



Curso Práctico de Scrum

IEEE – Computer Society
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[Agenda]

Día 1

- **Por qué Scrum**
- **Que es Scrum I**
- **Práctica de Scrum**

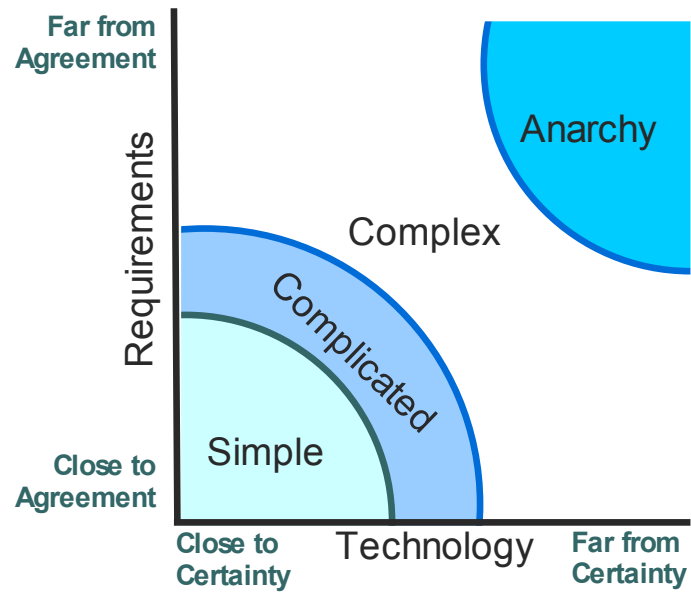
Día 2

- **Que es Scrum II**
- **Más práctica**
- **Cómo implementar**
- **Cómo continuar**

[¿Por qué Scrum?]

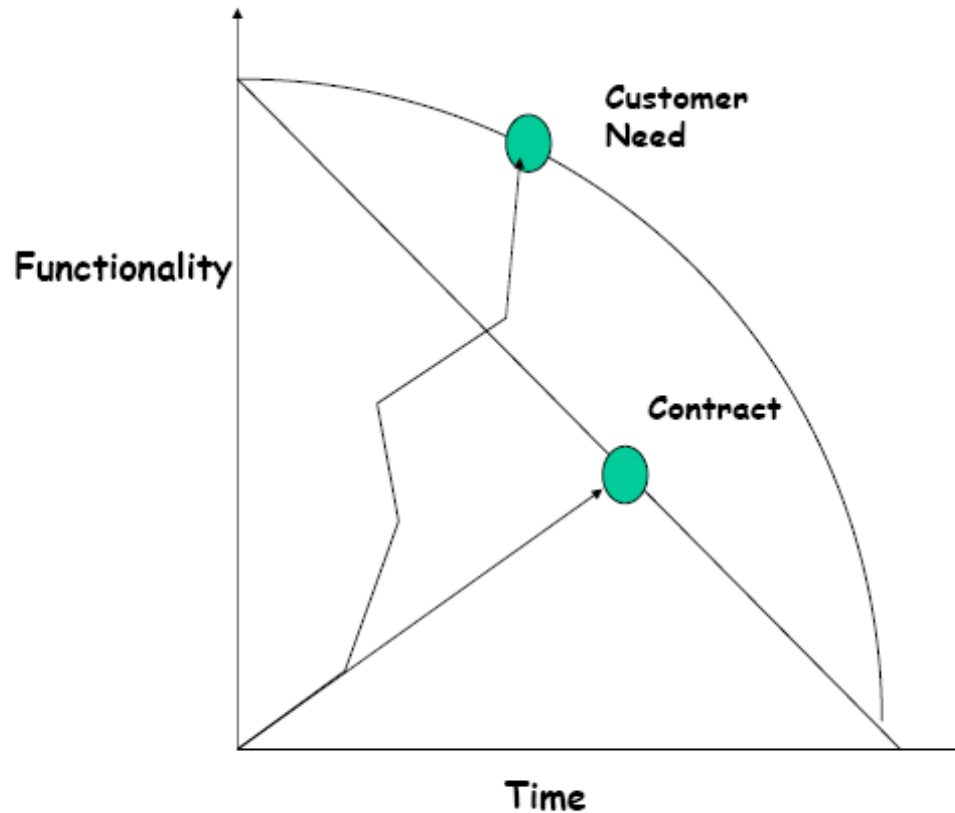
- ¿Con qué argumentos propondrías en tu organización utilizar Scrum?

[¿Proyecto predecible?]



Fuente: "Strategic Management and Organizational Dynamics", Ralph Stacey tomado de "Agile Software Development with Scrum", Ken Schwaber y Mike Beedle.

¿Seguimos el contrato o hacemos lo que necesitas?



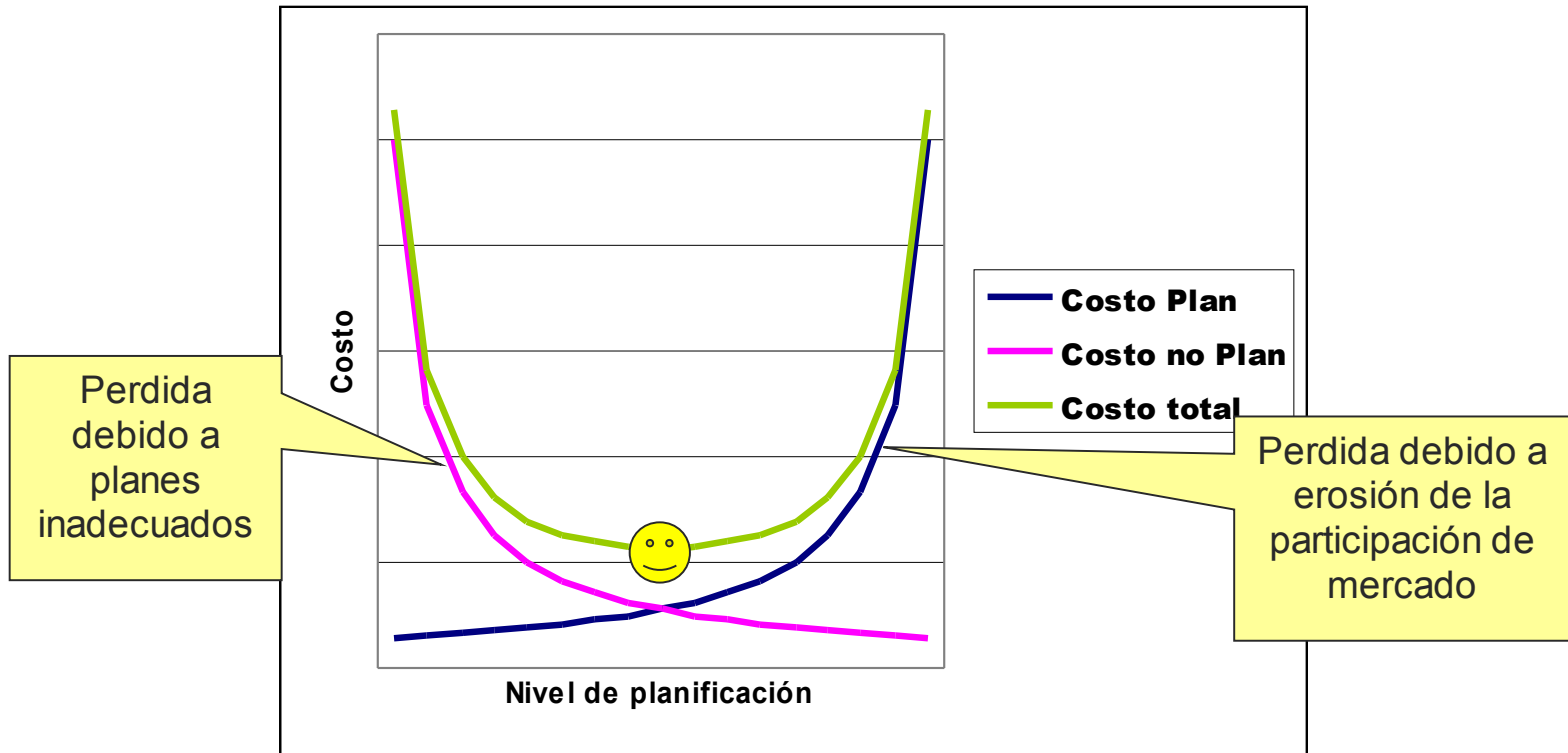
10/16/2006

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[Por qué planificamos]

