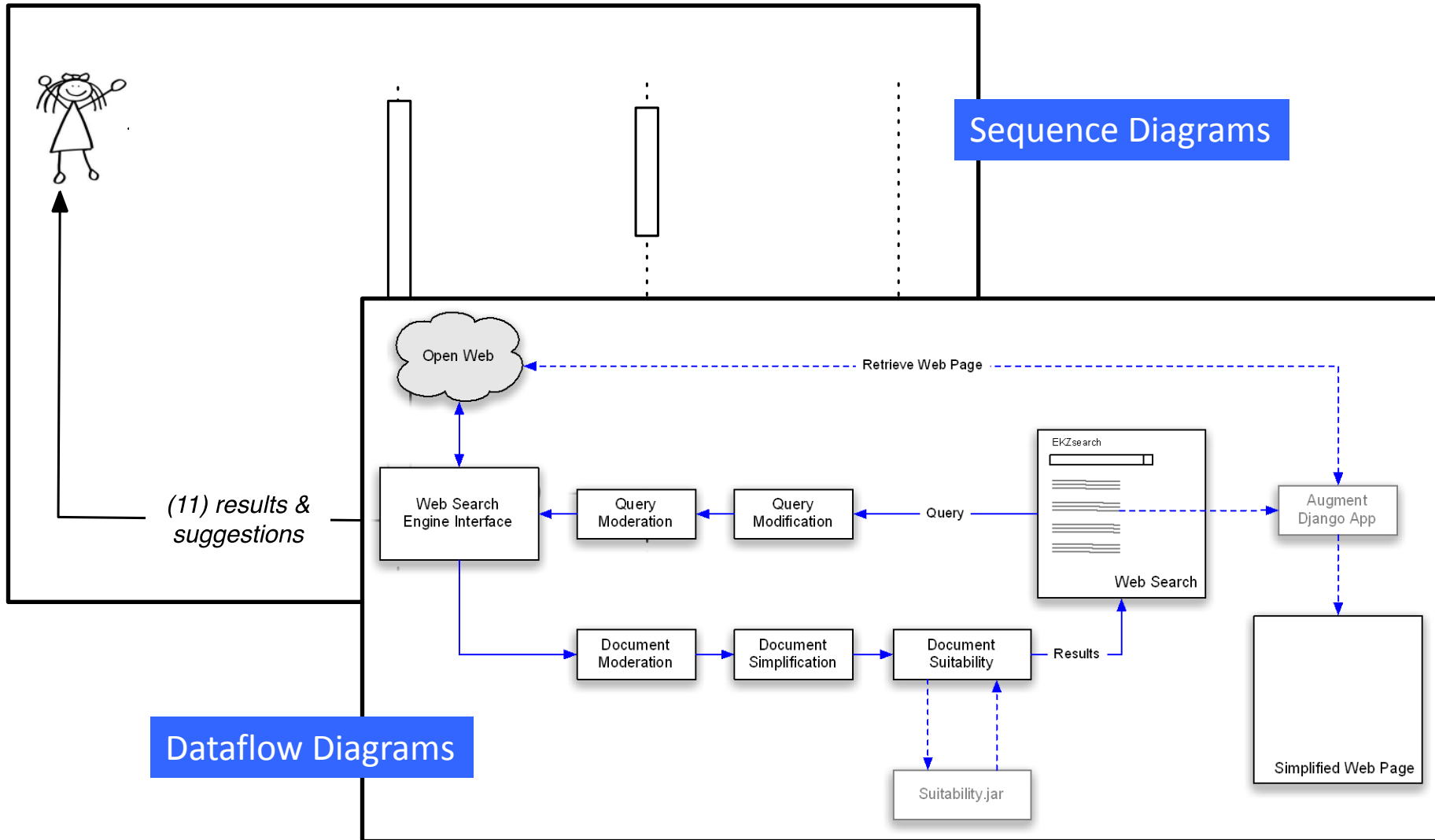
Vraag Emma
A copyIR product.

