



Course Introduction

School of Computer Science | Software Analysis & Design

Marta Kristín Lárusdóttir Lektor PhD

Hannes Pétursson, Stundakennari BS

Content

- Goal of the course
- Why is this course important
- Practical information

Goal in the Course

- This course studies methods for specifying, organizing and working with software requirements and software design.
- The needs of the user and the structure of systems are modelled and co-operation with the user is practiced.
- The students learn different design methods for designing systems and the user interface.
- The main focus is on practicing different methods for requirements specification, analysis, design and testing in the early phases of software development
- Further info in MySchool
 - Learning outcomes

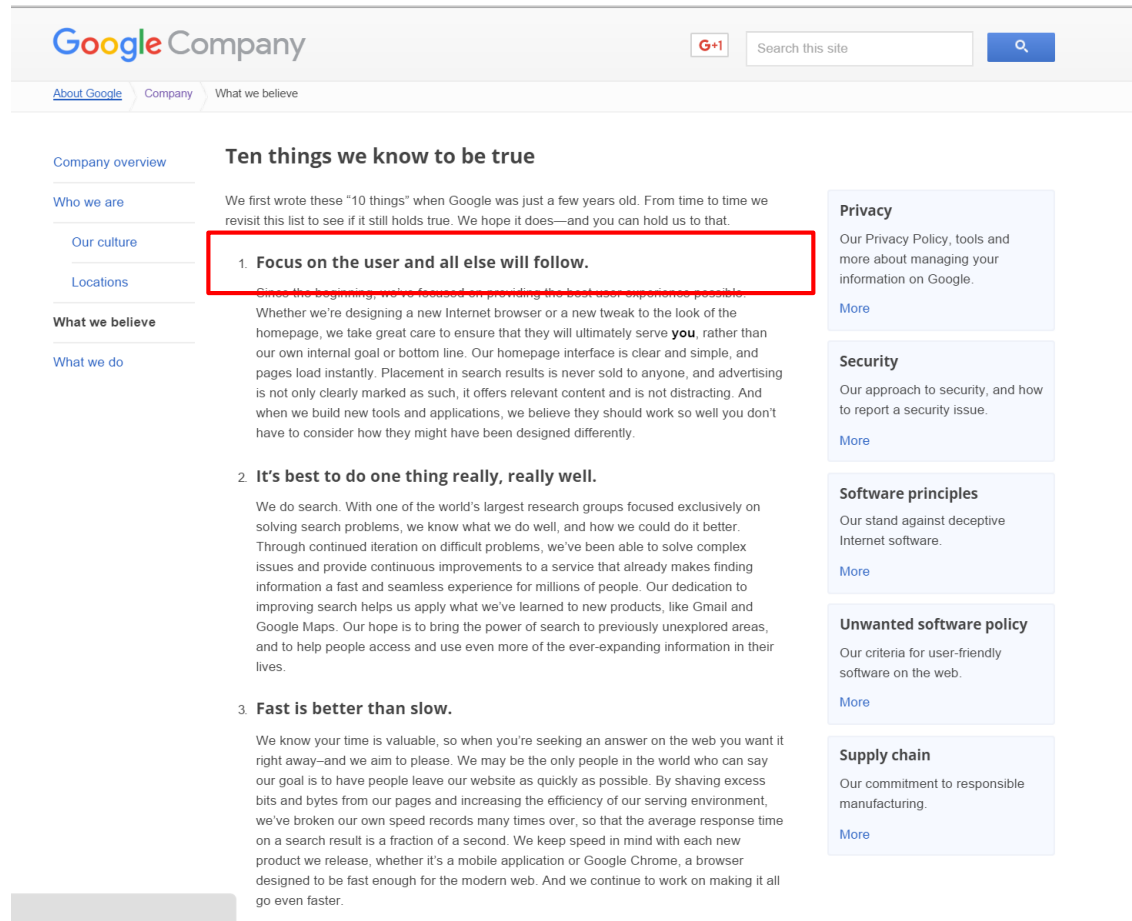


Why is This Course Important?