- Minimizar los riesgos y optimizar uso recursos
 - Planificar / predecir
 - Arquitectura detallada
 - Lista de tareas y dependencias estimadas
 - Especialización en las tareas
 - Inspeccionar / adaptar
 - Producto con calidad cercana a producción
 - Grupos auto-organizados

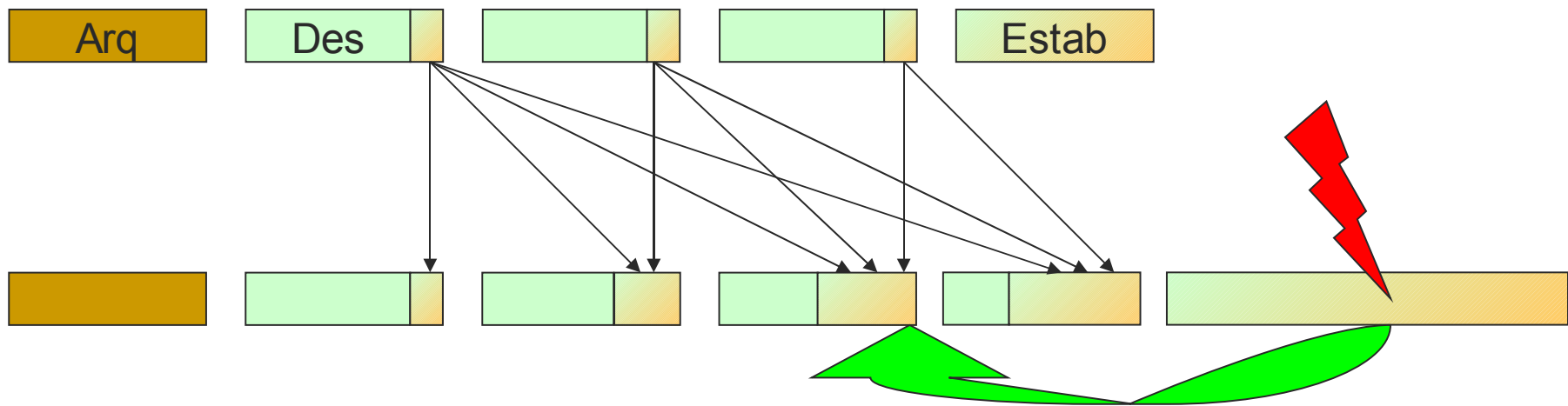
¿Cuánta Planificación es necesaria?



[Calidad cercana a Producción]

- Es la calidad definida por el cliente
 - Muy pocas veces es explicitada
 - Que cosas hay que corregir: todas
 - Cuanta prueba es necesaria: toda
 - Lleva a un mal uso de recurso
 - Mientras dura el proyecto, se corrige todo, cuando llega la fecha, salimos con lo que tenemos.
- Por qué mantenernos cerca de producción?
 - Hay que lograr que en la balanza del cliente estén tanto la calidad cómo la funcionalidad

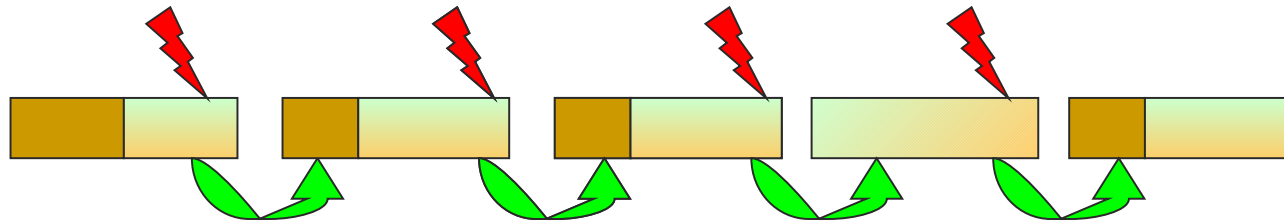
[Desarrollo iterativo]



Problemas del desarrollo iterativo

- El skill del grupo cambia a lo largo del tiempo
 - Más difícil adaptarse, hace más costoso los cambios.
- La prueba se vuelve costosa y repetitiva
 - Pérdida de motivación
 - Recorte de la prueba, pérdida de confianza

[Desarrollo ágil]



- Diseño en (casi) cada iteración
- La prueba con costo constante
- Siempre cerca de calidad de liberación

[Consecuencias]

- Grupo multidisciplinario y flexible
 - El grupo no puede cambiar continuamente, pero las necesidades cambian
 - La carga de trabajo por tipo de tarea es difícil de predecir
- Los costos de los cambios deben mantenerse acotados
 - Se debe automatizar la prueba
 - Se debe refactorizar

[Grupo productivo]

- Diferencias de 10 a 1 en productividad
 - Make a cult of quality
 - Provide lots of satisfying closure
 - Build a sense of eliteness
 - Allow and encourage heterogeneity
 - Preserve and protect successful teams
 - Provide strategic but not tactical directions

Peopleware, DeMarco & Lister, 1987

[Ejercicio]

- Caminemos 100 pasos

[Agile Manifesto]

- **Personas e interacciones**
sobre procesos y herramientas
- **Software funcionando**
sobre documentación comprensible
- **Colaboración con clientes**
sobre negociación de contratos
- **Responder a los cambios**
sobre seguir un plan

<http://www.agilemanifesto.org>

[Analogías de construcción SW]

- Creación artística
- Equipo de cirugía
- Producción industrial (predictiva)
- Control de procesos no lineales
 - Empírica o Inspeccionar y Adaptar
- Investigación académica
- ...

[Scrum]



- “The New New Product Development Game” in *Harvard Business Review*, 1986.
 - “The... ‘relay race’ approach to product development...may conflict with the goals of maximum speed and flexibility. Instead a holistic or ‘rugby’ approach—where a team tries to go the distance as a unit, passing the ball back and forth—may better serve today’s competitive requirements.”

[Orígenes de Scrum]

- Jeff Sutherland
 - Initial Scrums at Easel Corp in 1993
 - IDX and nearly 600 people doing Scrum
 - Not just for trivial projects
 - FDA-approved, life-critical software for x-rays and MRIs
- Ken Schwaber
 - ADM / PatientKeeper
 - Initial definitions of Scrum at OOPSLA 95 with Sutherland
- Mike Beedle
 - Scrum patterns in PLOPD4

[Scrum es usado en ...]

- Independent Software Vendors (ISVs)
- Compañías es Fortune 100
- Pequeñas startups
- Desarrollos internos
- Desarrollos contratados

[Scrum es usado para ...]

