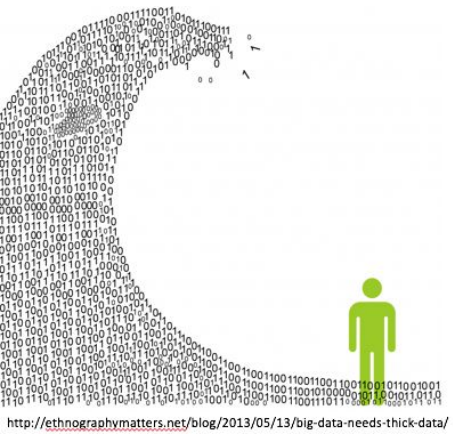


INFO3315 - HCI
Human-Computer Interaction

Week 2

Tute/Lecture Wednesday 8 August

Overview

- Activity 0 – last week's CUSP information
- Activity 1 – Task 1 from mini-assignment
  - Tutors will grade your affordance concept map as they help you with the class activity
- Activity 2: introducing Assignment 1
  - Explore ***your*** mobile phone data
  - Explore mine
- Activity 3: First core goal on activity level
  - Some examples to consider
- Highlighting goals and tasks

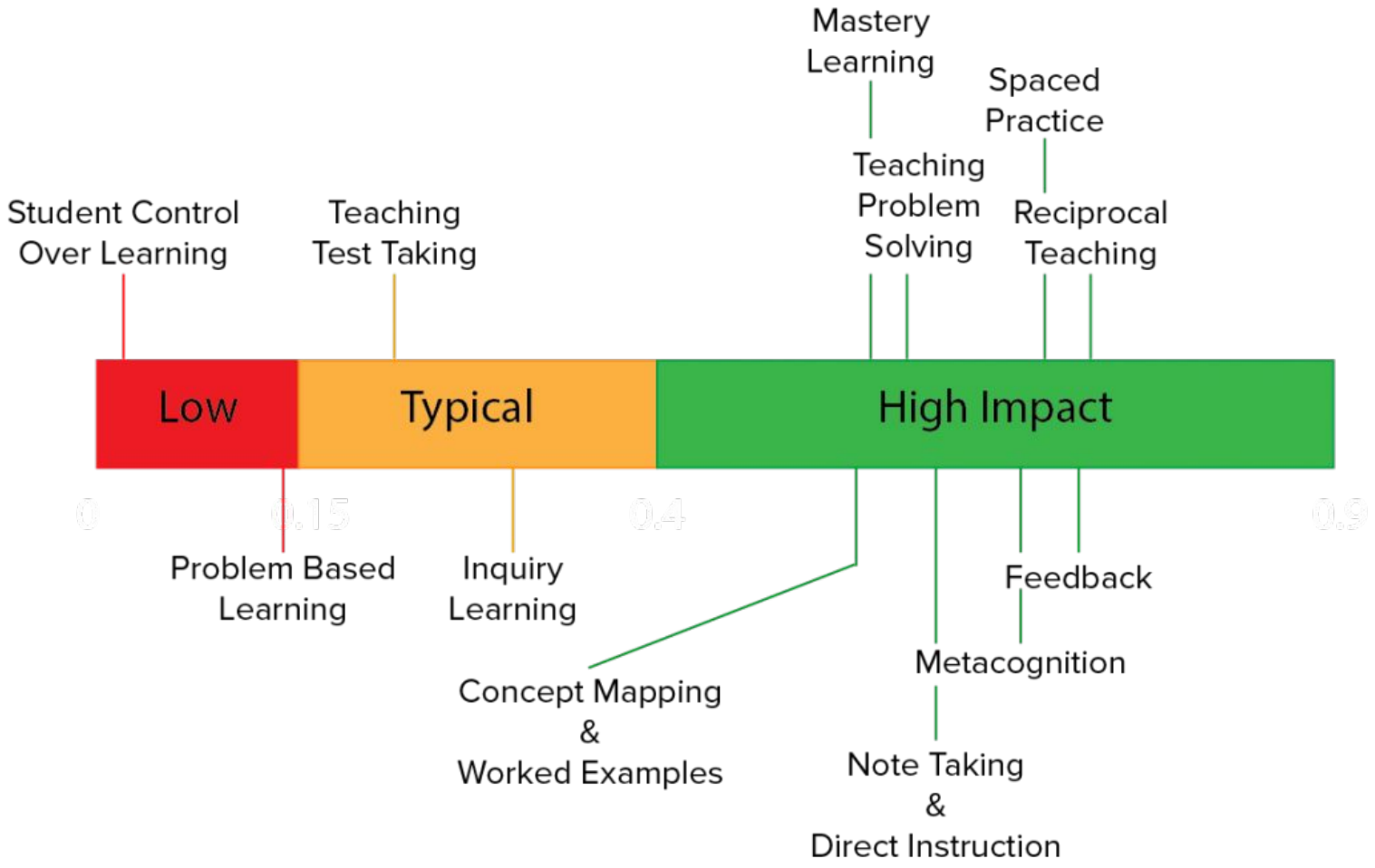
Activity 0

Concept maps and info3315 assessment

Why do concept mapping?

http://www.evidencebasedteaching.org.au/hattie-his-high-impact-strategies/

John Hattie synthesized over 500,000+ studies related to student achievement in his book Visible Learning. In this book he showed …


Mastery Learning
Spaced Practice
Teaching Problem Solving
Reciprocal Teaching
Student Control Over Learning
Teaching Test Taking
Low
Typical
High Impact
0
0.15
0.4
0.9
Problem Based Learning
Inquiry Learning
Concept Mapping & Worked Examples
Feedback
Metacognition
Note Taking & Direct Instruction

#	Name	Group	Weight	Due Week	Outcomes
1	Quizzes in the tutorial/lecture class	No	0.00	Multiple Weeks (Wednesday, 5 pm)	1, 2, 3, 4, 5, 6, 7, 8,
2	Mini-assignments	No	20.00	Multiple Weeks (Wednesday, 5 pm)	1, 2, 3, 4, 5, 6, 7,
3	Assignment 1 report and demo	Yes	15.00	Week 8 (Wednesday, 10 pm)	1, 2, 3, 8,
4	Assignment 2 - presentation + demo	Yes	10.00	Week 12 (Wednesday, 5 pm)	1, 2, 3, 5, 6, 8,
