

# Software Engineering and Architecture

## The Product Owner

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Olivier Liechti  
HEIG-VD  
[olivier.liechti@heig-vd.ch](mailto:olivier.liechti@heig-vd.ch)



MASTER OF SCIENCE  
IN ENGINEERING

# Planning

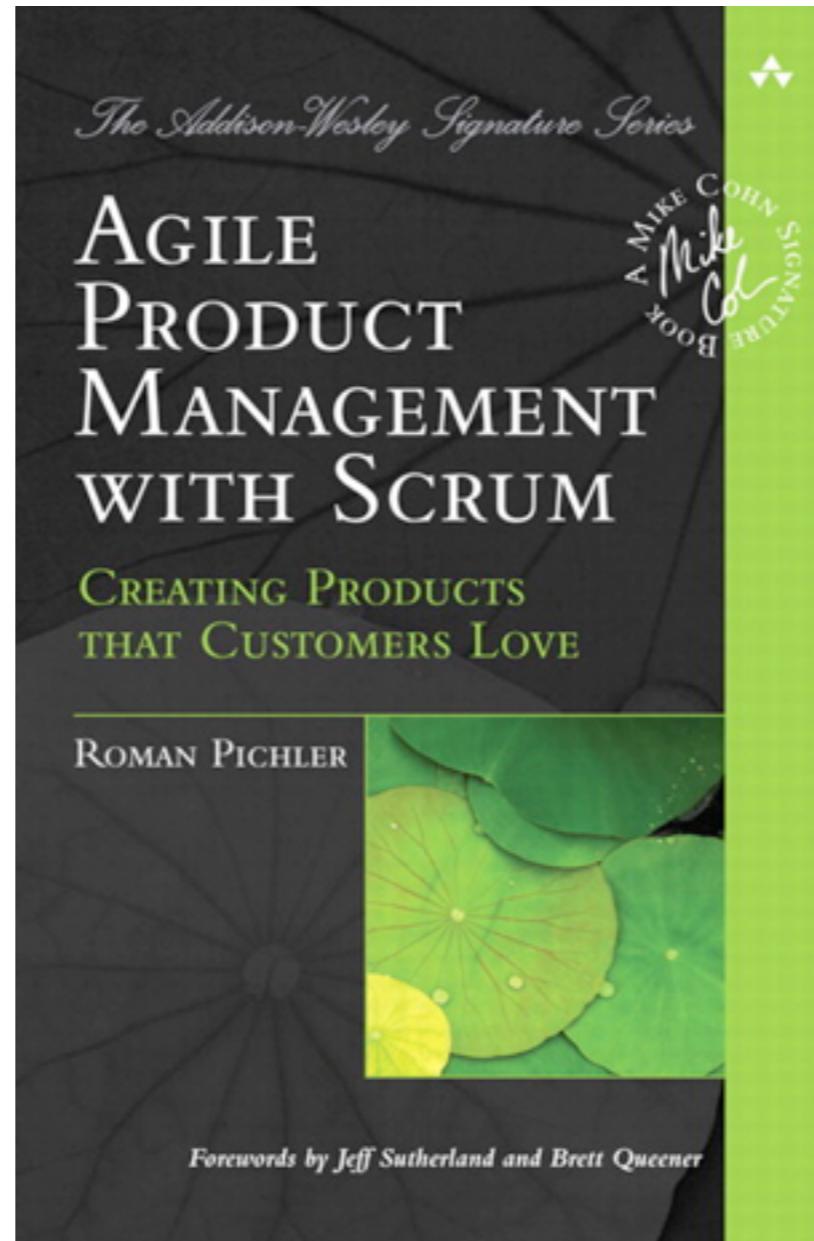
Date		Theory	Practice
20.09.12	agile	Introduction to agile & scrum	
27.09.12	agile	Agile development tools	Agile development tools
04.10.12	agile	User Stories	Guest speaker (Lotaris)
11.10.12	agile	<b>The Product Owner</b>	<b>Presentations Agile Development</b>
18.10.12	agile	Guest speaker (Octo)	Guest speaker (Octo)