- FDA-approved, life-critical software for x-rays and MRIs
- Enterprise workflow systems
- Financial payment applications
- Biotech
- Call center systems
- Tunable laser subsystems for fiber optic networks
- Application development environments
- 24x7 with 99.99999% uptime requirements
- Multi-terabyte database applications
- Media-neutral magazine products
- Web news products

[Escalabilidad the Scrum]

- Equipo Scrum típico: 5-10
- Sutherland usó Scrum en grupos de 500+
- Mike Cohn usó Scrum en grupos de 100+

[Scrum@SAP]

- Project Majority
 - Majority of all agile projects @ SAP produce excellent results from the very first month onwards
- Project Minority
 - Minority of all agile projects @ SAP produce good results, but need a few months to get to optimal performance
- Rare Exceptions
 - Rare exceptions of all agile projects @ SAP had a different kind of happy ending...

[CMMI & Scrum]

- “Initial pilots show **productivity** on Scrum teams almost **twice** that of traditional teams. Other projects demonstrated that a story-based test driven approach to software development **reduced defects** found during final test by 38%.”

Scrum and CMMI Level 5: The Magic Potion for Code Warriors, EUROPEAN SEPG 2007 11-14th June, Amsterdam, Kent Johnson, Carsten Ruseng Jakobsen, Jeff Sutherland

- Globant

[Resumen: ¿Por qué Scrum?]

- Para hacer lo que se necesita
- Entornos cambiantes: aprovechamos oportunidades y reaccionamos a las amenazas a tiempo
- Podemos encarar problemas complejos
- Para ser eficaces, eficientes, y orientados a logros, con mejora continua
- Escalable

[Scrum I



[Scrum in 100 words]

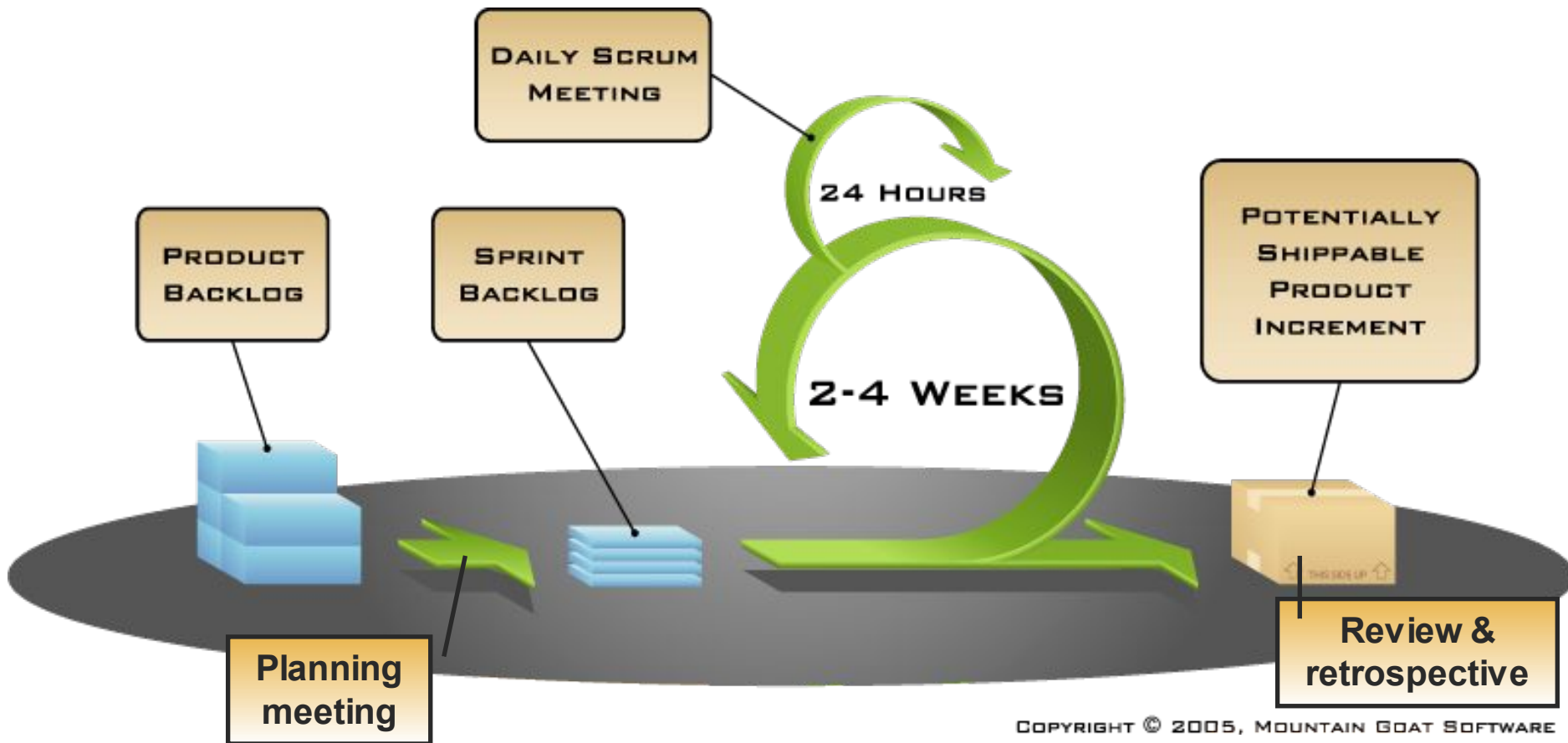
Scrum is an agile process that allows us to **focus on delivering the highest business value in the shortest time.**

It allows us to **rapidly and repeatedly inspect actual working software** (every two weeks to one month).

The **business sets the priorities.** Our **teams self-manage** to determine the best way to deliver the highest priority features.

Every two weeks to a month anyone **can** see real working software and **decide to release** it as is or continue to enhance for another iteration.

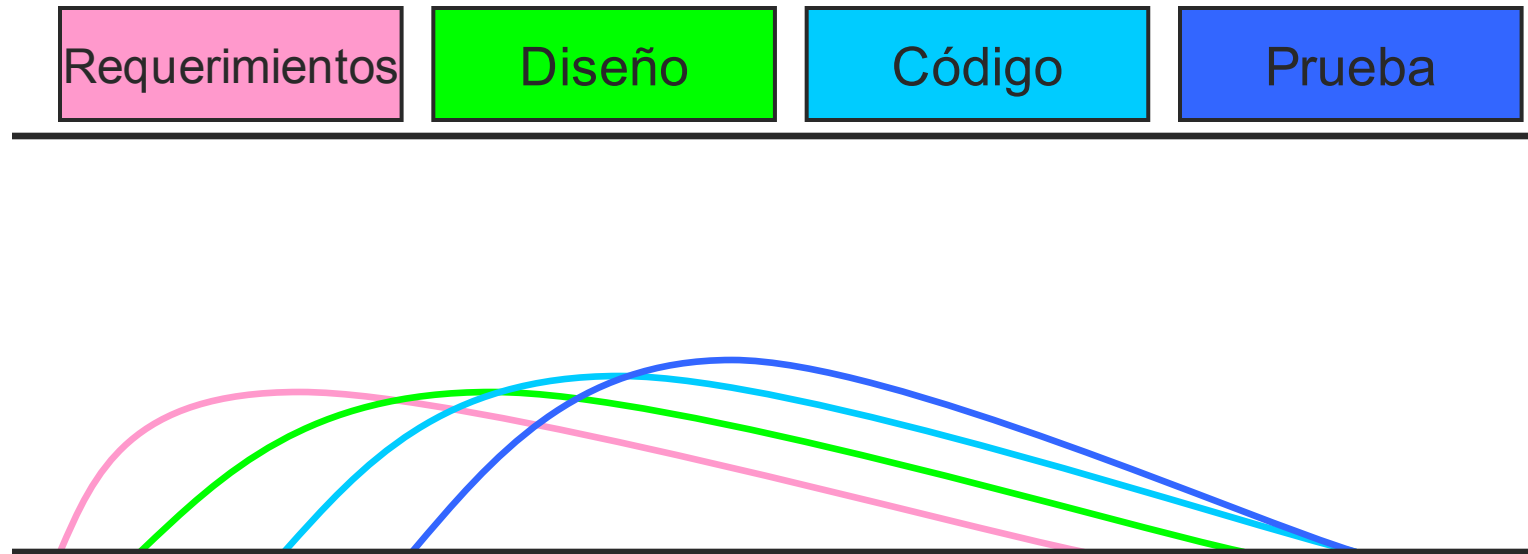
[Overview]



