

第一性原理 & 精益敏捷实施的规模化

何勉

下一代
软件开发
SOFTWARE
DEVELOPMENT

1

第一性原理



2

产品开发的第一性原理

3

精益和敏捷的规模化路径

4

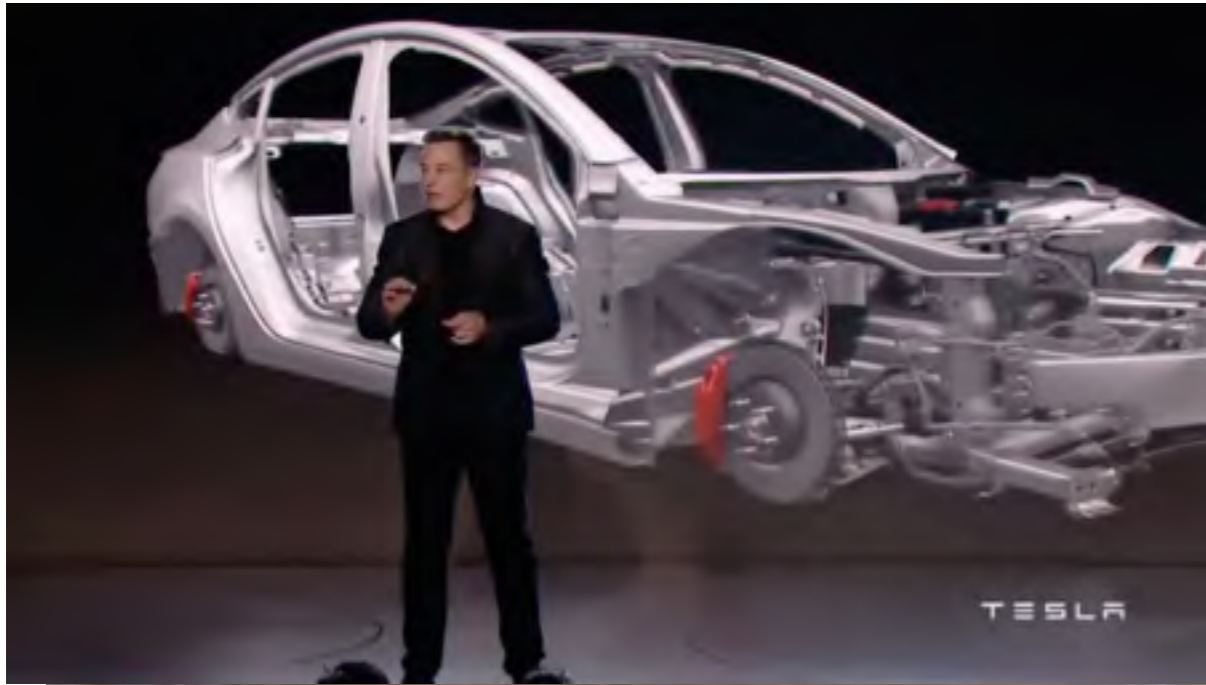
从第一性原理反馈规模化的效果

第一性原理



“First principles” is a physics way of looking at the world...what that really means is that you boil things down to the most fundamental truths...and then reason up from there...

—Elon Musk





<p>类比思维</p>	<p>电池的成本超过 600 \$ / 千瓦时，而且很难降低</p>
<p>第一性原理</p>	<p>构成电池的基本原材料是什么？它们的成本是多少。 我们的任务就是无限逼近材料的成本</p>