1. Companies Focus on Users e.g. Google

- The focus is more and more on user experience in software development
- Google's mission - <https://www.google.is/about/company/philosophy/>



The screenshot shows the Google Company philosophy page. The header includes the Google Company logo, a G+1 button, and a search bar. The main content is titled "Ten things we know to be true". The first item, "1. Focus on the user and all else will follow.", is highlighted with a red box. The text below it states: "Since the beginning, we've focused on providing the best user experience possible. Whether we're designing a new Internet browser or a new tweak to the look of the homepage, we take great care to ensure that they will ultimately serve **you**, rather than our own internal goal or bottom line. Our homepage interface is clear and simple, and pages load instantly. Placement in search results is never sold to anyone, and advertising is not only clearly marked as such, it offers relevant content and is not distracting. And when we build new tools and applications, we believe they should work so well you don't have to consider how they might have been designed differently."

1. Focus on the user and all else will follow.

Since the beginning, we've focused on providing the best user experience possible. Whether we're designing a new Internet browser or a new tweak to the look of the homepage, we take great care to ensure that they will ultimately serve **you**, rather than our own internal goal or bottom line. Our homepage interface is clear and simple, and pages load instantly. Placement in search results is never sold to anyone, and advertising is not only clearly marked as such, it offers relevant content and is not distracting. And when we build new tools and applications, we believe they should work so well you don't have to consider how they might have been designed differently.

2. It's best to do one thing really, really well.

We do search. With one of the world's largest research groups focused exclusively on solving search problems, we know what we do well, and how we could do it better. Through continued iteration on difficult problems, we've been able to solve complex issues and provide continuous improvements to a service that already makes finding information a fast and seamless experience for millions of people. Our dedication to improving search helps us apply what we've learned to new products, like Gmail and Google Maps. Our hope is to bring the power of search to previously unexplored areas, and to help people access and use even more of the ever-expanding information in their lives.

3. Fast is better than slow.

We know your time is valuable, so when you're seeking an answer on the web you want it right away—and we aim to please. We may be the only people in the world who can say our goal is to have people leave our website as quickly as possible. By shaving excess bits and bytes from our pages and increasing the efficiency of our serving environment, we've broken our own speed records many times over, so that the average response time on a search result is a fraction of a second. We keep speed in mind with each new product we release, whether it's a mobile application or Google Chrome, a browser designed to be fast enough for the modern web. And we continue to work on making it all go even faster.

Privacy

Our Privacy Policy, tools and more about managing your information on Google.

[More](#)

Security

Our approach to security, and how to report a security issue.

[More](#)

Software principles

Our stand against deceptive Internet software.

[More](#)

Unwanted software policy

Our criteria for user-friendly software on the web.

[More](#)

Supply chain

Our commitment to responsible manufacturing.

[More](#)

2. Good Understanding of Requirements Important

- A story of NOT including users - 1998



Our Great Software MMDS

Developer/2000 Forms Runtime for Windows 95 / NT - [Return Entry 019-00 Kwan Yick Bldg]

Action Edit Block Field Record Query MMDS Help Window

Returns

Vendor number 71345 NDF Freight charges 14,000.00 Return number 21

Other charges 250.00 Status 2

Return date 18-DEC-96 Reference number XX3 Description Unconfirmed

Return lines

Item Ref.No	Description	Quantity	Net cost price	Net cost value	Retail price	Retail value
010340003	D.F. ICE CREAM -CHOCOLATE	60	16.85	1011	22.9	16.85
010340007	D.F. CHOC MILK BTL 235ML	60	3.52	211.2	5.7	3.52
010340008	D.F. CHOC MILK-S	60	3.52	211.2	4.7	3.52
010340011	D.F. FRESH MILK BTL 235ML	16	4.68	74.88	5	4.68
010340012	D.F. FRESH MILK-S	10	4.68	46.8	5.8	4.68
010340013	D.F. FRESH MILK-M	60	9.2	552	11.4	9.2
010340016	D.F. ICE CREAM_ - VANILLA	60	29.9	1794	45	29.9
010340017	D.F. LONG LIFE U.H.T. MILK	60	10.5667	634.002	14	10.5667
010340018	D.F. LONG-LIFE MILK	16	3.6333	58.1328	4.32	3.6333
010340020	D.F. CORNET_ - VANILLA	16	4.65	74.4	6	4.65
010340021	D.F. JOYSTICK	16	3.5	56	5.5	3.5
010340027	D.F. GOLD SEAL MILK-CTN	100	3.38	338	4.5	3.38
010340030	D.F. I/C CUP - VANILLA	610	4.45	2714.5	6.6	4.45