[Sprints]

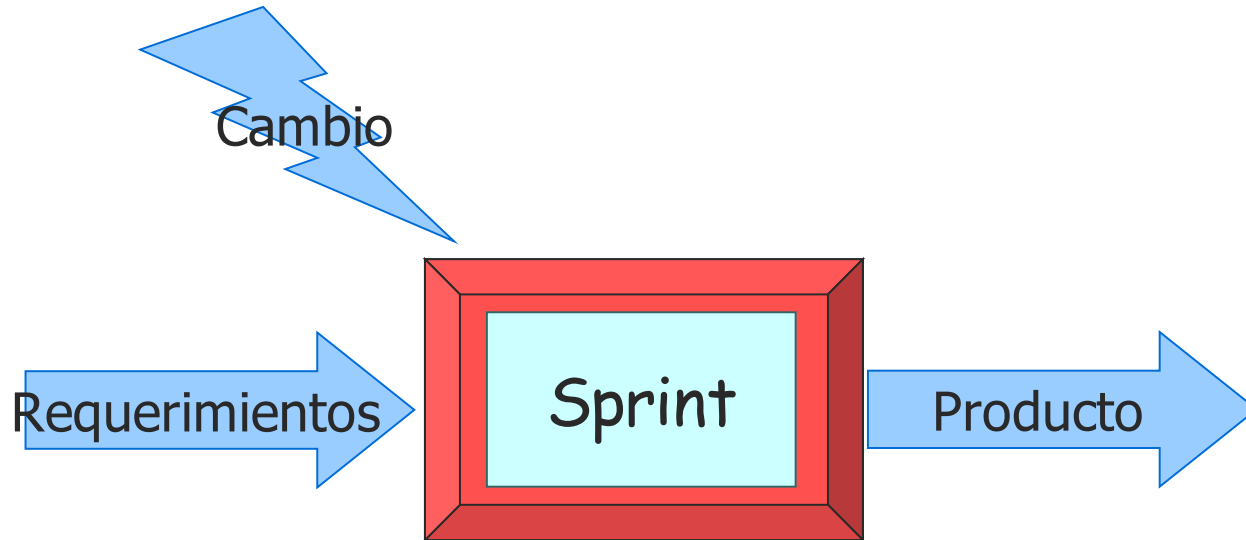
- Scrum projects make progress in a series of “sprints”
 - Short, timeboxed, complete
- Target duration is one month
 - +/- a week or two
 - But, a constant duration leads to a better rhythm
- Product is designed, coded, and tested during the sprint

Sequential vs. Overlapping Development



Source: "The New New Product Development Game", Hirotaka Takeuchi and Ikujiro Nonaka, *Harvard Business Review*, January 1986.

[No se cambia durante el sprint]



- La duración del sprint depende del tiempo que podemos comprometernos a no cambiar
- Sin restricciones al Equipo dentro del sprint

[Scrum Framework]

- **Roles** : Product Owner, ScrumMaster, Team
- **Ceremonies** : Sprint Planning, Sprint Review, Sprint Retrospective & Daily Scrum Meeting
- **Artifacts** : Product Backlog, Sprint Backlog and Burndown Chart

[Product Owner]

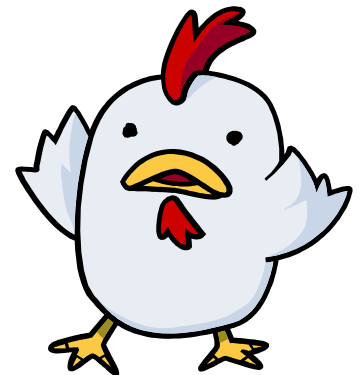
- Define the features of the product
- Decide on release date and content
- Be responsible for the profitability of the product (ROI)
- Prioritize features according to market value
- Adjust features and priority every iteration, as needed
- Accept or reject work results.

[The Scrum Team]

- Typically 5-10 people
- Cross-functional
 - QA, Programmers, UI Designers, etc.
- Members should be full-time
 - May be exceptions (e.g., System Admin, etc.)
- Teams are self-organizing
 - Ideally, no titles but rarely a possibility
- Membership can change only between sprints

[Daily Scrum meetings]

- Parameters
 - Daily
 - 15-minutes
 - Stand-up
 - Not for problem solving
- Three questions:
 1. What did you do yesterday
 2. What will you do today?
 3. What obstacles are in your way?
- Chickens and pigs are invited
 - Help avoid other unnecessary meetings
- Only pigs can talk



Sprint Review Meeting

- Team presents what it accomplished during the sprint
- Typically takes the form of a demo of new features or underlying architecture
- Informal
 - 2-hour prep time rule
- Participants
 - Customers
 - Management
 - Product Owner
 - Other engineers



[Sprint Retrospective Meeting]

- Scrum Team only
 - Sometime the Product Owner is included
- Feedback meeting
- Three questions
 - Start
 - Stop
 - Continue
- ... or two
 - Keep
 - Change

[Product Backlog]

- A list of all desired work on the project
 - Usually a combination of
 - story-based work (“let user search and replace”)
 - task-based work (“improve exception handling”)
- List is prioritized by the Product Owner
 - Typically a Product Manager, Marketing, Internal Customer, etc.

[Práctica Scrum]

- ¿Cómo funciona el ejercicio?
- Objetivo: Desarrollar un Brochure en sprints de 3 días
- Armar grupos, definir un Product Owner
- Cada día es de 15 min

Sprint

- Día 1: 7 min planificación + 8 min
- Día 2: 2 min Daily Scrum + 13 min
- Día 3: 2 min Daily Scrum + 8 min + 5 min demo

Herramienta de Control

	Items	Plan'd Task	In Progress	Done
Sprint Backlog				I1 T1.1 T1.2 T1.3
	I2	T2.1	T2.2	T2.3
	I3	T3.1 T3.2		
Product Backlog	I4			
	I5			
	I6			

Doggy Daycare Brochure Backlog

- Crear diseño tapa, logo, y/o marca
- Definir principales áreas de cuidados
- Definir servicio “Ultra Doggy Spa”
- Esbozo de opciones de ingreso
- Escribir testimonios
- Definir toda la oferta de servicios
- Fijar los precios de los servicios
- Sugerir contenido del bolso de los acompañantes
- Delinear el menú semanal
- Completar un certificado de garantía
- Incluir testimonios de clientes satisfechos
- Completar una estructura de certificaciones
- Delinear requerimientos mínimos (vacunas, caracter, raza, etc.)
- Biografías de los empleados (experiencia, entrenamientos, intereses)
- Definir descuentos para socios de negocio
- Create cover art, brand, and/or logo
- Define major care sections
- Define “Ultra Doggy Spa” service
- Outline boarding options
- Write testimonials
- Define all service offerings
- Set pricing structure for services
- Suggest daypack contents to accompany clients
- Outline full week lunch menu
- Complete a guarantee policy
- Provide satisfied customer testimonials
- Complete a certification structure
- Outline minimum requirements (shots, temper, breeding, etc.)
- Complete bios on staff members (backgrounds, training, interests)
- Define discounted partner pet services

[Agenda]

Día 1

- Por qué Scrum
- Que es Scrum I
- Práctica de Scrum

Día 2

- **Que es Scrum II**
- **Más práctica**
- **Cómo implementar**
- **Cómo continuar**

[Scrum II



[The Scrum Master]

- Represents management to the project
- Responsible for enacting Scrum values and practices
- Removes impediments
- Ensure that the team is fully functional and productive
- Enable close cooperation across all roles and functions
- Shield the team from external interferences

[The Sprint Goal]

- A short “theme” for the sprint:

Life Sciences

“Support features necessary for population genetics studies.”