1

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产品开发的第一性原理



3

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从第一性原理反馈规模化的效果



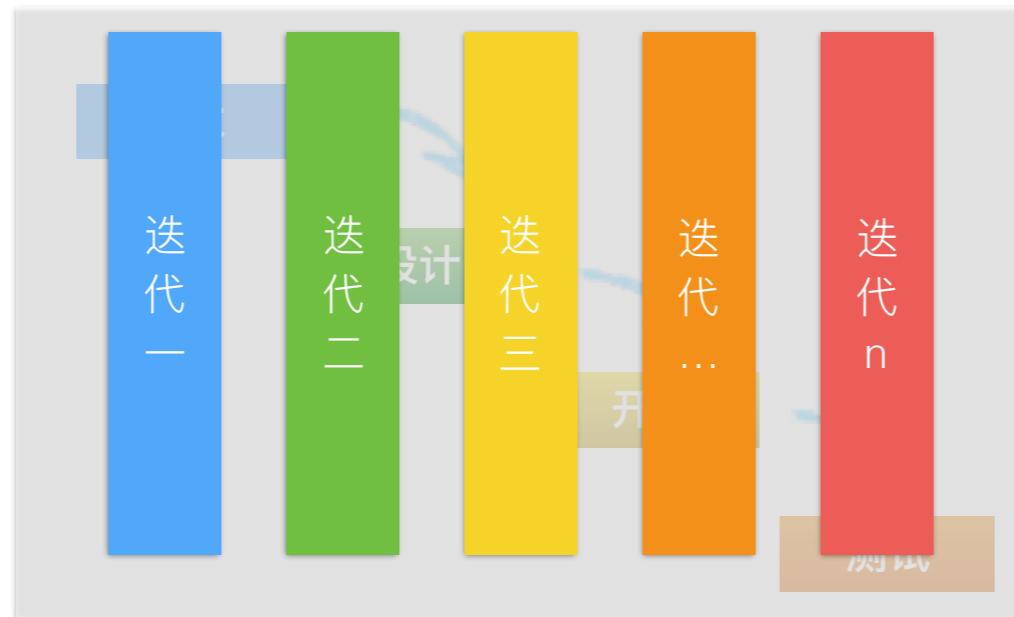
任何组织的绩效都只在外部反映出来

- 管理存在的目的是帮助组织取得成效；