Mode - 1 Overview - 2 Item Info - 3 Receipt - 4 Void - 5 Confirm - 6 Print - 7

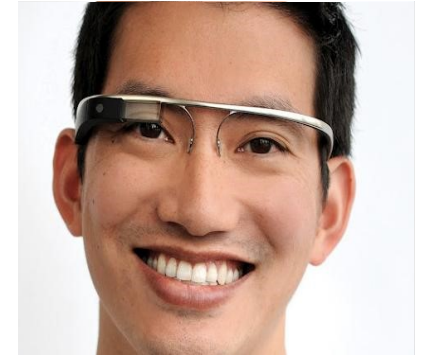
Count: 14 v <BGM><OSC><DBG>

The Development Process

- The Clients came with 3 month interval from Australia
- We were working on the Australian version for more than a year
- I was responsible for functional testing
- I went to Australia to teach the users how to use the system
- I discovered some **problems** – which do you think?



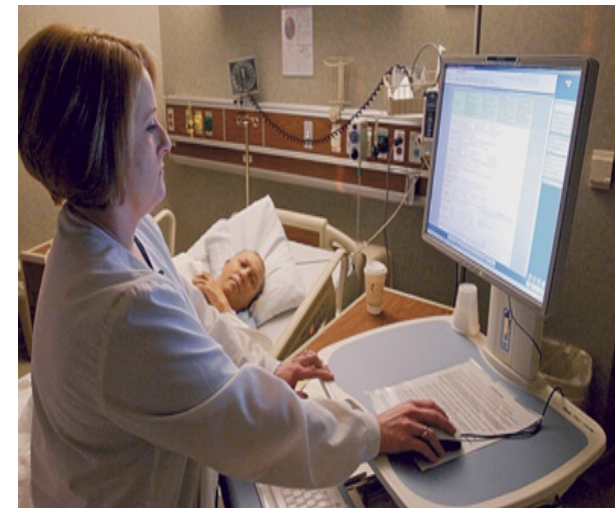
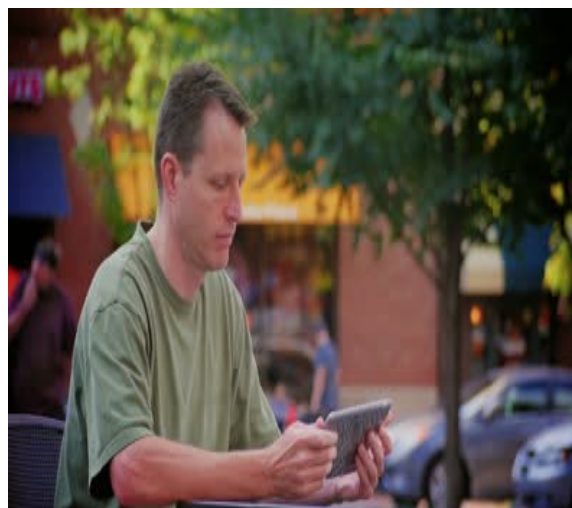
3. Changing World – Technology