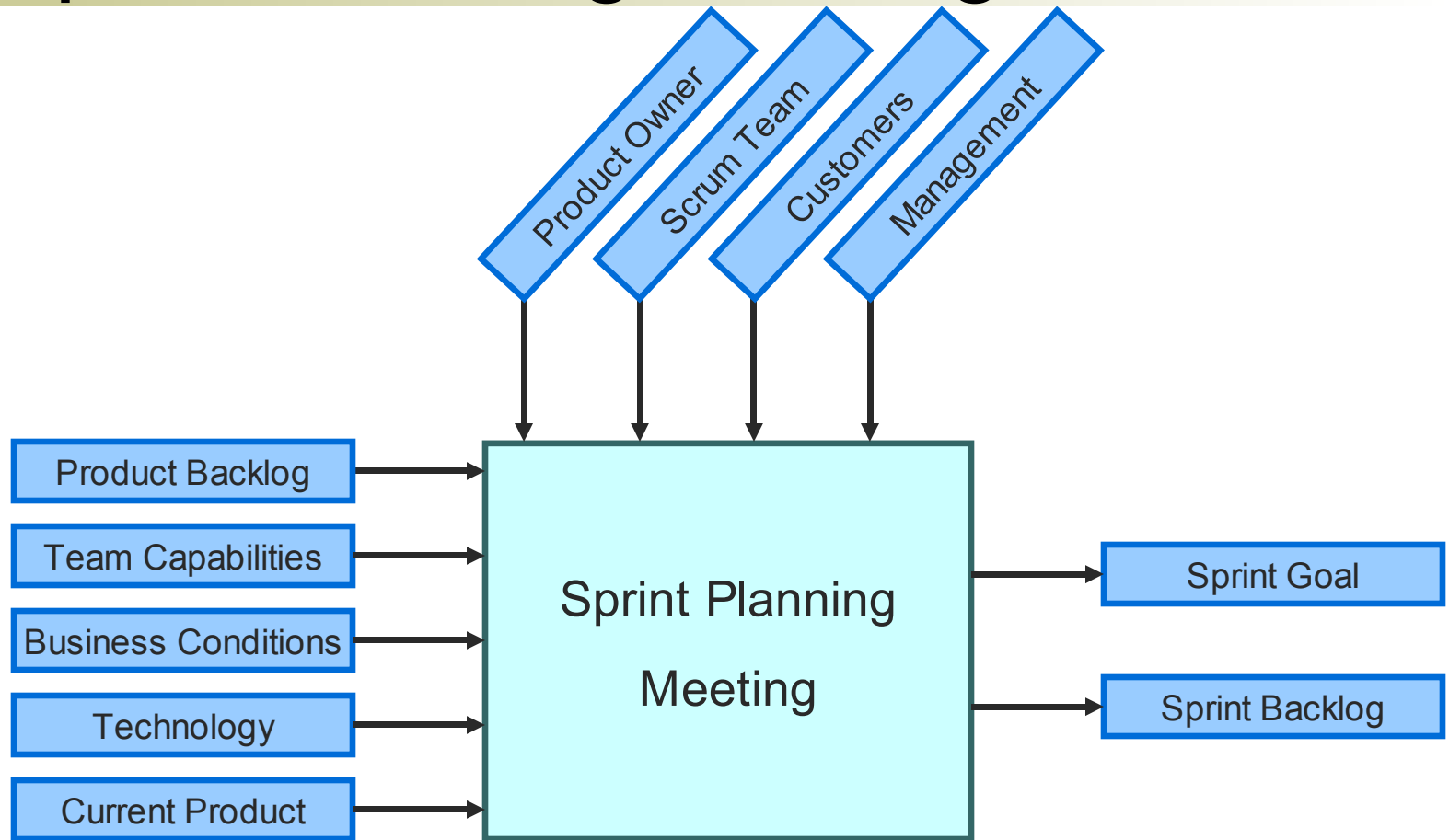
Database Application

“Make the application run on SQL Server in addition to Oracle.”

Financial Services

“Support more technical indicators than company ABC with real-time, streaming data.”

[Sprint Planning Meeting]



[From Sprint Goal to Sprint Backlog]

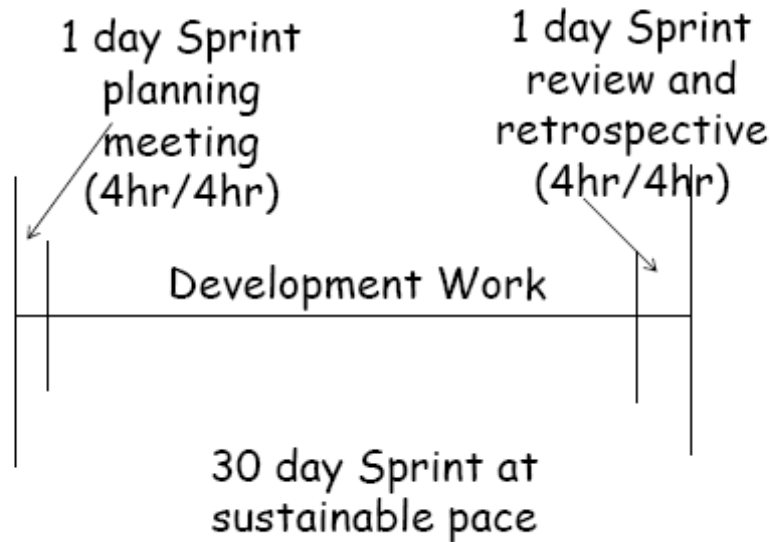
- Scrum team takes the Sprint Goal and decides what tasks are necessary
- Team self-organizes around how they'll meet the Sprint Goal
 - Manager doesn't assign tasks to individuals
- Managers don't make decisions for the team
- Sprint Backlog is created

Sample Product Backlog

	Item #	Description	Est	By
Very High				
	1	Finish database versioning	16	KH
	2	Get rid of unneeded shared Java in database	8	KH
		- Add licensing	-	-
	3	Concurrent user licensing	16	TG
	4	Demo / Eval licensing	16	TG
		Analysis Manager		
	5	File formats we support are out of date	160	TG
	6	Round-trip Analyses	250	MC
High				
		- Enforce unique names	-	-
	7	In main application	24	KH
	8	In import	24	AM
		- Admin Program	-	-
	9	Delete users	4	JM
		- Analysis Manager	-	-
	10	When items are removed from an analysis, they should show up again in the pick list in lower 1/2 of the analysis tab	8	TG
		- Query	-	-
	11	Support for wildcards when searching	16	T&A
	12	Sorting of number attributes to handle negative numbers	16	T&A
	13	Horizontal scrolling	12	T&A
		- Population Genetics	-	-
	14	Frequency Manager	400	T&M
	15	Query Tool	400	T&M
	16	Additional Editors (which ones)	240	T&M
	17	Study Variable Manager	240	T&M
	18	Haplotypes	320	T&M
	19	Add icons for v1.1 or 2.0	-	-
		- Pedigree Manager	-	-
	20	Validate Derived kindred	4	KH
Medium				
		- Explorer	-	-
	21	Launch tab synchronization (only show queries/analyses for logged in users)	8	T&A
	22	Delete settings (?)	4	T&A

[How much ceremony?]