- 它的责任是协调资源取得成效

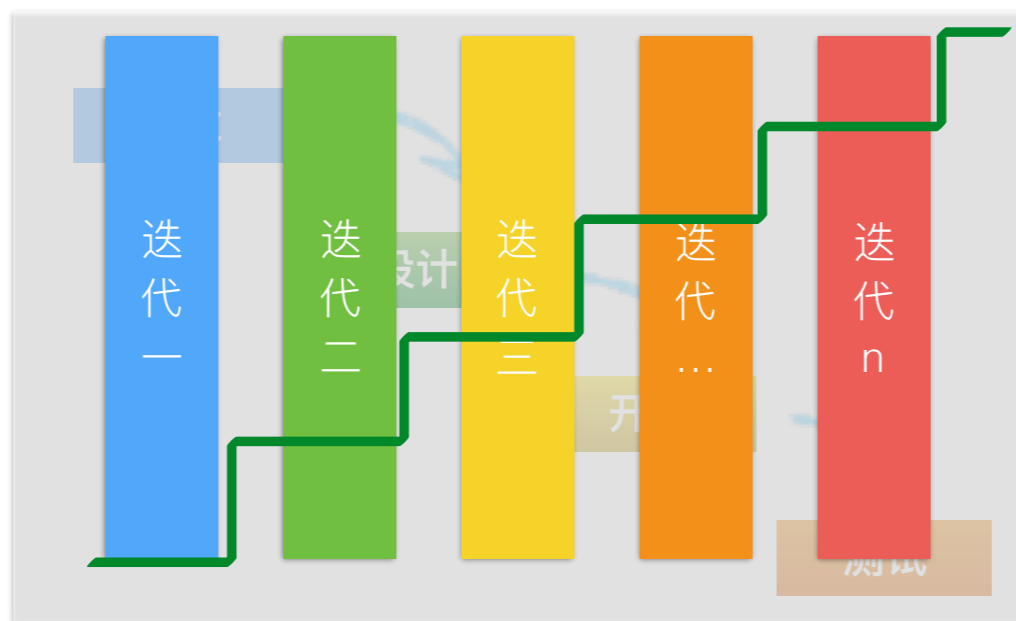
——德鲁克《21世纪的管理挑战》

顺畅、高质量的交付有用的价值

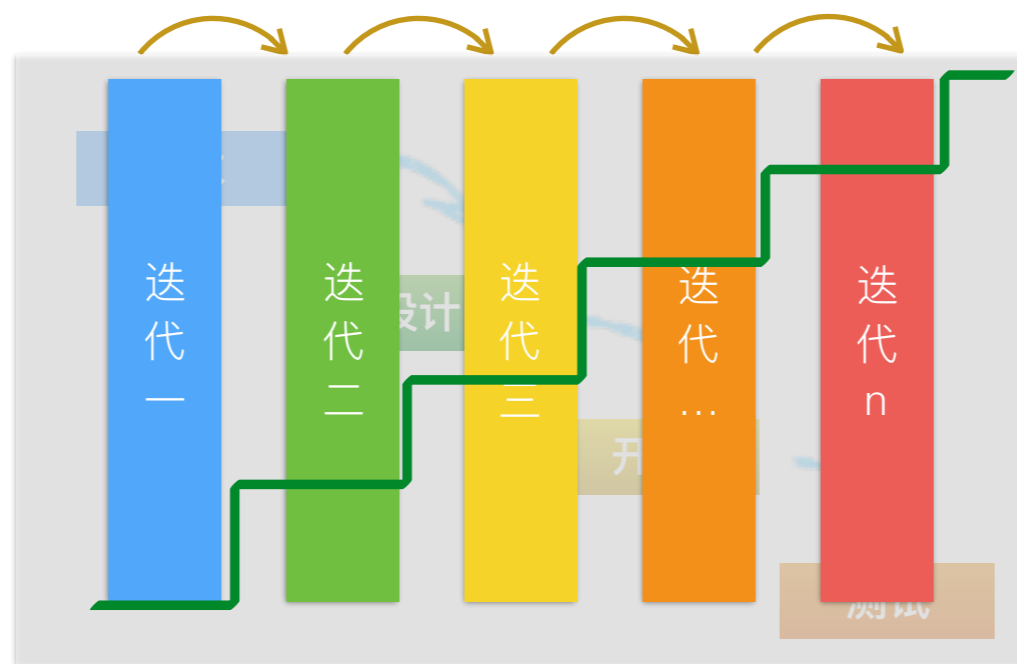




Scrum



Scrum

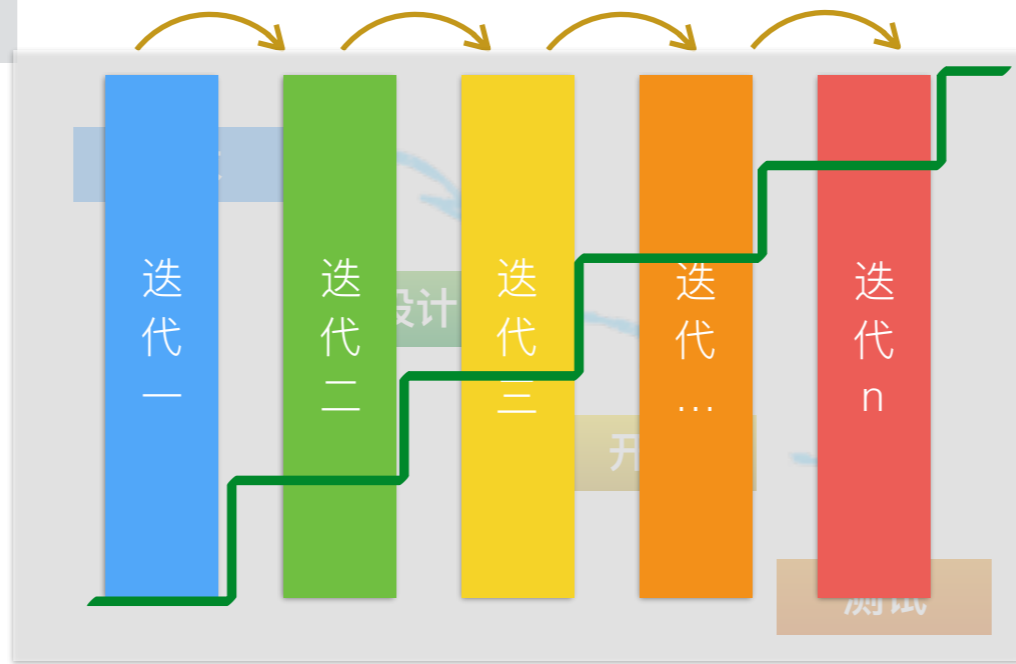


Scrum

...