5	Final Exam	No	55.00	Exam Period	1, 2, 3, 4, 5, 7,

Week	Description
Week 1	Lecture/Tutorial: Introduction of team, learning objectives, What is HCI, UX, why is HCI hard, first think aloud
Week 2	Lecture/Tutorial: Introduction to Semester and assignment theme - Big personal data, Assignment 1 intro, Analysis: academic and commercial research, terminology in HCI - affordances
Week 3	Lecture/Tutorial: Analysis: user research, ethnography, task analysis, personas, user's goals and tasks
Week 4	Lecture/Tutorial: Design: ideation, prototyping for design
Week 5	Lecture/Tutorial: Evaluation: Think-aloud, ethics of user studies
Week 6	Lecture/Tutorial: The cycle integration, mental models, and guidelines
Week 7	Lab: User research based by asking users: Surveys, Focus groups, Interviews, Validating observation notes
Week 8	Lecture/Tutorial: No class - time reserved for groups to polish Assignment 1
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Week 11	Lecture/Tutorial: Human factors: physiological, psychological, Theories, Fitts, GOMS, overview of expert evaluation methods, Breadth topic guest lecture
Week 12	Lecture/Tutorial: Evaluation methods, A/B testing, field trials, Breadth topic guest lecture
	Assessment Due: Assignment 2 - presentation + demo
Week 13	Lecture/Tutorial: Revision, Big picture of cycle and broader topics
Exam Period	Assessment Due: Final Exam

Grading mini-assignments

All mini-assignments as specified in the handout are ***due before the tute/lecture*** – and the ***full mini-assignment also includes the activities in the lab***.