Moderated Search Services results include materials available from the Emma Information Centre, Medical Websites.

Inspiration for website design

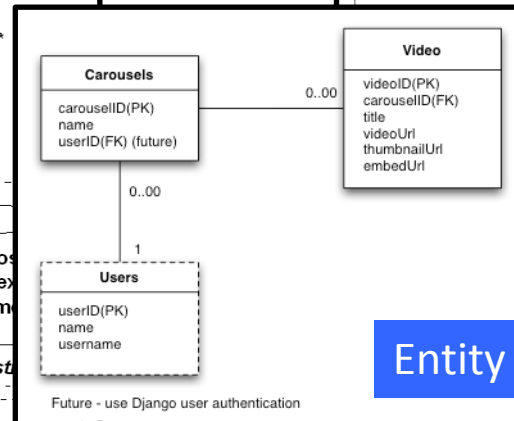
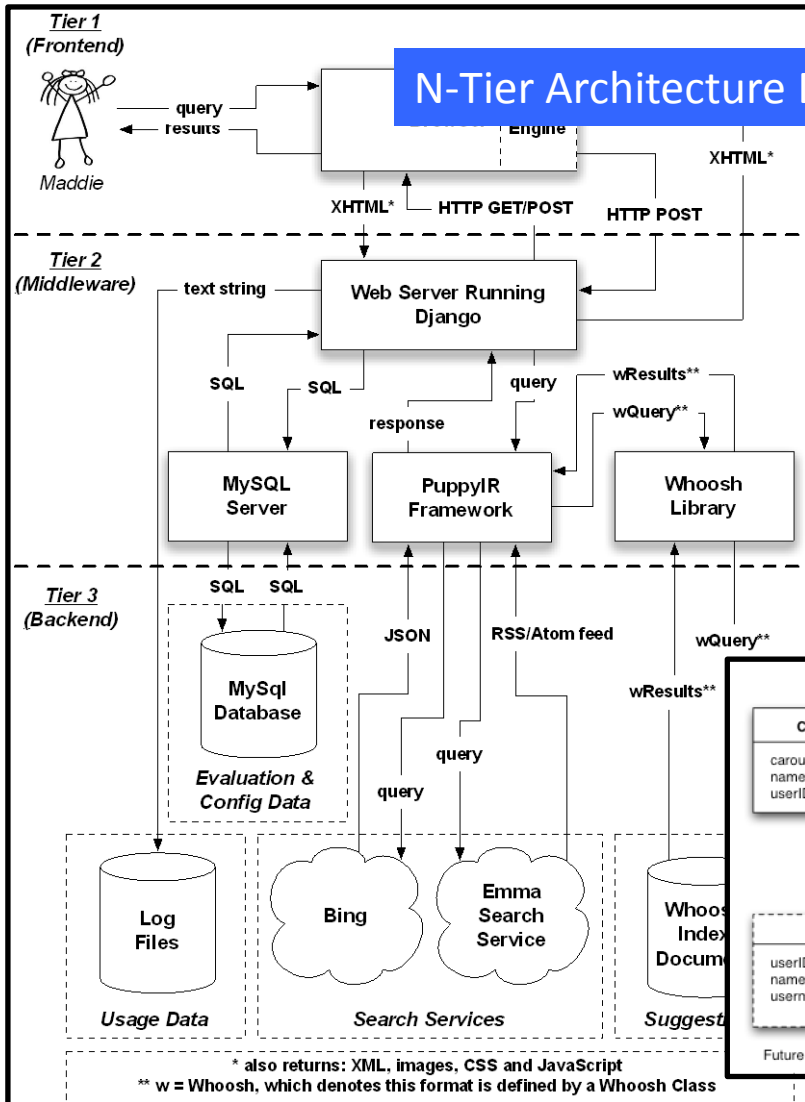
Design and Develop Web Applications