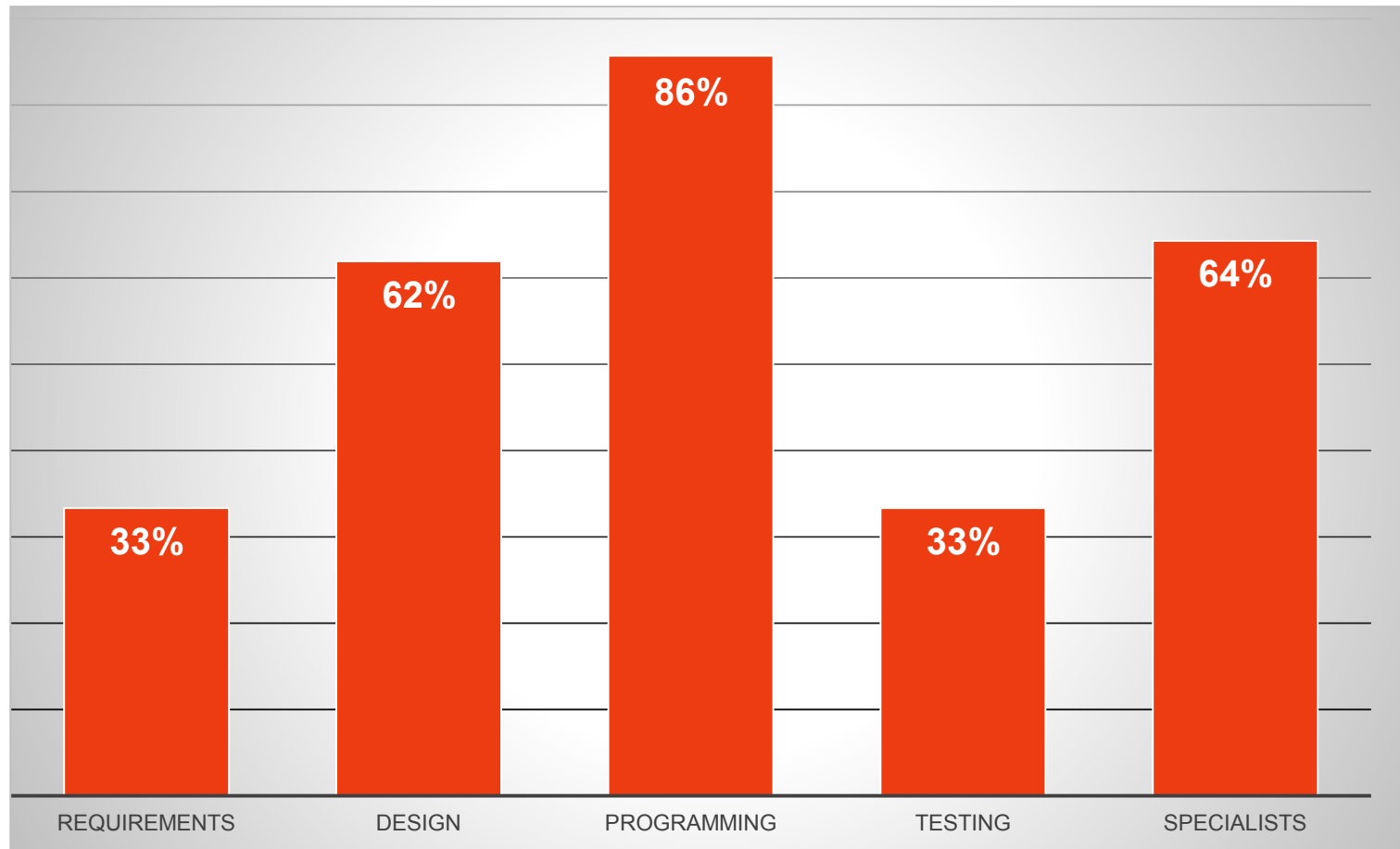
Various Software



Various Contexts



4. Practise for Furture Job Roles



Survey conducted in 2011 – Graduates from SCS 2005 - 2010



5. This course is a Prerequisite for Other courses

Mandatory courses

- Semester Project 2 (T-220-VLN2)
 - Verklegt námskeið 2
- Software Engineering (T-303-HUGB)
 - Hugbúnaðarfræði
- Final Project (T-404-LOKA)
 - Lokaverkefni