业务规划

产品定义

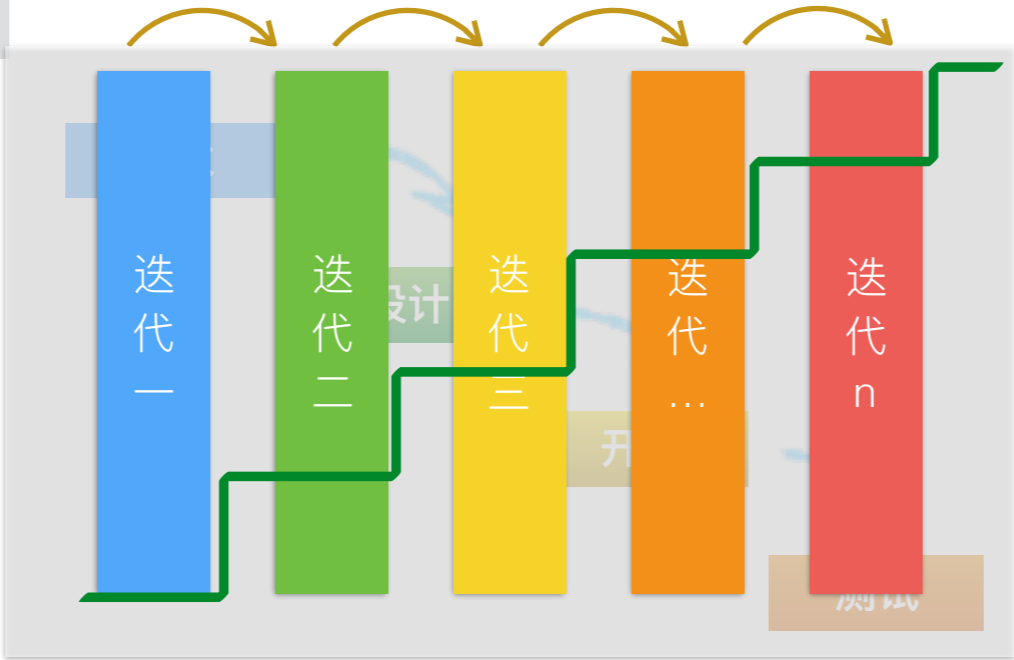


Scrum

...