Example artifacts they need to produce



Design and Develop Web Applications

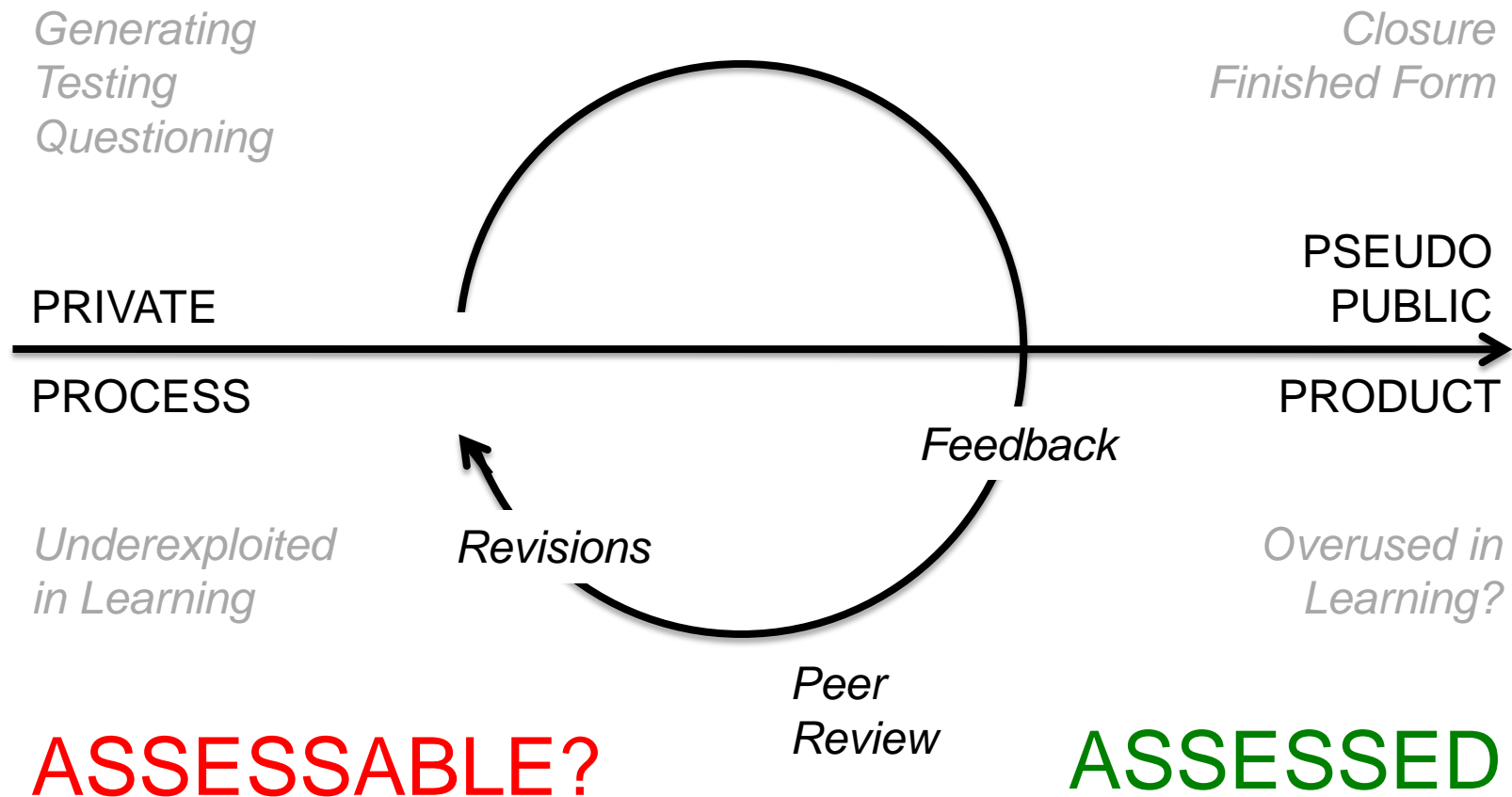
Example artifacts they need to produce



Entity Relationship Diagrams

Writing Process/Product Continuum

Mitchell & Evison (2006)