Elective courses

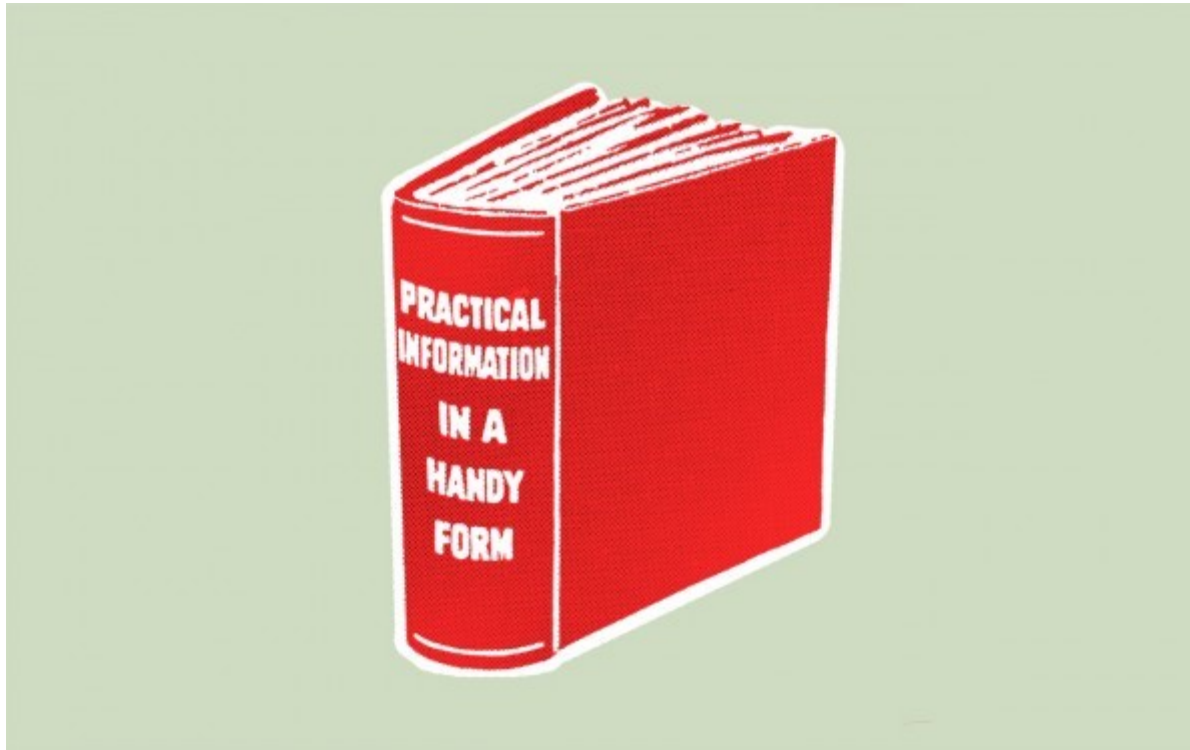
- User Centred Software Development
- Human Computer Interaction

Summary of Reasons

1. Companies are focusing of UX – New trend
2. Including users in the development is important
3. The world is changing – More variation
4. Practice for future job roles
5. Prerequisite for other courses



Practical Information



Assessment

- Hand-in assignments - Total 30%
 - 4 assignments at 7,5% each
 - Quality of the result will be emphasised
- Lab assignments - Total 10%
 - 2 % each
 - Possible grades: 10, 8, 6, 4, 0
 - The five best provide the grade
- Final exam – Total 60%
 - Will be both in Icelandic and English
 - To pass the course you must pass the final exam (with 4,75 or higher)
 - No helping material allowed in the final exam

NOTE

- In group assignments I want you to participate in all the activities
 - The written exam is partly based on the projects in the course
 - The companies you will work for want you to be skilled in doing all the activities
- All assignments will be graded according to the quality of the results
 - Not just if something has been done or not
 - This is also very important for future job roles



Lectures

- 3 lectures per week
 - Two on Mondays at 8:30 – 10:05
 - One on Wednesdays at 9:20 – 10:05
 - Taught in M101 and V102
 - Please do only use V102 if M101 is full
- All lectures will be recorded and streamed through Google hangout
- It has been studied by researchers and students that attend lectures do better in the final exams
- Two lectures
 - Marta Kristín Lárusdóttir, assistant professor
 - Hannes Pétursson, lecturer



