Scrum and Agile methods
The real world

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About me

- Master in CS from AAU 2001

- 2001-2004: Worked at Trifork as a kernel developer of a Java EE server

- 2004-2007: Worked at Trifork as a Scrum master consultant

- 2007 - …: Head of department, project manager, Scrum Master and developer at Atira

What is Agile ?

- A methodology ?

  - Scrum, XP, Crystal Clear, Lean…

- Just a buzzword ?

  - 85 books on Amazon is tagged with Agile

    - Agile and Iterative development, User Stories Applied, Agile Software Development with Scrum

    - Refactoring in Visual Basic, Python Cookbook, Beginning POJOs, Extreme programming Refactored

Agile Manifesto

We are uncovering better ways of developing software by doing it and helping others do it. Through this work we have come to value:

Individuals and interactions over processes and tools

Working software over comprehensive documentation

Customer collaboration over contract negotiation

Responding to change over following a plan

That is, while there is value in the items on the right, we value the items on the left more.

Kent Beck
Mike Beedle
Arie van Bennekum
Alistair Cockburn
Ward Cunningham
Martin Fowler

James Grenning
Jim Highsmith
Andrew Hunt
Ron Jeffries
Jon Kern
Brian Marick

Robert C. Martin
Steve Mellor
Ken Schwaber
Jeff Sutherland
Dave Thomas

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From Contracts to backlogs

- Written specifications/contracts do not work

  - You cannot write everything your system should do down

  - You cannot communicate your intent precisely

  - No room for improvement during the development

- But we need something…

User stories

- Describes <u>functionality</u> that will be <u>valuable</u> to either a <u>user</u> or <u>purchaser</u> of a system

- User stories are composed of three aspects

Written description

- Short heading, typically one or two lines

- Often written on an index card

- Used throughout the project for

  - Planning

  - Reminder

Conversations

- Used to uncover the details of the story

- Takes place throughout the project, e.g.,

  - When estimating the story

  - When implementing the story

  - Notes from these conversations can be added to the index card

Acceptance tests

- Specify and describe details about the story as tests, e.g., some of the details uncovered during the conversations

- Use the tests to determine when a user story is complete, i.e., acceptance tests

- Write the tests on the back of the index card

Why is this good ?

- Emphasis on verbal rather than written communication

- Comprehensible for all

- Encourage deferring details until you have a better understanding of your needs

- Good size for planning

Example

A company can pay for a job posting with a credit card

Note: Will we accept Discover cards ?

Note for UI: Don't have a field for card type

(it can be derived from the first two digits on the card)

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So how do we write them ?

- Start by looking at user roles for the system

    - Identify and select user roles

    - User roles will help you focus when you are writing user stories

Method for identifying and

- Brainstorm an initial set of user roles

- Organize these roles

- Consolidate the roles

- Refine the roles

Brainstorm

Job Seeker	Job Poster	Layoff Victim
Recruiter	Geographic	Resume Reader
First Timer	College Grad	Monitor

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Organize

Job Seeker	Job Poster	Layoff Victim
Recruiter	Geographic	Resume Reader
First Timer	College Grad	Monitor

Back to writing user stories

- Trawling for requirements

- Metaphor for our work with identifying and writing user stories

- Different techniques/methods can be applied

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Story-Writing Workshop

- One or more meetings including developers, users, product customers etc.

- Write as many user stories as you can

- Do not prioritize or estimate the stories at the workshop

- Conduct at least one story-writing workshop before the project/release starts

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Method

- Select one of the user roles for the system

- Draw a box on the whiteboard; this is the roles main screen

- Ask: What can the role do here ?