Passive vs. Active Feedback

Passive Feedback

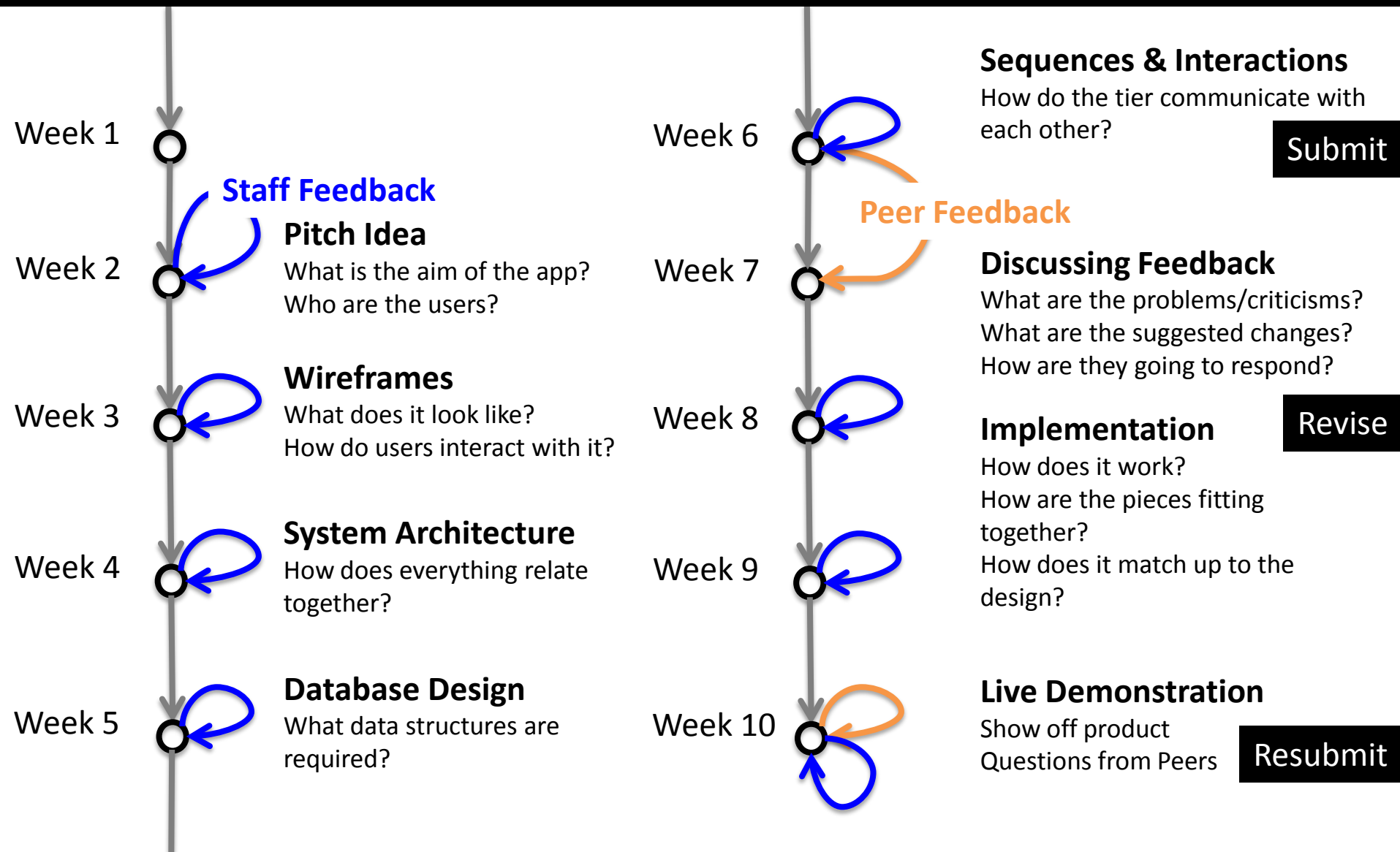
I mean, feedback that is given, but there is no immediate opportunity for the student to apply or act upon the given feedback.