01.11.12	agile	Continuous Delivery	Lab
08.11.12	architecture	Development in and for the Cloud	Guest speaker (Cloudbees)
15.11.12	architecture	Behavior Driven Development (BDD)	BDD lab
22.11.12	architecture	BDD lab	BDD lab
29.11.12	evolution	Software Evolution	Guest speaker (SonarSource)
06.12.12	evolution	OO Reengineering	Presentations BDD
13.12.12	evolution	Intro to Repository Mining Lab	Repository Mining Lab
20.12.12	evolution	Repository Mining Lab	Repository Mining Lab

10.01.13	architecture	Domain Specific Languages	Lab
17.01.13	architecture	The design of APIs	Guest speaker (Evrythng)
24.01.13	evolution	Repository Mining Presentations	Repository Mining Presentations

# How to Be(come) a Great Product Owner

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*The slides are based on this book (ISBN: 0321605780)*

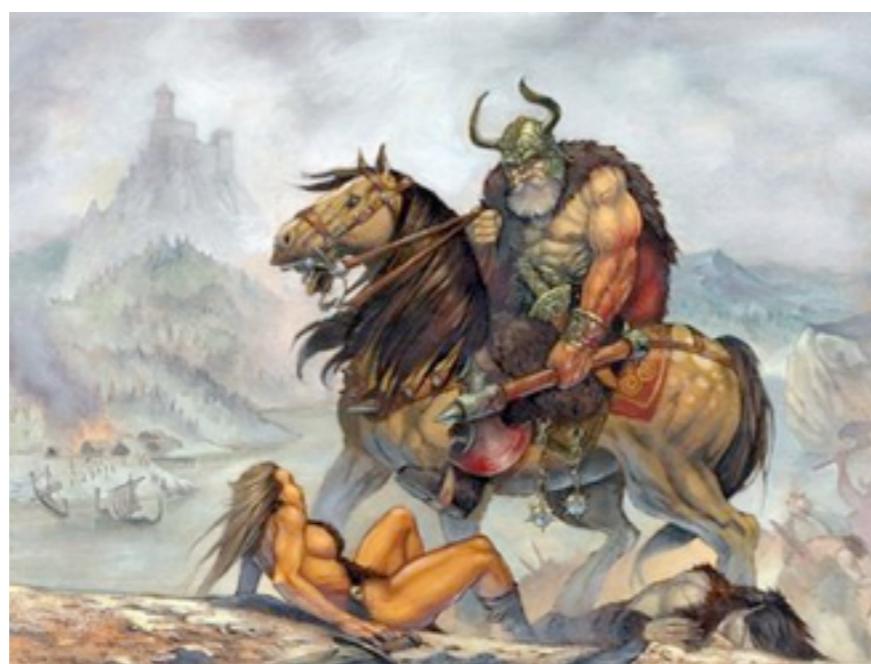
# Roles in Scrum



The Product Owner  
**I lead a quest for value**



The Team  
**I build and deliver** a great product



The Scrum Master  
**I protect** the team and the process

# Introduction

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*“After over two years of development, the new product was launched with great expectations—and **bombed**.*