  - For each answer, draw a line to a new box and label that box

Example

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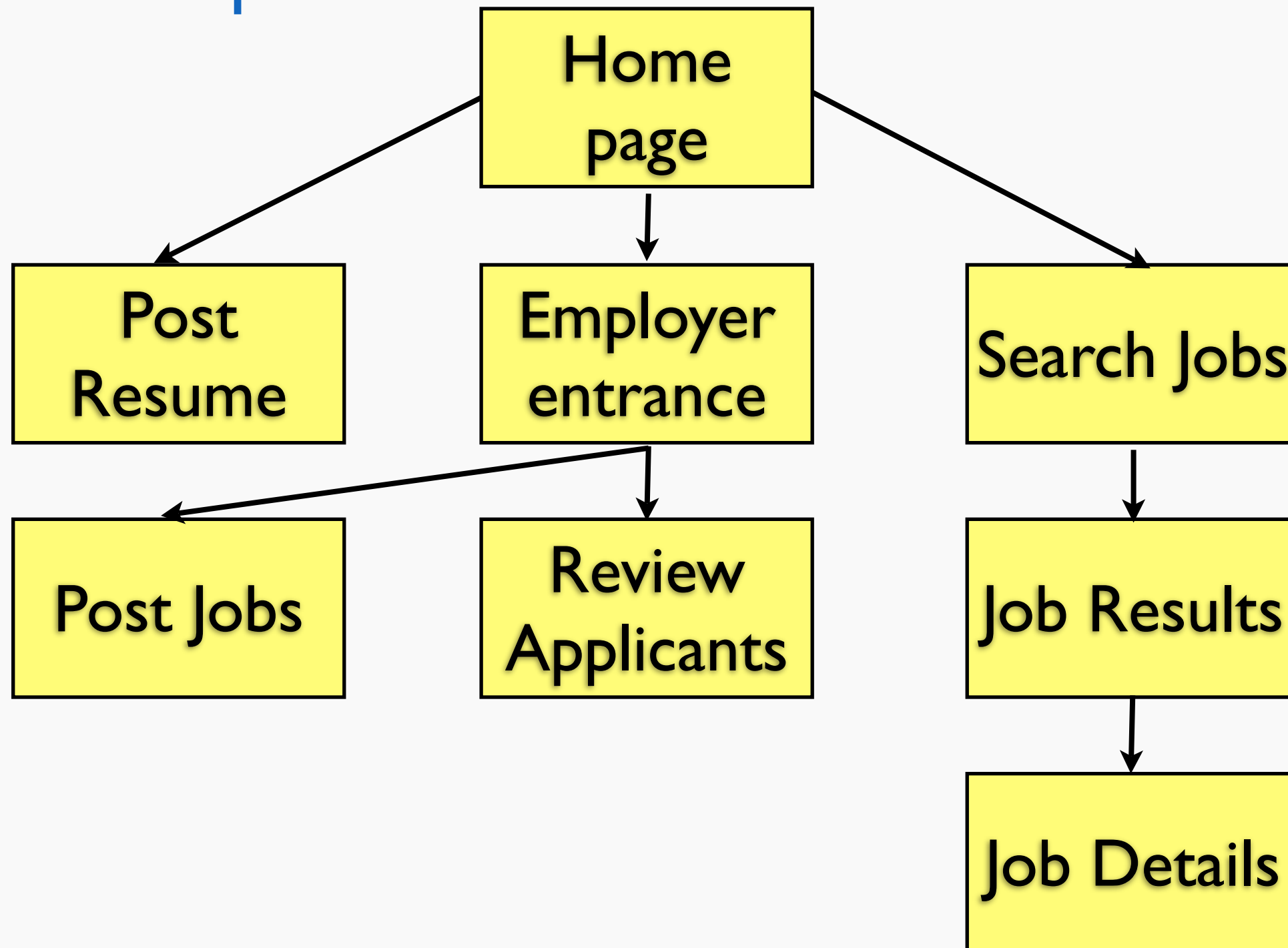
Ask yourself questions like

- What will the user most likely want to do next ?

- What mistakes could the user make here ?

- What could confuse the user at this point ?

- What additional information could the user need ?

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Resulting user stories

- A Job Seeker can post her resume

- An Employer can post jobs

- An Employer can review submitted resumes

- A Job Seeker can search for jobs

- A Job Seeker can view results of jobs that match a search

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Helpful guideline

- Use the user roles in formulating the user story

  - Helps you focus on the user roles

  - Gives more precise definition of the user story

  - As a <role> I can <functionality> in order to <goal>

Product backlog

- Your collection of user stories is you product backlog after

    - You estimate them

    - Your customer has prioritized them

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Estimating

- "So, when will you be done?"