Active Feedback

I mean, feedback that is given and the students have an opportunity to **address the feedback, respond to the feedback,** and to **improve their work given the feedback,** such that they can improve their marks and complete the learning cycle.

Feedback Cycles during the Course

DIM3 & iTECH



Why Peer Feedback?

Student

Why should I look at other people's designs?

To see how others solve similar problems
To pick up tips and tricks
To get experience of understanding and communicating specifications and designs.

But, I'm no expert. How can I evaluate their work?

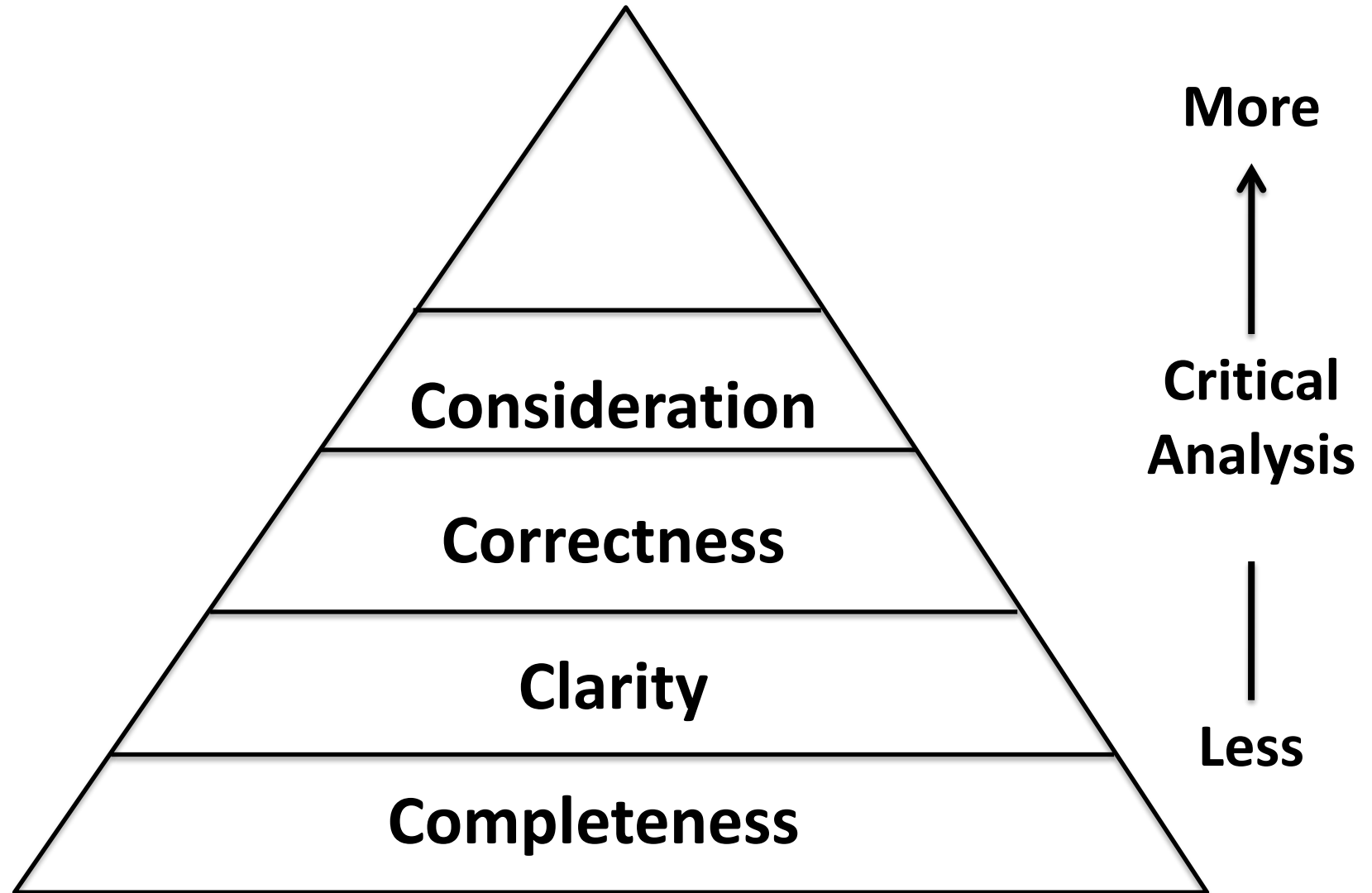
Through asking the write questions!