Sprint



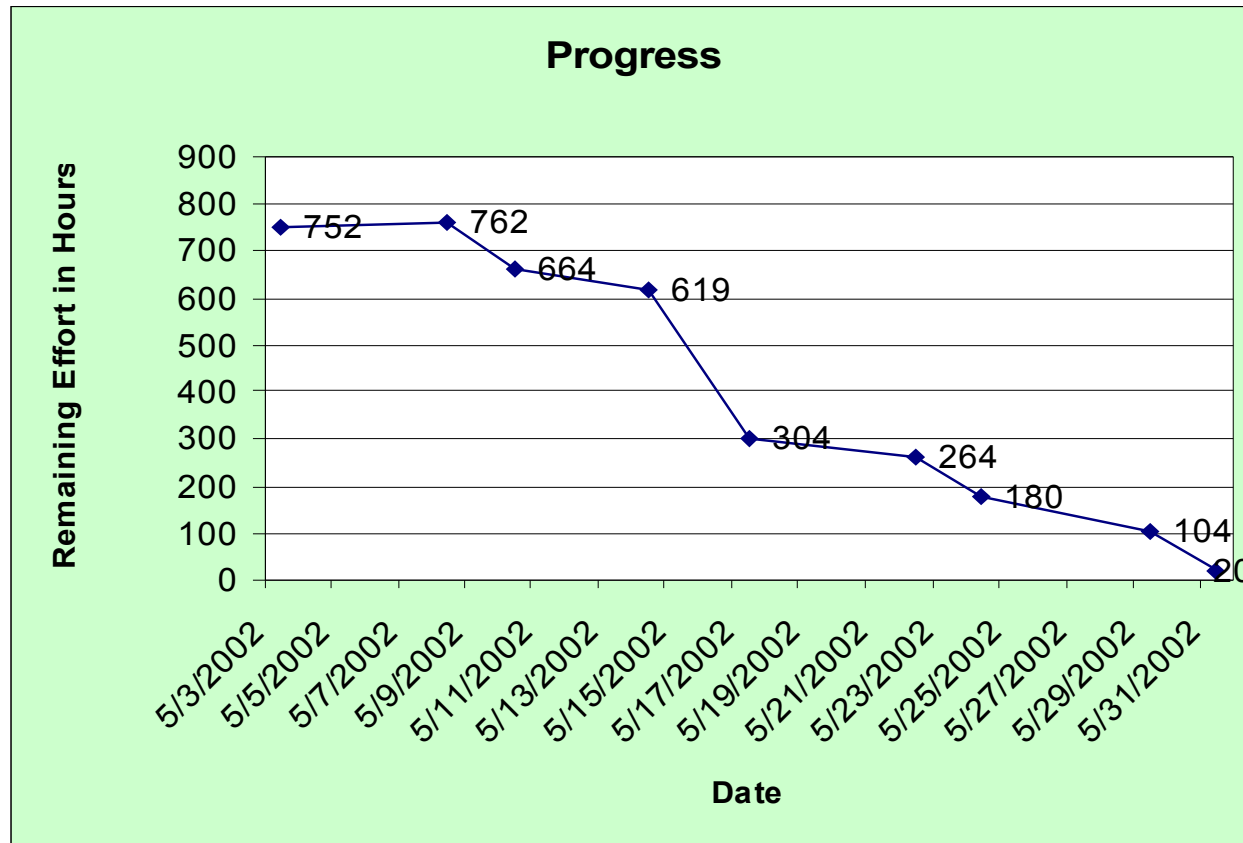
Sprint Backlog during the Sprint

- Changes
 - Team adds new tasks whenever they need to in order to meet the Sprint Goal
 - Team can remove unnecessary tasks
 - But: Sprint Backlog can only be updated by the team
- Estimates are updated whenever there's new information

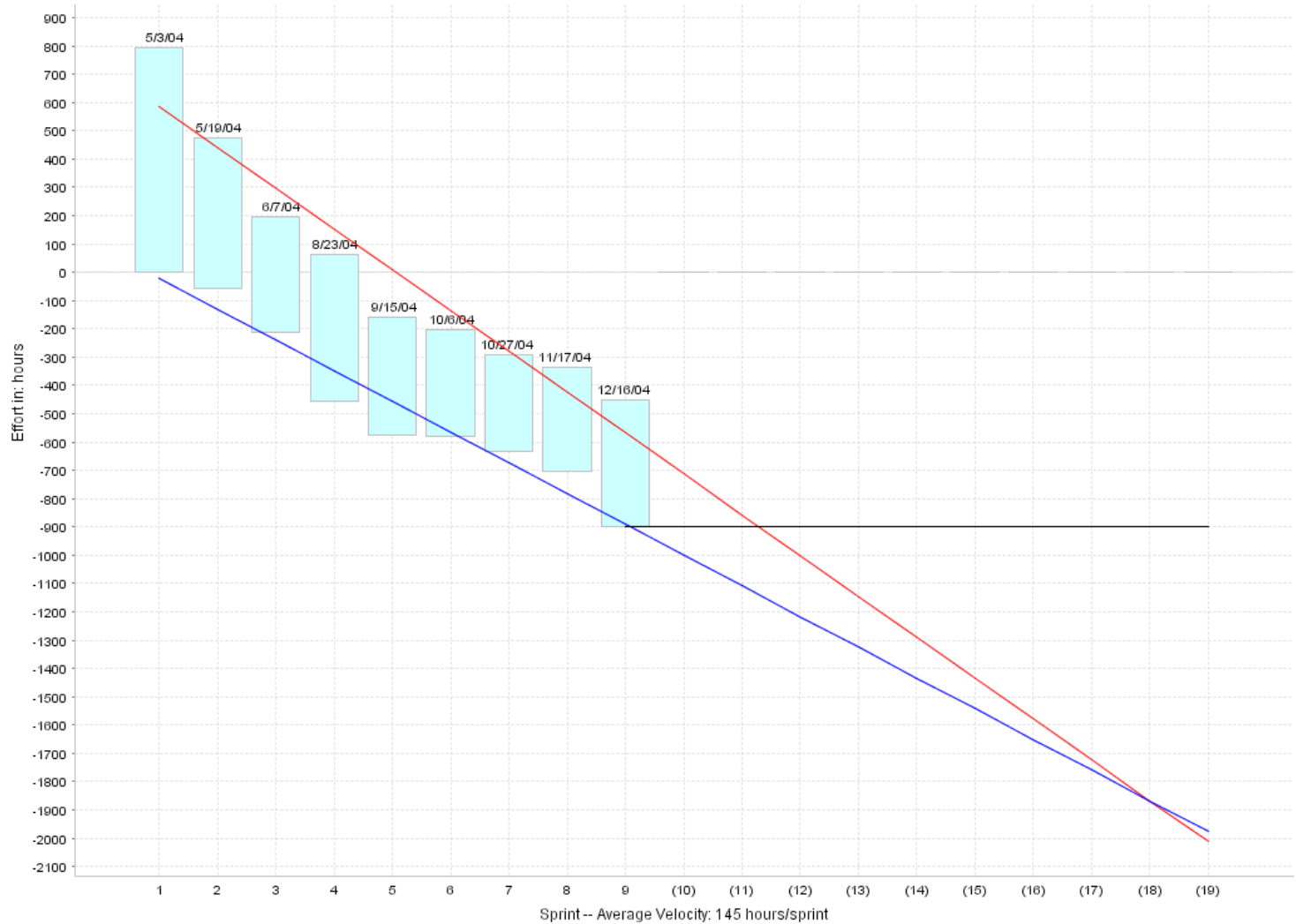
Sample Sprint Backlog

		Days Left in Sprint				
		15	13	10	8	
Who	Description	7/22/2002	7/24/2002	7/26/2002	7/31/2002	
		Total Estimated Hours:				
		554	458	362	270	0
-	User's Guide	-	-	-	-	-
SM	Start on Study Variable chapter first draft	16	16	16	16	
SM	Import chapter first draft	40	24	6	6	
SM	Export chapter first draft	24	24	24	6	
		Misc. Small Bugs				
JM	Fix connection leak	40				
JM	Delete queries	8	8			
JM	Delete analysis	8	8			
TG	Fix tear-off messaging bug	8	8			
JM	View pedigree for kindred column in a result set	2	2	2	2	
AM	Derived kindred validation	8				
		Environment				
TG	Install CVS	16	16			
TBD	Move code into CVS	40	40	40	40	
TBD	Move to JDK 1.4	8	8	8	8	
		Database				
KH	Killing Oracle sessions	8	8	8	8	
KH	Finish 2.206 database patch	8	2			
KH	Make a 2.207 database patch	8	8	8	8	
KH	Figure out why 461 indexes are created	4				