- We create estimates for user stories

- Estimates are used in planning

  - Releases

  - Iterations

Estimating

- Before you start to estimate, realize

    - Estimates are done by the team

    - Estimates are owned by the team

    - How much knowledge do you have about the matter you are estimating

    - Estimates are… estimates!

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Making this practical

- Easy (and fun) method for estimating

- Combine multiple estimation techniques: Expert opinion, analogy, disaggregation

- Helps you ensure that your estimates are

  - Thoroughly discussed

  - A team effort - not just individual opinion

You need

- The product owner/customer

- The entire development team

- A stack of user stories to estimate

- Small pieces of paper or a set of planning poker cards

Let the game begin

As a <role> I can <functionality>
in order to <goal>

Discussion

As a <role> I can <functionality>
in order to <goal>

8

5

5

2

Second round

As a <role> I can <functionality>
in order to <goal>

The decision

As a <role> I can <functionality>
in order to <goal>

Why this works

- Brings together expert opinions

- Ensures a lively discussion

  - Estimators are asked to justify their estimates

- No free ride

  - Estimators cannot just say: "I agree with him"

- Average individual estimates

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So what if...

- The customer does not want to play along ?

- You already have a written contract/ specification ?

- Do it anyway!

  - It helps structure your work internally

  - How can you make a bit for a project specified in a 50 page contract without doing it ?

Iterations

- Gives rhythm to the development

  - Start on a tuesday

  - Keep the same lenght thoughout the project

- Remember!

 - Analysis, design, development, test, integration, release

The rhythm of an iteration

- Day 1: Iteration meeting

- Day 1 or 2: Iteration review and planning

- Day 3-12: We work :)

- Day 14: Feature freeze, release

- Day 15: Next iteration meeting

The iteration meeting

- Two main activities

  - Demo of the system

    - Developers demo

    - Customers comment

  - Pick user stories for the next iteration

    - Discussion of the user stories takes place here

Working with tails
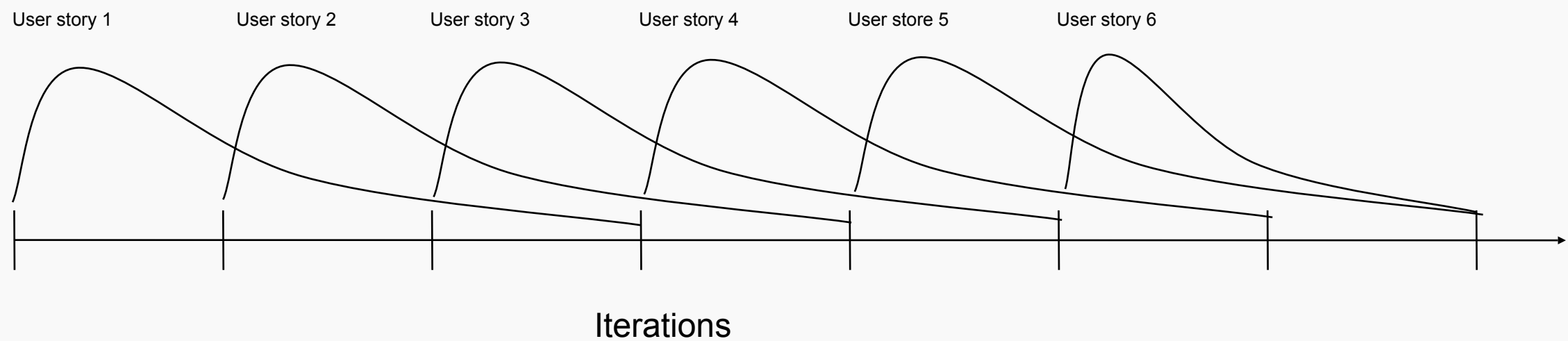
Work in an iteration

- Start by breaking user stories into tasks

  - Include only work that adds value to this project

  - Be specific until it's a habit

  - Meeting counts

  - How about bugs?