Okay, so what are we looking for?

Completeness, Clarity, Correctness and Thoughtfulness

Lecturer

Hierarchy of Feedback



How can we ensure critical feedback?

A feedback form template

The forms asks a series of questions

Structures the feedback

Focuses on the key aspects

Directs enquiry

- Is it clear? Is it concise? Is the specifications report complete?
 - Does it contain all the diagrams?
 - Do the wireframe make sense? Are they explained properly? Or do you have to guess?
 - Are the flows correct in the sequence diagram?
- What are your thoughts about the diagrams? What's right, what's wrong, what looks odd?
- Is the design thoughtful?

Structured Feedback Form

Asks them to specifically comment on different aspects

We asked for three points for each

Includes questions from different perspectives

- Really, is the design thoughtful? How has it been justified?
- What suggestions to you have?
 - What is good? What is bad?
 - What are the main problems? How could they be resolved?
- As a Customer, would you pay?
- As a Developer, could you build it?
- As a Boss/Employer/Manager, would you be impressed? Is their scope for error or problems?

Activating the Feedback

Provided instructions on how to respond

Asked them to explain and respond

Re-marked the final reports and provided them with the opportunity to reclaim lost marks

The resubmission also asked them to reflect on what they learnt

- Read through the feedback provided
- Summarize feedback in your report
 - What are the main good points and bad points about your report?
- Take relevant comments on board
 - Explain how you addressed the points raised by your peers
- Apply the corrections to your documentation
- Your reports will be assessed by the Lecturers
 - You will be given an indication of your mark for your report
 - If you take the feedback on board you should be able to improve your indicative mark.

Classes of 2011 and 2012

Class of 2011

53 Level 3 Students
(Comp Sci)

34 Masters Students
(Comp Sci & IT)

19 Groups

2 Reviews / Student

8-10 review / Group

45 Responses

Class of 2012

45 Level 3 Students
(Comp Sci)

43 Masters Students
(Comp Sci & IT)

20 Groups

1 Reviews / Student

4-5 reviews / Group

Training Examples

37 responses

Some Peer Feedback

General overall look is **simple** and **understandable**

Features of design are **easily understood**

References on design diagrams give further information on that component

The front page is a **nice**

The logo across is **a little too conspicuous**

Poor Feedback



General overall look is **simple** and **understandable**

Features of design are **easily understood**

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The front page is a **nice**

The logo across is **a little too conspicuous**

It's not incorrect

But it's poor in the sense that it is not very critical

It is simply descriptive

Perhaps subjective

There are no deep insights



I really like ... **it shows** that you have given **due consideration** to your project and it **provides a great deal of originality** to your application.

Why have you chosen to implement it with that technology. For example, you have selected Django and not Ruby on Rails, **why?**

And which one is better?

Good Feedback

Picks up on
thoughtfulness in the
design 😊

Asks questions of the
design 😊

Questions the design
choices 😊

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Which one is better?