Mark /3

- 3 strong performance on all aspects:
  - participation in the lab activities based on the work done before class PLUS
  - every aspect of the mini-assignment has been done well enough to provide a very good foundation for the class activities, with at most minor flaws or omissions
- 2 active participation and serious attempt but some serious flaws or omissions
- 1 attempt at parts with some merit
- 0 just a little

Weekly mark is sum over weeks 2 .. 13, with a cap of 30 (to account for late start, minor colds etc people suffer through the semester)

Activity 1

Affordances task from mini-assignment

Learning objectives

Vocabulary:

- simple core definition of affordance
- some common types of affordance:
  - hidden, false, perceived and actual affordances
- different people understand variants of these

About learning, understanding and concept maps

- different people interpret people gain the same text
- A concept map can help make that visible

Goals and Tasks

- Goal (abstract task)
- a concrete task
- properties of good concrete tasks

Activity 1 – affordances homework

1. Sit in groups ~3, with ~at least 1 person with odd and one with even SID
2. Now share and compare:
   - different definitions of affordances
   - your understanding of the same reading
3. Write down things that all agree on, things that are different, whether this matters (a form of peer review, co-construction collaboration)
4. Create a consensus group concept map (paper is fine, CMapTools – make sure all can see)

Activity 2: introduction to Assignment 1

The challenge:

The problem: Exercise is critical for good health. But many people sit too much and move too little. Worse yet, many people do not even know that they are not getting enough exercise.

The interface you will create to help address the problem:

Since many people have smartphones with accelerometers, these could provide a form of “big personal data” to help people achieve healthy levels of activity (and inactivity).

Your interface will aim to harness this data because it will enable people to *reflect* on their levels of long term activity (and inactivity), *plan* ways to maintain or improve this and *monitor* progress on their plans.

Your mission – core work for every group:

Every group's interface must support the following user goals:

> *The user can determine how physically active they have been in the last month.*
>
> *The user can determine if they met recommended physical activity levels in the last month*.

For User Goal #1, your interface must enable a user to do the following concrete task for one set of supplied data from a mobile phone:

> *Assume you are the person whose mobile phone data presented in this interface. Please tell me how many steps you averaged over the last 4 weeks.*

Two supplied data

from

QS access
from iphone

Start	Finish	Steps (count)
29/11/14 00:00	30/11/14 00:00	21427
30/11/14 00:00	1/12/14 00:00	4321
1/12/14 00:00	2/12/14 00:00	10473
2/12/14 00:00	3/12/14 00:00	15784
3/12/14 00:00	4/12/14 00:00	2783
4/12/14 00:00	5/12/14 00:00	18196
5/12/14 00:00	6/12/14 00:00	6529
6/12/14 00:00	7/12/14 00:00	2944
7/12/14 00:00	8/12/14 00:00	6515
8/12/14 00:00	9/12/14 00:00	9598
9/12/14 00:00	10/12/14 00:00	21448
10/12/14 00:00	11/12/14 00:00	10488
11/12/14 00:00	12/12/14 00:00	6252
12/12/14 00:00	13/12/14 00:00	7087
13/12/14 00:00	14/12/14 00:00	15242
14/12/14 00:00	15/12/14 00:00	14396
15/12/14 00:00	16/12/14 00:00	4151
16/12/14 00:00	17/12/14 00:00	12621
17/12/14 00:00	18/12/14 00:00	9846
18/12/14 00:00	19/12/14 00:00	7315
19/12/14 00:00	20/12/14 00:00	12247
20/12/14 00:00	21/12/14 00:00	6835
21/12/14 00:00	22/12/14 00:00	5374
22/12/14 00:00	23/12/14 00:00	5892
23/12/14 00:00	24/12/14 00:00	9640
24/12/14 00:00	25/12/14 00:00	10806
25/12/14 00:00	26/12/14 00:00	6696
26/12/14 00:00	27/12/14 00:00	9960

```
32149   96449 1041620 Assignment 1 - User_1_Step-Data.csv
 1348    4046   46232 Assignment 1 - User_2_Step-Data.csv
```