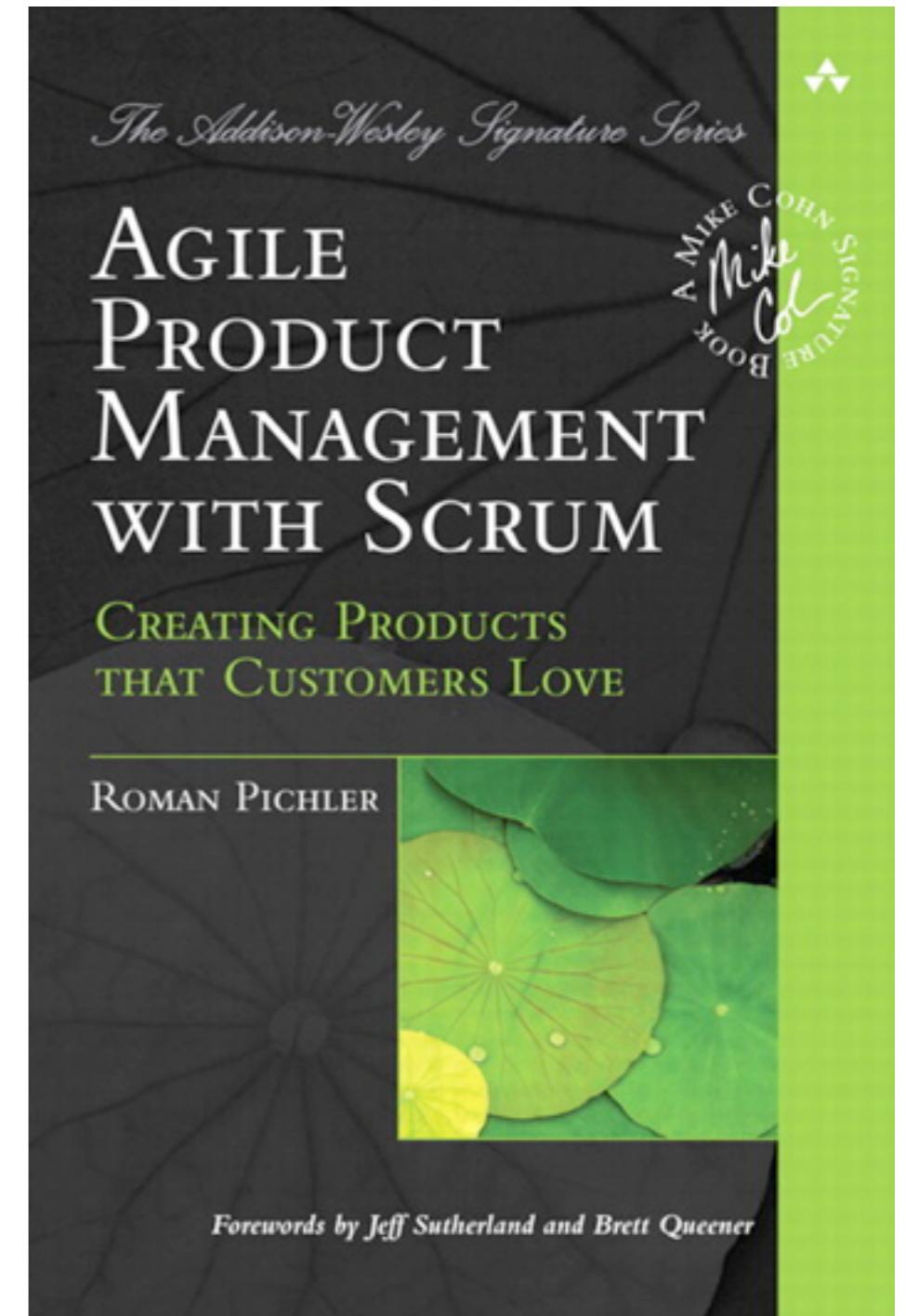
**What went wrong?** Somewhere between the idea and the launch, the product vision was lost amid the many **handoffs**. There was **no single person responsible** for leading the effort to create a winning product, and **no shared vision** of what the product should look like and do. Everyone involved had a different view, a different vision.