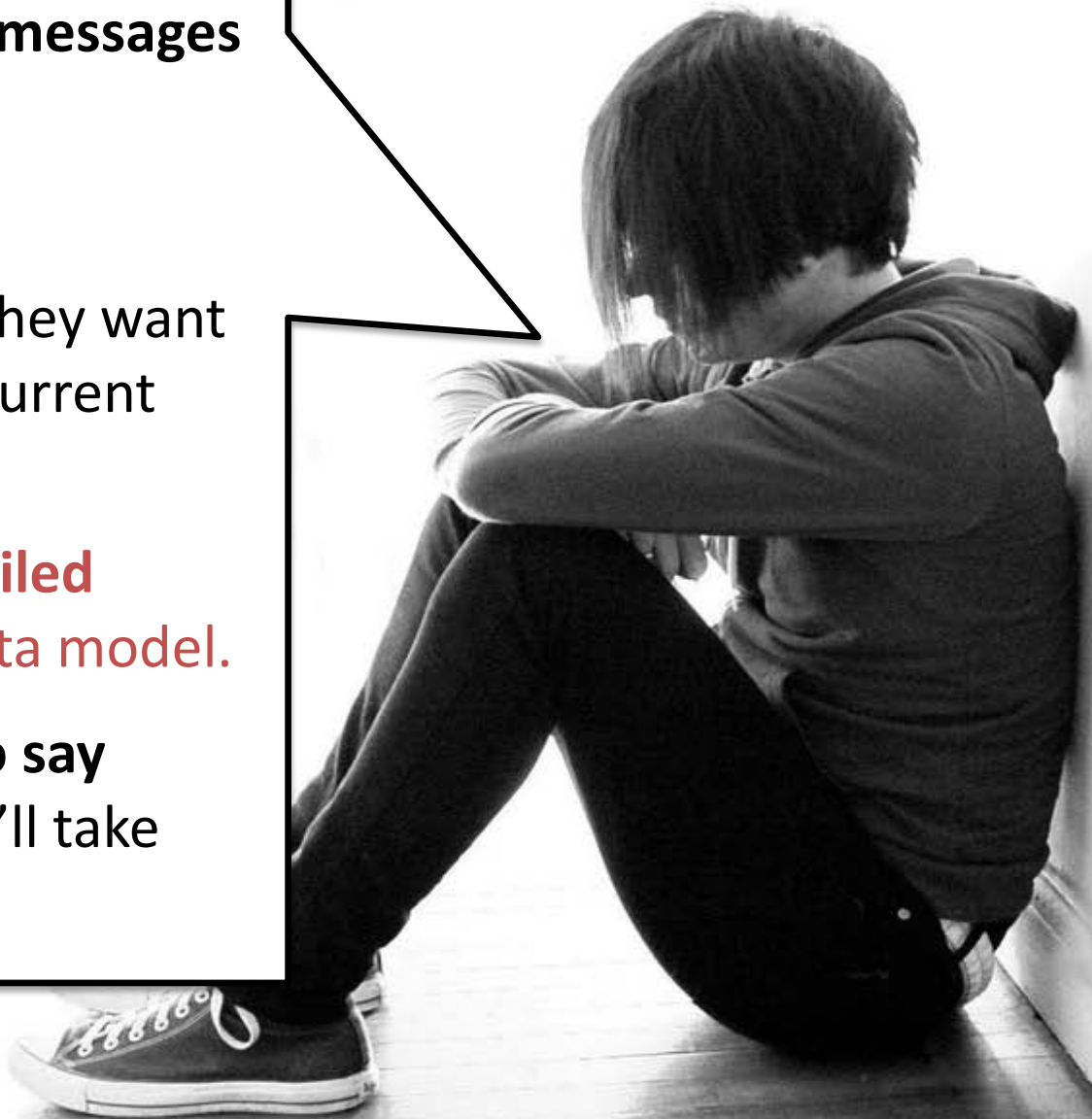
It seems **technically possible** and the authors **seem** to have put a **lot of thought** into the **messages and their format**.

It went over 5 pages!

The version of Django they want to use does not exist (Current version is **1.2**, not **2.4**)

They need a **more detailed explanation** of their data model.