业务规划

产品定义



实施

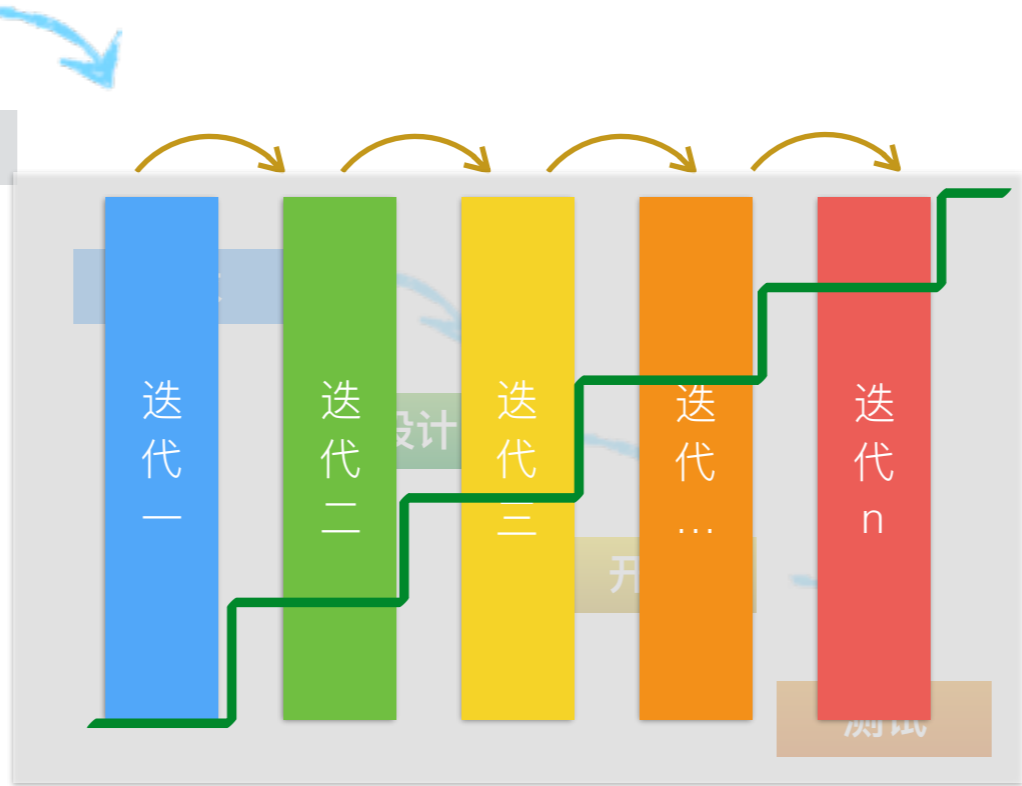
验证

Scrum

...

业务规划

产品定义



实施

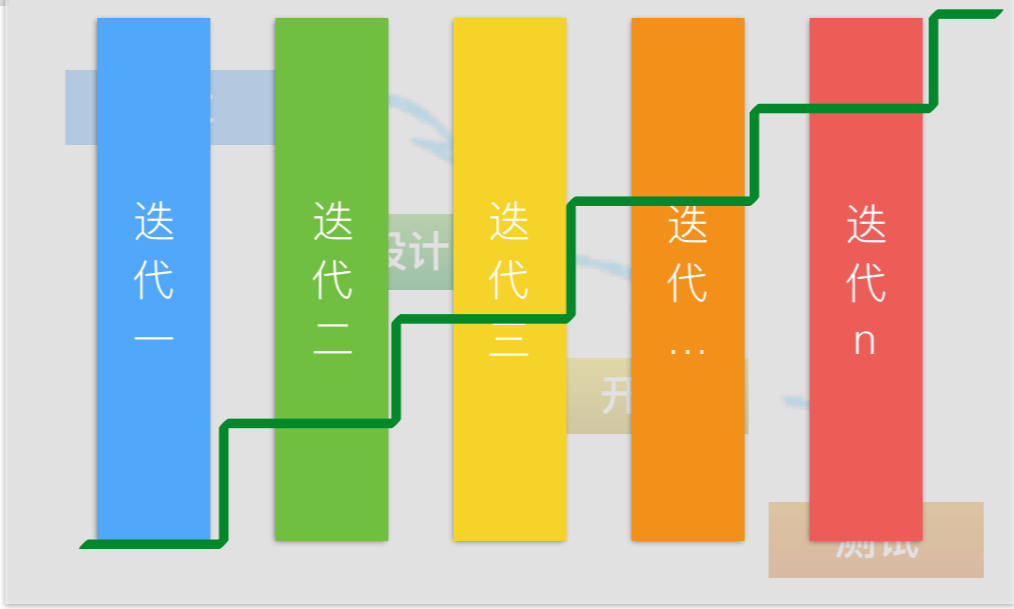
验证

Scrum

...