[Sprint Burndown Chart]



[Enhanced product backlog]



■ Sprint
 ■ Velocity Trendline
 ■ Work Added/Removed Trendline
 ■ New Baseline

Projected completion in 2 - 9 sprints

Questions about Scrum meetings?

- Why daily?
 - “How does a project get to be a year late?”
 - “One day at a time.”
 - Fred Brooks, *The Mythical Man-Month*.
- Can Scrum meetings be replaced by emailed status reports?
 - No
 - Entire team sees the whole picture every day
 - Create peer pressure to do what you say you’ll do

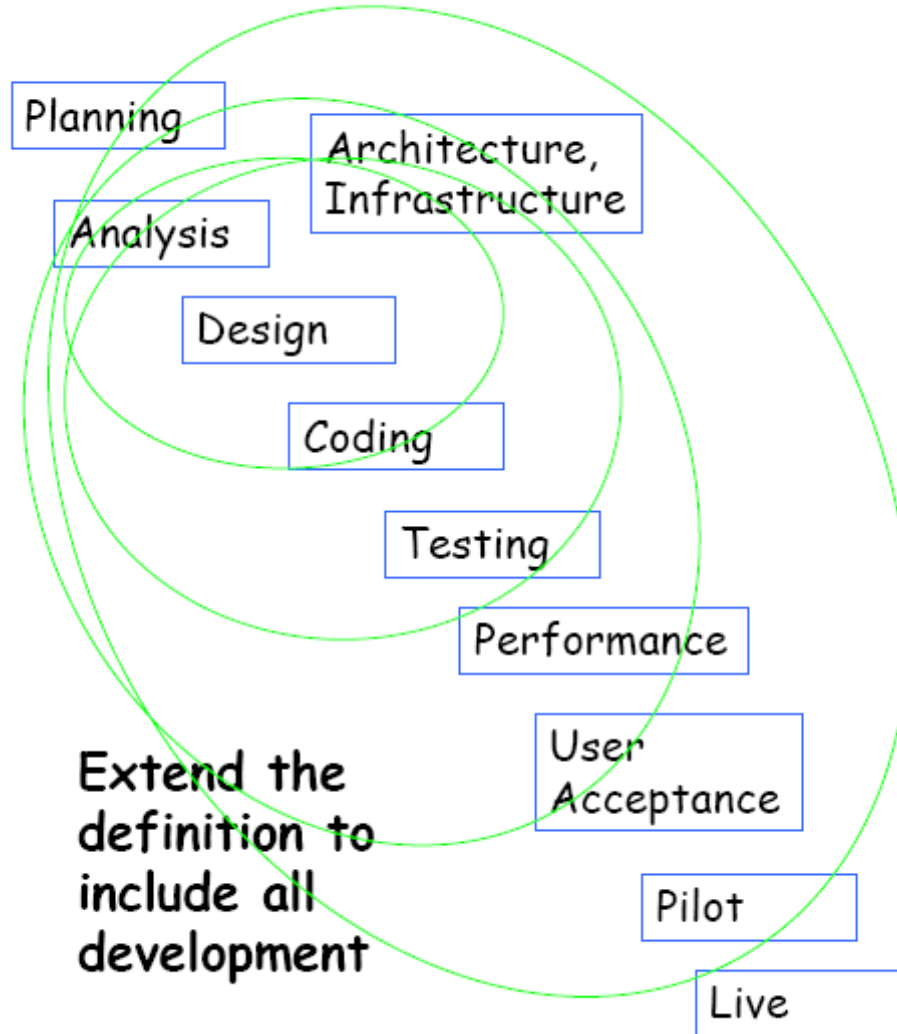
[User stories]

- Como <rol de usuario>, quiero <función de sistema> para lograr <valor de negocio>
- Consiste de
 - Descripción escrita
 - Conversación (detalle, documentos,...)
 - Pruebas de aceptación (def. completo)

[User stories]

- Unidad más pequeña de incremento del sistema
- Unidad de estimación y control
- Incluye los objetivos y motivaciones del usuario
- Origen de BDD (Behavior driven development)

[Scope of “Done” changes]



[Estimación]

- Métricas
 - Story point
 - Días ideales
- Precisión de la estimación
 - Mejora limitada al aumentar el tiempo de estimación
 - Los que hacen la tarea
 - Estimación, no compromiso

[Formas de estimar]

- Expertos
- Analogía
- Dividir
- Planning Poker
 - Cartas con 1, 2, 3, 5, 8, 20, 40, 100
 - Aprendizaje
 - Timeboxed

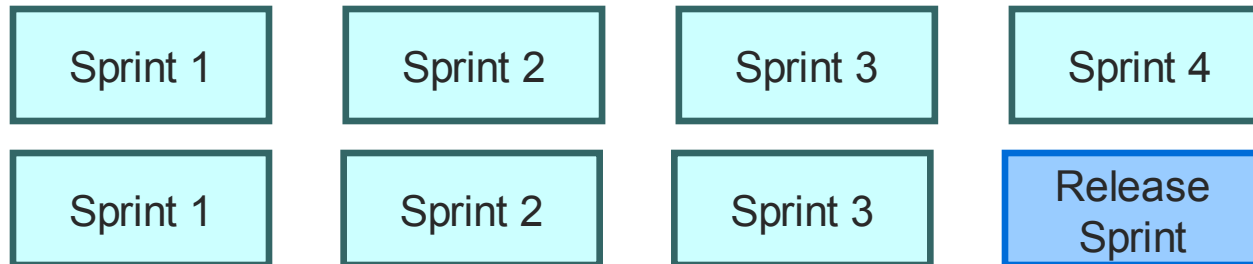
[Estimemos]

- Argentina
- Brasil
- Bolivia
- Chile
- Colombia
- Ecuador
- Paraguay
- Perú
- Uruguay
- Venezuela

[Estimación de release]

- Definir prioridades y aceptación
- Estimar tamaño de ítems
- Estimar Velocidad
 - Días reales
- Plan del Release
 - Buffer

[Release Sprints]



- If necessary, during “regular” sprints target *friendly first use*
 - Beta customers and similar can use immediately after sprint
- During a “release sprint”
 - Team prepares a product for release
 - Useful during
 - active beta periods
 - when transitioning a team to Scrum
 - if quality isn’t quite where it should be on an initial release
- Not a part of standard Scrum, just something I’ve found useful

[Cuando planificar]

- Inicio del grupo/producto
- Cuando aparecen ítems nuevos
- Unos días antes del fin del sprint
- Al fin del sprint
 - Demo
 - Presentación nuevos ítems
 - Estimación
 - Planificación nuevo sprint

[Práctica Scrum]