**What's the solution?** Putting **one person**, called the product owner, **in charge** of the product.”

# Overview

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- 1. Understanding the Product Owner Role**
- 2. Envisioning the Product**
- 3. Working with the Product Backlog**
- 4. Planning the Release**
- 5. Collaborating in the Sprint Meetings**
- 6. Transitioning into the Product Owner Role**



# Responsibilities

- The product owner **leads the development effort** to create a product that generates the desired benefits.
- This often includes creating the **product vision**; **grooming the product back-log**; **planning the release**; **involving customers, users, and other stakeholders**; **managing the budget**; **preparing the product launch**; attending the **Scrum meetings**; and **collaborating with the team**.
- The product owner is a **new, multifaceted role** that unites the **authority** and **responsibility** traditionally scattered across separate roles, including the customer or sponsor, the product manager, and the project manager.



# Desirable Characteristics of a Product Owner (1)

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- **Visionary and Doer.**
- As an entrepreneur, the product owner facilitates creativity; **encourages innovation;**
- and is comfortable with **change, ambiguity, debate, conflict, playfulness, experimentation, and informed risk taking.**

# Desirable Characteristics of a Product Owner (2)

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- **Leader and Team Player.**
- We can think of the product owner as **primus inter pares**, first among peers, regarding the product.
- The dual nature of the product owner as a leader and team player is **a hard line to toe**.
- **By no means should the product owner dictate decisions, yet at the same time neither should the product owner be indecisive or employ a laissez-faire management style.**

# Desirable Characteristics of a Product Owner (3)

- **Communicator and Negotiator.**
- Communicate with various people **within** and **outside** the organization, **across functions and at different levels**. The Product Owner needs to have a broad knowledge and also be able to talk about technical, financial, operational issues.
- The Product Owner sometimes has to be able to say **no**. Other times, he has to be willing to negotiate a compromise.



# Desirable Characteristics of a Product Owner (4)

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- **Empowered and Committed.**
- The product owner must have the proper **decision-making authority**—from finding the right team members to deciding which functionality is delivered as part of the release.
- The product owner must be **someone who can be entrusted** with a budget and at the same time has the ability to create a work environment that fosters creativity and innovation.
- A successful product owner is **confident, enthusiastic, energetic, and trustworthy.**

# Desirable Characteristics of a Product Owner (5)

- **Available and Qualified.**
- If the individual is overworked, the project's progress suffers and the resulting product may be suboptimal.



*How the Product Owner often Sees the Team*

# Working with the Team and the ScrumMaster

- People must form a close and trusting relationship and work together as peers. **There must be no us and them. There can only be us.**
- Since the Product Owner, ScrumMaster, and Team need to closely collaborate on an ongoing basis, **it is desirable to colocate all Scrum team members.**
- **The Product Owner and ScrumMaster roles complement each other.** The product owner is primarily responsible for the “what”— creating the right product. The ScrumMaster is primarily responsible for the “how”—using Scrum the right way.
- Since the product owner and ScrumMaster roles are designed to balance each other, **playing both roles is overwhelming and unsustainable.**



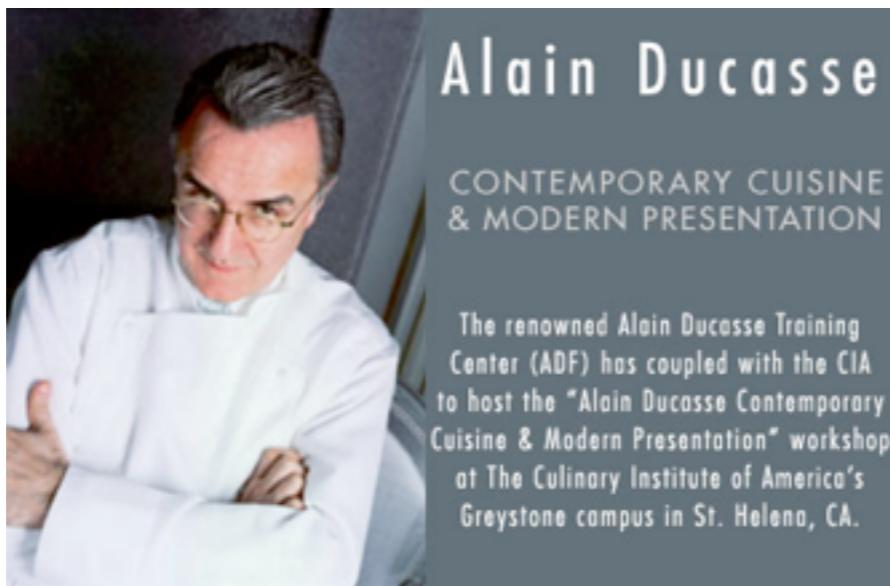
# Working with Customers and Other Stakeholders