Start	Finish	Steps (count)
7/12/14 09:00	7/12/14 10:00	941
7/12/14 10:00	7/12/14 11:00	408
7/12/14 11:00	7/12/14 12:00	157
7/12/14 12:00	7/12/14 13:00	1017
7/12/14 13:00	7/12/14 14:00	0
7/12/14 14:00	7/12/14 15:00	0
7/12/14 15:00	7/12/14 16:00	137
7/12/14 16:00	7/12/14 17:00	0
7/12/14 17:00	7/12/14 18:00	33
7/12/14 18:00	7/12/14 19:00	0
7/12/14 19:00	7/12/14 20:00	0
7/12/14 20:00	7/12/14 21:00	0
7/12/14 21:00	7/12/14 22:00	0
7/12/14 22:00	7/12/14 23:00	0
7/12/14 23:00	8/12/14 00:00	0
8/12/14 00:00	8/12/14 01:00	0
8/12/14 01:00	8/12/14 02:00	0
8/12/14 02:00	8/12/14 03:00	0
8/12/14 03:00	8/12/14 04:00	0
8/12/14 04:00	8/12/14 05:00	0
8/12/14 05:00	8/12/14 06:00	0
8/12/14 06:00	8/12/14 07:00	0
8/12/14 07:00	8/12/14 08:00	0
8/12/14 08:00	8/12/14 09:00	0
8/12/14 09:00	8/12/14 10:00	58
8/12/14 10:00	8/12/14 11:00	226
8/12/14 11:00	8/12/14 12:00	0
8/12/14 12:00	8/12/14 13:00	1478
8/12/14 13:00	8/12/14 14:00	1347
8/12/14 14:00	8/12/14 15:00	703
8/12/14 15:00	8/12/14 16:00	671
8/12/14 16:00	8/12/14 17:00	481
8/12/14 17:00	8/12/14 18:00	404

Class activity

- Nominate a scribe for a ~3 person group with a person who has a laptop
- Download Assignment 1 from Canvas
- Now get the sample data for
  - User 1 **short**
  - User 2

- See what you can make of the data
- **Remember to write down** what the group does and decides so we can see that without disturbing you and hand it in

About phone data

Many ways to access phone data eg

- IOS: Download the “QS access” app for your iphone – you will need to scroll through the “columns” to steps
- Go to https://www.maketecheasier.com/export-google-fit-data/ and follow the instructions for Android
- Other phones….

Activity 3: introduction to Assignment 1

Brainstorm how you might harness a phone's data about physical activity to help a user achieve the first of the core goals: to determine how physically active they have been in the last week

Note – in the lab you will consider the second goal

- if they have met ***recommended levels*** of physical activity

Some very important terms

Goal – something a person wants to do

- eg. determine how physically active a "person" has been in the last week
- Abstract person … could have been inactive … really active and a mix etc

Abstract task – we use this as a synonym for goal

Goal/task hierarchy

- Subtasks and their subtasks e.g. how many steps walked; how active; how inactive ….