- ¿Cómo funciona el ejercicio?
- Objetivo: Desarrollar un Brochure en 2 sprints de 3 días
- Armar grupos, definir un Product Owner, ScrumMaster
- Cada día es de 10 min

Sprint

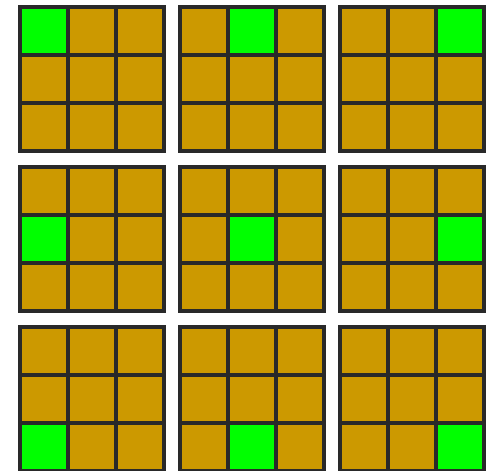
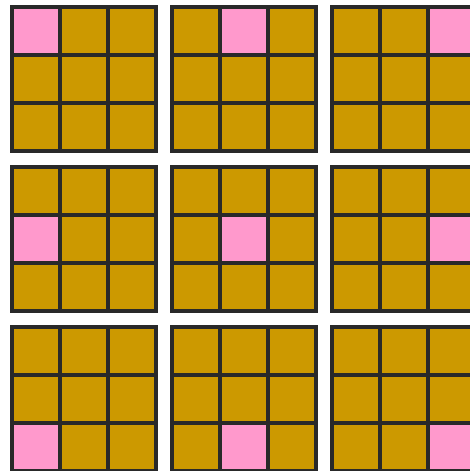
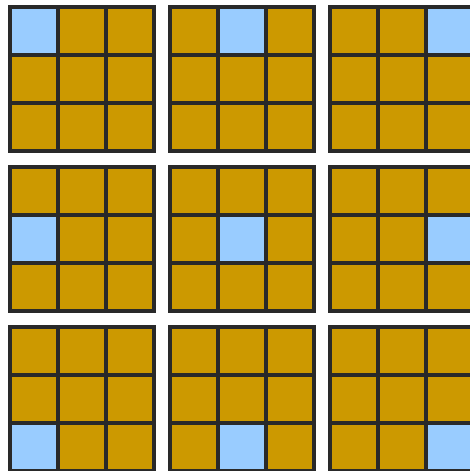
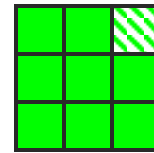
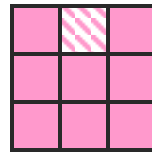
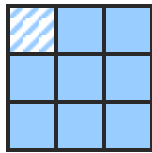
- Día 1: 5 min planificación + 5 min
- Día 2: 2 min Daily Scrum + 8 min
- Día 3: 2 min Daily Scrum + 6 min + 2 min demo

[Implementación]

[Longitud del Sprint]

- Nivel de incertidumbre ▼
- Tamaño del release (3 sprint)
- Facilitar feedback ▼
- Tiempo sin cambio de prioridades ▼
- Costo de overhead ▲
- Mínimo tiempo para generación de valor ▲
- Sentido de urgencia ▼

Scrum of Scrums o Meta-Scrum



[Scrum smells]

- Pérdida de ritmo
- Chickens hablando en Daily Scrum
- Pigs que no están en el Daily Scrum
- Grupos que no aprenden
- Trabajo asignado (por el ScrumMaster)
- Daily Scrum para el ScrumMaster
- Roles especializados

[Formas de implementar]

- Callada
- De a poco
- Todo a la vez
- Bottom up

[Where to go next? Groups]

<http://groups.yahoo.com/group/scrumdevelopment/>

This is the place to ask questions and hear from others who have run into the same kind of problems. Try not to be put off by the volume of emails, you'll no doubt find ways to filter appropriately over time.

<http://tech.groups.yahoo.com/group/agileplanning/>

Mike Cohn's group set up to discuss Agile Estimation and Planning. Mike is active on this list, and will respond to questions personally.

<http://finance.groups.yahoo.com/group/retrospectives/>

The retrospectives group

<http://groups.yahoo.com/group/agile-usability/>

This group is aimed at writers, designers, interaction analysts, etc.

<http://groups.yahoo.com/group/agile-testing/>

For testers, and anyone interested in testing. Again lots of traffic.

<http://groups.yahoo.com/group/laasd>

(en español) Sobre temas generales de metodologías ágiles, pero incluyendo a gran parte de los CSM latinoamericanos

Where to go next? Introductory Books

Craig Larman: "Agile & Iterative Development: A Managers Guide":

The beginners guide to Agile: good overviews of the whole paradigm, and summaries of the different approaches.

Ken Schwaber & Mike Beedle: "Agile Software Development with Scrum"

The original Scrum book. Good, clear overview of the practices and principles of Scrum. It is somewhat out-of-date now, as Scrum has progressed since the book was written, but it is still a valuable read.

Kent Beck: "Extreme Programming Explained: Embrace Change":

One of the first Agile books. Focuses mainly (but not solely) on the engineering practices, and supplies good overall context for creating an Agile organization.

Ken Schwaber: Agile Project Management with Scrum

El libro actual de referencia, con Contenido más actualizado. Foco en scrum dentro de un equipo

Ken Schwaber: The Enterprise and Scrum

Las buenas prácticas para extender Scrum a la organización.

Henrik Kniberg: Scrum and XP from the Trenches

Conjunto de experiencias en todos los temas enfrentados al usar Scrum, con referencias a libros y material adicional.

[Where to go next? Web sites]

<http://agilealliance.org>

The Agile Alliance site, for all things Agile.

<http://scrumalliance.org>

The Scrum Alliance site - improving... Consider how to contribute.

<http://controlchaos.com>

Ken Schwaber's site.

<http://mountaingoatsoftware.com/scrum>

Mike Cohn's introduction to Scrum. May be helpful for a quick overview/reminder of the practices/roles/artifacts

<http://agilemanifesto.org> & <http://agilemanifesto.org/principles.html>

The Agile Manifesto and Agile Principles

<http://danube.com>

Danube Technologies' web site. Home of the free ScrumWorks tool. Danube Technologies and Agile Thinking partner frequently on CSM training and other consulting engagements.

<http://agilethinking.net>

Tobias Meyer's web site.

Product/Project Management Material

A good starting paper for product managers is "Want Better Software? Just Ask" by Mike Cohn

<http://www.mountangoatsoftware.com/articles/WantBetterSoftware.pdf>

Also take a look at Mike's other available papers. Mike Cohn has a very pragmatic approach to Scrum and writes in a very clear and succinct way:

<http://www.mountangoatsoftware.com/articles?page=1>

I'd also recommend Mike Cohn's first book, "User Stories Applied"

<http://www.amazon.com/gp/product/0321205685/>

It covers the aspects of writing, estimating, prioritizing and committing to product requirements that we covered on this course.

Jim Highsmith: Agile Project Management - Creating Innovative Products

<http://www.amazon.com/gp/product/0321219775/>

Good overview of Agile approaches to project management. This is more "managerial" than I like, personally, but offers some good ideas for working with customers.

Configuration Management

Brad Appleton's home page is at <http://www.cmcrossroads.com/bradapp/> and his blog is at <http://bradapp.blogspot.com/> - some very interesting posts here.

RUP and Agile

David Chilcott at <http://outformations.com> -- info@outformations.com

David is the guy I mentioned that I know personally. He was a RUP guy for years and has recently become involved in the Scrum/Agile world.

Scott Ambler at <http://ambysoft.com/>

Scott has written many articles on this topic. You can find links to all on his web site.

[Preguntas]

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