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- To create a winning product, the product owner, ScrumMaster, and team must **develop an intimate understanding of customer and user needs**, and how these needs can best be met.
- **Asking customers** to provide feedback on prototypes, **inviting** customer representatives to sprint review meetings, and **releasing software early and frequently** are great ways to learn from customers.
- In addition to customers and users, product owners should involve other stakeholders, such as representatives from **marketing, sales, and service**, early and regularly by asking them to attend the sprint review meetings.

# Strategic vs Tactical Product Management (1)

- Some companies (without product owners) distinguish between **strategic** and **tactical product management aspects** and employ separate roles for each, a product marketer and a (technical) product manager.
  - **Product marketers** tend to be **outward-facing**; their primary responsibility is to understand the market, manage the product roadmap, and look after the cumulative profits across releases.
  - **Product managers** tend to be **inward-facing**; their responsibilities consist of detailed feature description, prioritization, and collaboration with the development team.



# Strategic vs Tactical Product Management (2)

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- In Scrum, the **product owner takes on all of these responsibilities**. However, that does not mean that he has to do everything himself!
- For strategic product management aspects, he may **receive support** from a portfolio manager, from a vice president, or even from the CEO, depending on the size of the company and the importance of the project.
- For help with pricing and marketing communications, he may **turn to** a product marketer and senior salesperson.
- For the tactical aspects, he **can count on** the ScrumMaster's and team's support.
- **Uniting the two product management aspects achieves end-to-end authority and accountability. We avoid handoffs, waiting, and delays as well as miscommunication and defects.**

# Scaling the Product Owner Role

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- How many teams can a single Product Owner support without being **overworked or neglecting some responsibilities?**
- Factors include the **product's newness**, its **complexity**, and the **domain knowledge of the teams**.
- Experience suggests that a product owner usually cannot look after more than two teams in a sustainable manner.

# Organizing Multiple Teams

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- There are two ways to organize teams that are creating product increments: as **feature teams** or as **component teams** (Pichler 2008, Larman and Vodde 2009).
- Both team setups are orthogonal: feature teams are organized around product **backlog items**, component teams around the **software architecture**.
- As a rule of thumb, organizations should employ feature teams whenever possible and use component teams only if they must.
- As an example, if a project consists of **three feature teams** and **one component team**, it is likely to require **three product managers** and **one architect** to fill the product owner roles—assuming that one of the product owners is the chief product owner.

# Agreeing on a definition of “Done” (1)

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- In agile methodologies, features/stories should be delivered as “**complete**” units.
- To be complete, the functionality needs to be **fully implemented, tested, documented**.
- In practice, **coming up** with a clear definition of “done”, **enforcing** this definition and **taking appropriate actions** when a story is not done at the end of the sprint is not that easy.

# Agreeing on a definition of “Done” (2)

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- How can we effectively apply **Behavior Driven Development** to address this issue?
- How do we make sure that **Product Owner**, **Developers** and **QA** are aligned? How do we organize the respective activities of these people?
- What is the best way to use the **Version Control System** (subversion, git, etc.) in that respect? How do we use branches?
- How do we manage the **estimate of a story** when we need to return it to the product backlog? How do we compute the velocity?