Concrete task

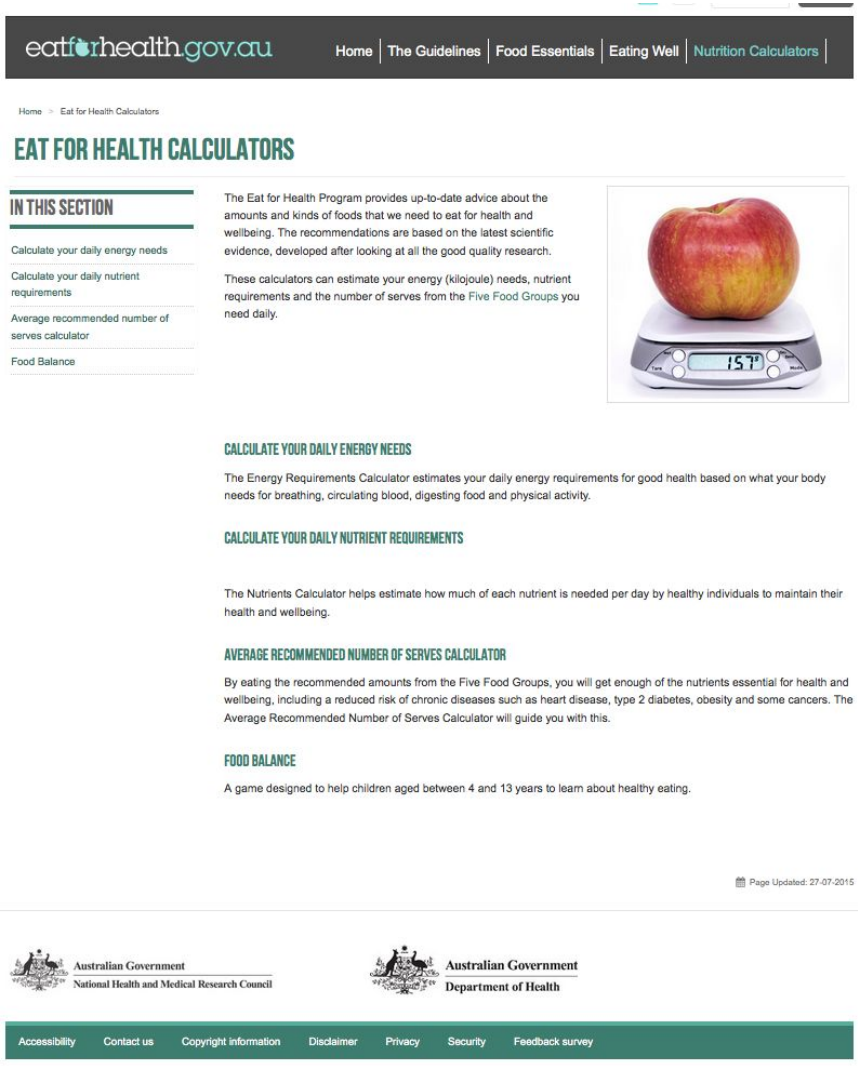
- Something you can ask a person to do (and they will understand, if it is well expressed)
- For a particular data set (eg mine on ed), how many steps did I walk each day of the last week?

Analysis report:

- Detailed notes from research study of people's current use of smartphone physical activity data and how they believe it could be useful to them.
- Study of the literature, tools and resources about using physical activity data.
- Summary and conclusions.

Recall task from Week 1 tute/lecture

It introduced a task



Task 1:
Suppose you want to work out how many kilojoules you should be eating for a healthy weight.

Task 2:
Suppose you are a 52 year-old woman who wants to weigh 57kgs and gets 30 minutes of moderate activity most days and you want to know how many kilojoules you should be eating.

Are these task abstract or concrete?

Task 1:
Suppose you want to work out how many kilojoules you should be eating for a healthy weight.

Task 2:
Suppose you are a 52 year-old woman who wants to weigh 57kgs and gets 30 minutes of moderate activity most days and you want to know how many kilojoules you should be eating.

Properties of **good** concrete tasks

They are ***concrete:*** **a user understands what they need to do after reading them: t**he instructions are clear, easily understood; provide all the information the user needs; different people should interpret them in the same way.

You can ***judge success:*** There should be a clear start and clear end at which point you can assess whether the user was able to do the task successfully, needed help, or could not do it. There should be a known correct outcome.

They ***do not lead*** the user: Tell WHAT to do, not HOW to do the task. Avoid using words on interface.

They are ***relevant***: Users of your real system would be expected to do them.

The set of tasks gives ***good coverage:***

Frugal: each task tests different things (unless you explicitly want to study repeat use)

Effective: each task covers an important aspect

They are at the ***right level of difficulty***: Start with easy tasks. Time the test and tell the user ahead of time an estimate of the duration.

They are ***respectful*** and ***avoid offending*** the user: Humour is dangerous

Activity

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Next steps

How do you determine abstract tasks people ought to be able to do at the interface you aim to build?

How do you determine tasks people ought to be able to do at the interface you aim to build?

1. Study users and what they currently do
2. Ask them what they would like to be able to do
3. Find out what others have already done to discover #1 and #2

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Assignment 1 overview

Analyse	Study people, read literature >> persona
Design	Design paper and Balsamiq prototypes
Implement	
Evaluate	Think-alouds, reflection on results

Summary

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