I can't think of much to say about their report, so I'll take some time to....



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Again, not too bad, but perhaps overly critical / pedantic

Some points very minor

Others too vague without any explanation

A bit disrespectful



Aropa is fairly terrible. It locked up when I attempted to paste text.

The login page is about as **user friendly as barbed wire** (it's two empty input boxes with no indication of what they're for).

The layout is terrible (it needs more whitespace to separate questions) and

The **alignment** of questions and their radio boxes **is off** on a lot of questions.

Ugly but Good Feedback

“fairly terrible” probably an understatement, but a bit too personal/subjective.

Telling it how it is, is fine, if you know they can hack it.

Then, specific comments with reasonable suggestions

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I understand you will be searching cornells digital library but **what are you searching for Books? Articles?....** this really needs to be clarified

You have stated **why you are only using** Cornell's digital library. But, **why not** the ACM or IEEE?

If the user isn't on an academic campus will they still be able to access this information ...

Most of these issues **could be addressed** in the assumptions but they still need to be addressed.



I understand you will be searching cornells digital library but **what are you searching for Books? Articles?....** this really needs to be clarified

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Is specific to certain parts 😊

Asks questions

Identifies problems

Points out possible solutions 😊



**The Good
The Bad
and
The Ugly**

What did the student's think ?

Overall - 2011

Content	3.33
Level	3.30
Delivery	3.97
Lecturer	3.79
Reviews	3.01
Reviewing	3.51

Feedback

Overall - 2012

Content	4.25
Level	3.86
Delivery	4.19
Lecturer	4.56
Tutors	4.18
Reviews	3.44
Reviewing	3.75

Feedback
w. training

Average score out of five

Course Feedback

Positives and Negatives

1. Engaging and Entertaining Style
- 2. High Level of Feedback**
3. Open Ended Assignment
4. Approachable Lecturers
- 5. Oriented to System Design and Application Building**
6. Covers a broad Range of topics / technologies
- 7. Improved Technical Communication Skills**
- 8. Industry focused**

- 1. Aropa**
2. Too many technologies, Not enough depth
3. Not Enough Demos and Examples
4. Learning Curve to Steep
5. Framework Choice



**So what did I
learn?**

Pro's and Con's of Active/Peer Feedback

Con 1: High overheads in setting up active and peer feedback

Pro 2: Students receive a lot of varied feedback

Con 3: Sometimes feedback fails on deaf ears

Pro 4: It is generally perceived as a positive learning experience

Con 5: Maybe be perceived as a hassle or as another hoop to jump through

Pro 6: Provides realism, much like client/customer interaction

Pro's and Con's of Active/Peer Feedback

Con 7: The validity of the peer feedback is often questioned or sometimes rejected

Pro 8: Peer feedback introduced a reflective element which encouraged self questioning

Con 9: Students perceived the feedback from others as less valuable

Pro 9: Students more readily identified the problems with their own work (in hindsight)

Con 10: The whole idea of active feedback is to assess the process, which leads to improved work which blows your normal distribution

Pro 11: Develops a better sense of quality of the work being performed by peers, provides them with experience of the peer review process, and helps them obtain a better appreciation for us

Tips when Introducing Active/Peer Feedback

Tip 1: Provide students with a strong motivation to provide quality feedback

ACTIVATE IT

Tip 2: Peers can provide lots of feedback, but the quality varies tremendously: (i) so more is often better (ii) source feedback from diverse groups & (iii) training on how to give feedback improves the

Tip 3: Don't introduce Peer Feedback to get out of providing feedback

Tip 4: Carefully consider how the Active/Peer Feedback fits with your course ILOs

Tips when Introducing Active/Peer Feedback

Tip 5: Carefully consider the instruments used to collect the feedback

Tip 6: Provide training and guides to steer the students in the right direction so that the feedback tends towards critical

Tip 7: Use systems like Aropa, but realize they wont fit all your needs

Don't do it! Unless you really think it will improve their learning experience