How to store tasks

- Post-it notes on a whiteboard is great

  - Tasks can easily be updated

  - Progress can easily be monitored

    - Use areas on the whiteboard for todo, in progress and done

- Alternatively a big table on the whiteboard
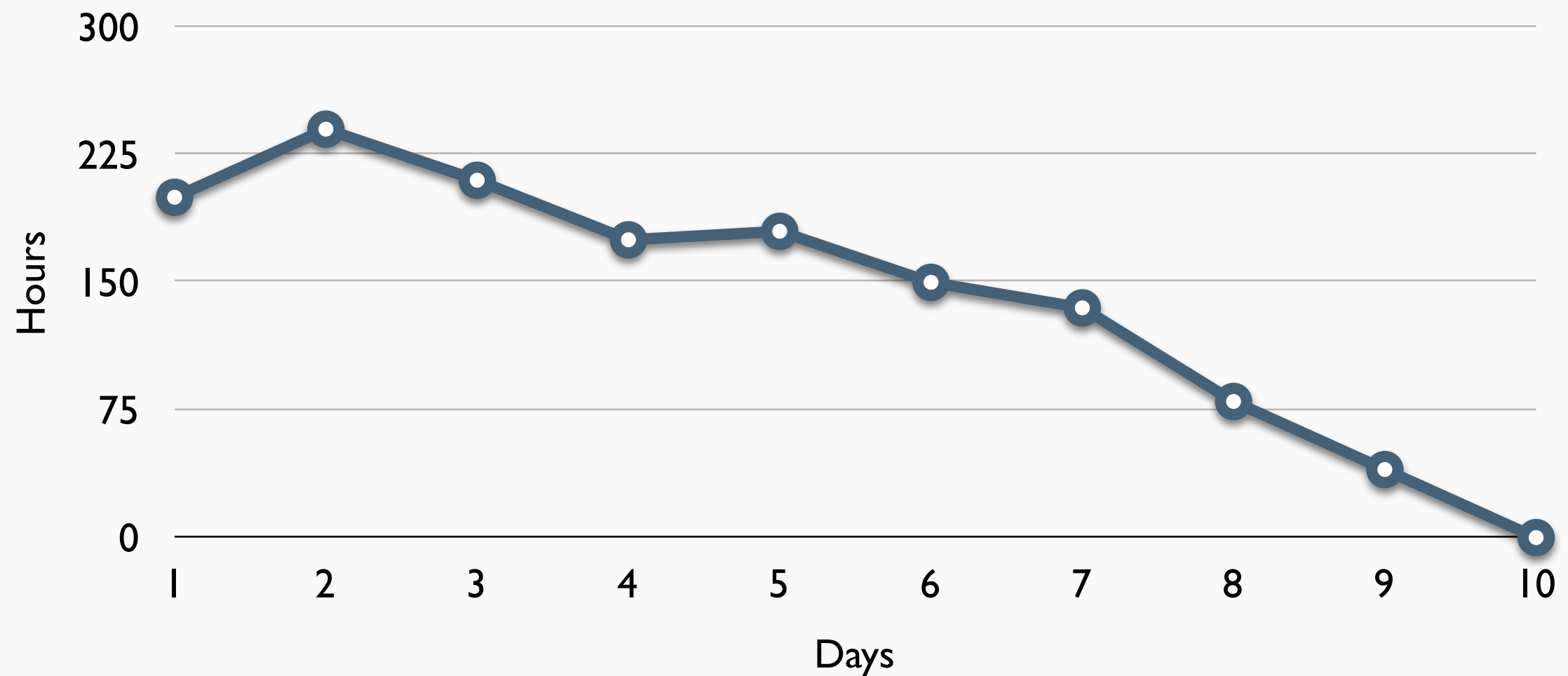
- Try to avoid using a computer system :)