# Common Mistakes (1)

- **The Underpowered Product Owner.**
- A product owner should not have to consult his boss for every major decision.



# Common Mistakes (2)

- **The Distant Product Owner.** A distant product owner works separately from the team. Distance may evoke images of a globalized world with the product owner on one continent and the team on another.
- But distance comes in many forms and degrees.



*Distance is not (only) measure in centimeters*

# Common Mistakes (3)

- **The Overworked Product Owner.**  
Overworked product owners quickly become bottlenecks and limit the project's progress.
- **Symptoms** of an overworked product owner include neglecting product backlog grooming, missing sprint planning or review meetings, and not being available for questions or giving answers only after a long delay.
- **There are two main causes of product owner overburden: not enough time to perform the role and not enough support from the team.**



# Common Mistakes (4)

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- **The Product Owner Committee.**
- A product owner committee is a group of product owners **without anyone in charge** of the overall product.
- There is no one person guiding the group, helping to create a common goal, and facilitating decision making.

# The Product Vision

- The product vision is a sketch of the future product.
- The vision acts the overarching goal, **galvanizing and guiding people**, and is the product's reason for being.
- The vision selectively describes the product at a coarse-grained level, **capturing the product's essence**—the information considered critical to develop and launch a winning product.



# The Product Vision Should Answer Questions

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- Who is going to buy the product?
- Who is going to use the product?
- Which needs will the product address? What value does the product add?
- Which product attributes are critical for meeting the needs selected and therefore for the success of the product? What will the product roughly look like and do? In which areas is the product going to excel?
- How does the product compare against existing products, from both competitors and the same company? What are the product's unique selling points? What is its target price?
- How will the company make money from selling the product? What are the sources of revenue and what is the business model?
- Is the product feasible? Can the company develop and sell the product?

# Desirable Qualities for the Vision

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- **Shared and Unifying.** Everyone involved in the development effort should buy into the vision: Scrum team, management, customers, users, and other stakeholders. **A great way to create a shared vision is to involve the Scrum team and stakeholders in the visioning activities.**
- **Broad and Engaging.** The product vision should describe a broad and engaging goal: a goal that guides the development efforts but leaves enough room for creativity, a goal that engages and inspires people. Resist the temptation to provide too much detail or to over-specify the product.
- **Short and Sweet.** The vision should be brief and concise. It should contain only information critical to the success of the product. The product vision is not, therefore, a feature list, nor should it provide unnecessary detail.

# The Birth of the Vision

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- The early days of every product are surrounded by myths and legends; there is **no perfect formula** to conceive ideas and evolve them into a vision.
- Whatever you do, keep the visioning work to a minimum and quickly release a first product increment, or demo it to customers and users. Listen to the responses to see if you are shooting for the right goal. **Then adapt.**
- And **refrain from putting too many controls and procedures around the visioning work.** Otherwise, innovation and creativity are strangled; employees spend their time filling out forms rather than innovating.

# The Birth of the Vision: Pet Projects

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- The famous 20% of time allocated by Google to work on one's own ideas & prototypes (which is at the origin of several block-buster products).
- The ShipIt Days at Atlassian.
- Etc.



# The Birth of the Vision: Using Scrum

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- Scrum can be used to support the visioning activities, pursued jointly by the Product Owner, the ScrumMaster and the Team.
- The Product Backlog contains items such as “Develop UI mockups”, “Conduct customer interviews”, “Write vision document”, etc.

# Product Owner Dos and Don'ts

Do	Don't
Say what needs to get done.	Say how to do it or how much it will take.
<b>Challenge the team.</b>	<b>Bully the team.</b>
Get interested in building a high-performance team.	Focus on the short-term deliveries only.
Practice business-value-driven thinking.	Stick to the original scope and approach “no matter what.”
Protect the team from outside noise.	Worry the team with changes that might happen, until they become real.
Incorporate change between sprints.	Allow change to creep into sprints.



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