业务规划

产品定义



实施

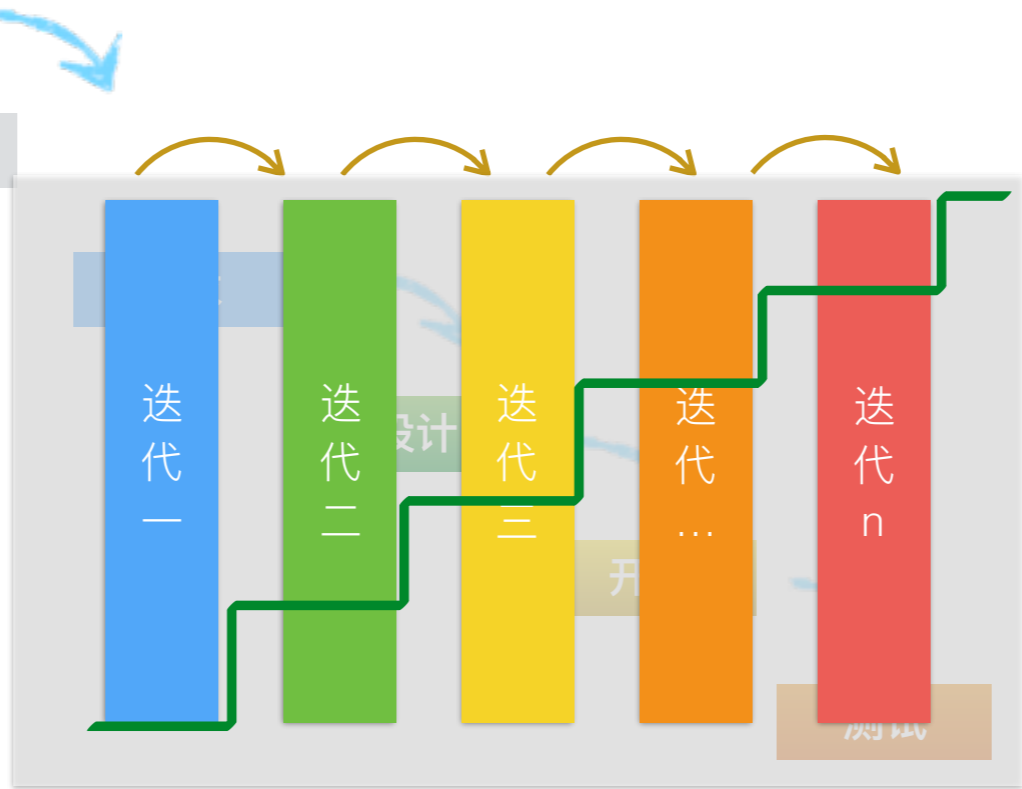
验证

Scrum

...

业务规划

产品定义



实施

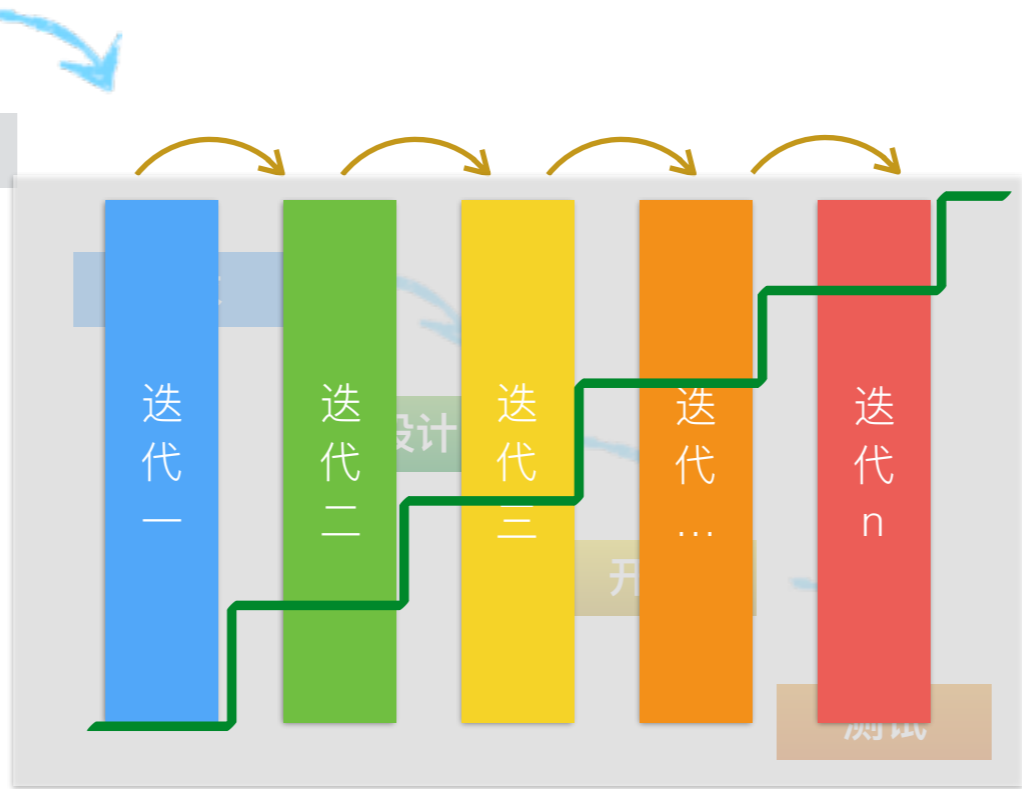
验证

Water- Scrum - Fall

...