Syllabus

Date	Lecture themes	Reading	Practical classes	Deadline
11.1.2016	Course Introduction	Cp. 1		
11.1.2016	Why analyse & design - Requirement Analysis	Chapter 2		
13.1.2016	HCI - Stakeholders		No assignments	
18.1.2016	User analysis	Cp. 5 (110 - 114)		
20.1.2016	UML use cases and diagrams introduction	Cp. 3 (72 - 78)	Practical assignm. 1	
25.1.2016	Information gathering methods	Cp. 2 (46 - 58)		
27.1.2016	Low-fidelity prototyping	Cp. 7 (184 - 185)	Work on Hand-in 1	Hand-in 1: 30. jan - 23:59
1.2.2016	Design guidelines, navigation diagrams and	Cp. 7 (175-192)		
3.2.2016	Intermediate Prototyping		Practical project 2	
8.2.2016	Statechart diagrams	Cp. 10		
10.2.2016	Object Oriented Thinking		Work on Hand-in 2	Hand-in 2: 13. feb - 23:59
15.2.2016	Class relationships	Cp. 3 (71-72)		
17.2.2016	Classes, layers and class finding methods	Cp. 10 Cp. 5 (122-134)	Practical project 3	
22.2.2016	Noun identification for classes	Cp. 10		
24.2.2016	Sequence and Object UML diagrams	Cp. 11 (306 - 323)	Practical project 4	
29.2.2016	Web and app design			
2.3.2016	Usability - UX design	see the slides	Work on Hand-in 3	
7.3.2016	Usability testing			
9.3.2016	Evaluating a low fidelity prototype	see the slides	Practical project 5	
14.3.2016	Software testing			
16.3.2016	The maintenance phase	cp. 13 (380 - 387)	Work on Hand-in 4	Hand-in 4: 19.mars - 23:59
21.3.2016	On methods and methodology			
30.3.2016	Research on UCD methods	cp. 8 (209 - 214)	Practical project 6	
4.4.2016	Trends today	cp 14 (421 - 443)		
6.4.2016	Course overview & revision		No assignments	

Hannes will teach the weeks in yellow, Marta the other weeks



Marta – Education and Work Experience

1989: BS-degree from University of Iceland in
Computer Science



1995 – 1996: Worked at a The Social Insurance Administration
– IT department (Tryggingastofnun – tölvudeild)



1996: Master degree from Copenhagen University in CS
– The main emphasis was user interface design and evaluation



1996 – 2001: Worked at a software company called EJS
– Did user interface standards and evaluation
– Project management



Marta – Education and Work Experience

2002 - ??: Assistant professor at RU from Jan 2002

- Taught this course - Spring 2012, 2013, 2014

Other courses:

- Taught UI design Sept 2000 – spring 2011
- Taught UCD course 9 times, '02, '04 – '08, '10, '12, '15
- Organized final project 2005 - 2010
- Taught the course Research in HCI – Fall 2011 and 2014
- Taught agile techniques in project management four times

2009: Licenciate degree from Uppsala University

- Researching usability evaluation methods

2011 - ??: Board Member at Nyherji hf.

2012: PhD degree from The Royal Institute of Technology ,
Stockholm

- User Centred Evaluation in Experimental and Practical Settings

2015: Board member of Applicon SE, Sweden



Hannes Pétursson

- Education
 - BS í computer Science from RU - 2002
- Work Experience
 - Programmer since 2000
 - Manager at Azazo until 2015
 - Supervisor in final projects at RU since 2001
 - Lecturer in Software Engineering at RU since 2007
 - Great interest in good practices in software development
 - Indipendant consultant since 2015



Practical Classes

- Practical open classes with assistance
 - Tuesdays 8:30 – 10:05
 - Two rooms M107 and M122
 - Please come first to M107, when that is full come to M122
 - Tuesday 10:20 – 11:55
 - Two rooms M107 and M122
 - Please come first to M107, when that is full come to M122
 - **There will not be practical classes this week**
 - You can use these classes to do the assignments or do assignments at home
 - You can work on hand-in assignments and on practical assignments

Teaching material

- Book: **Introduction to Systems Analysis & Design,
An Agile, Iterative Approach**

Authors: Satzinger, Jackson, Burd

Publisher: Course Technology

Edition: 6

Year: 2014

ISBN-13 number: 9781473704749



- Same book as last year, so you can buy from older students
- Further reading may appear later in the course
- See MySchool for further detail

We want you to learn

We would like to co-operate
with you to achieve that goal