The whiteboard
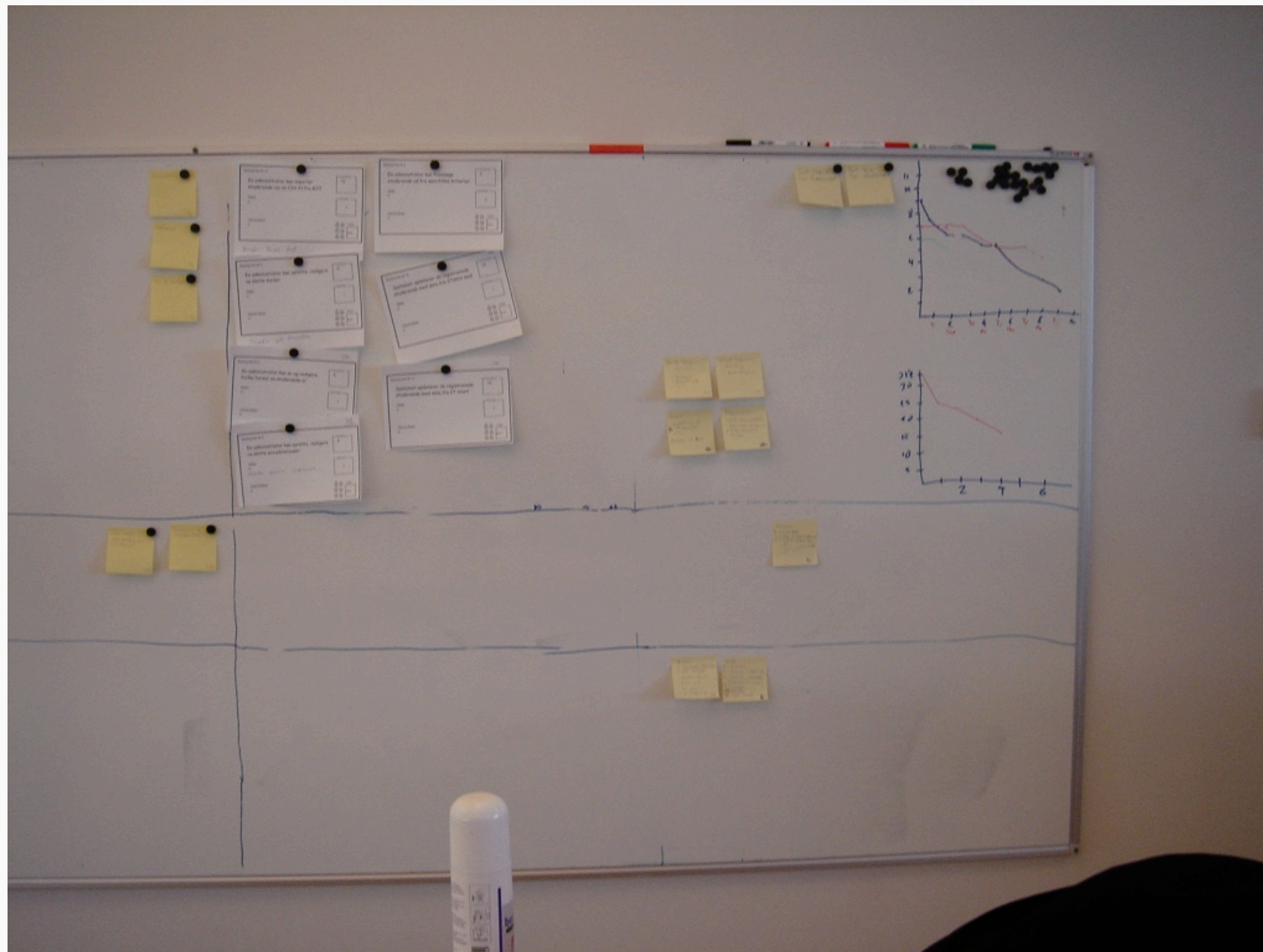
Tracking progress

- Use a burndown chart

- Shows amount of work remaining at the start of each day

- Be careful how you read the chart!

Tracking the whole project

- Calculate the velocity at the end of each iteration

- Only count stories that are done!

  - Well written, well factored, checked in, complies with coding standards and passes all tests

- Change release plan as velocity changes

  - How much can be in the release? Release date?

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Q&A

The shameless plug
Pss, were hiring!