业务规划

产品定义



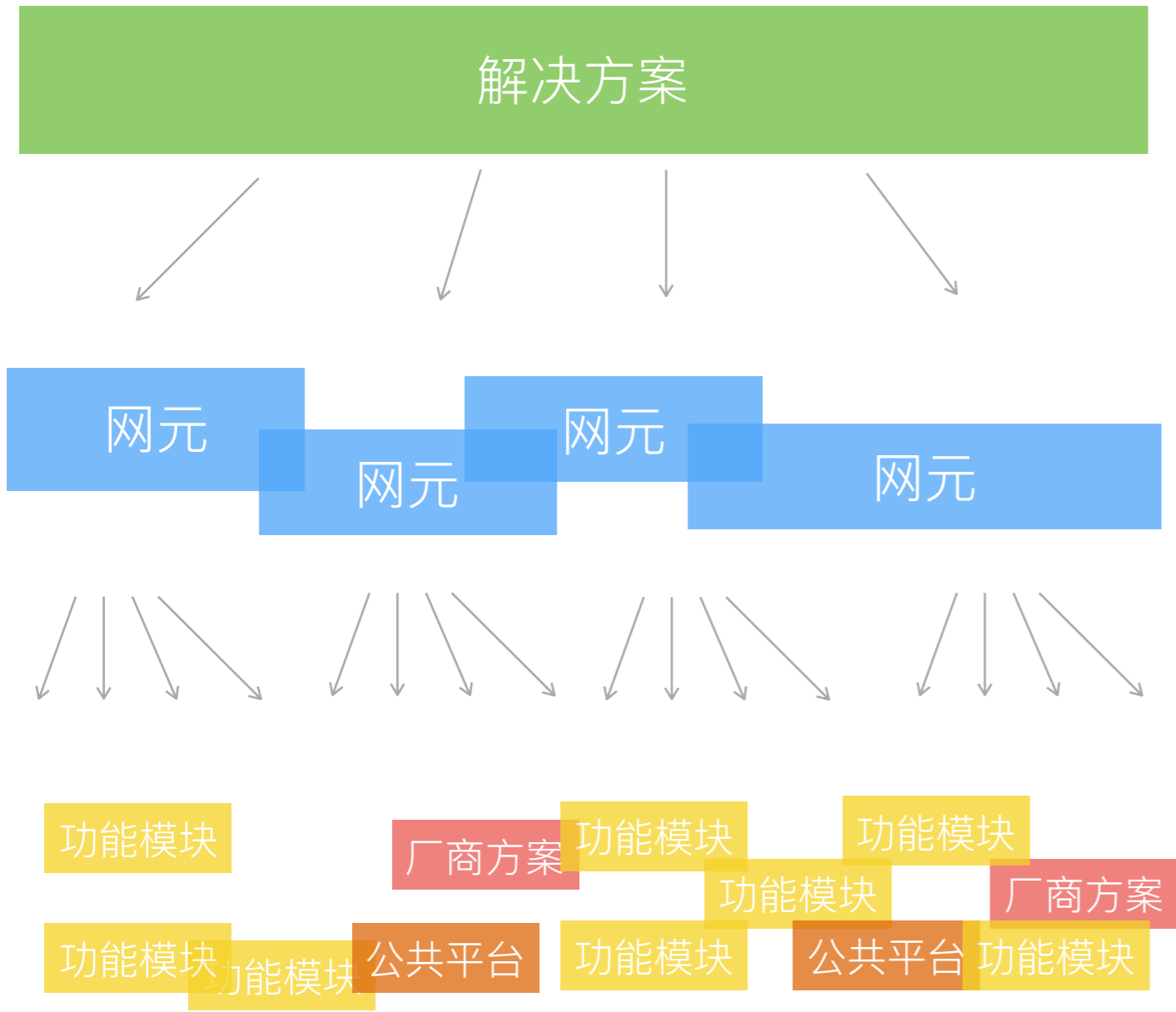
实施

验证

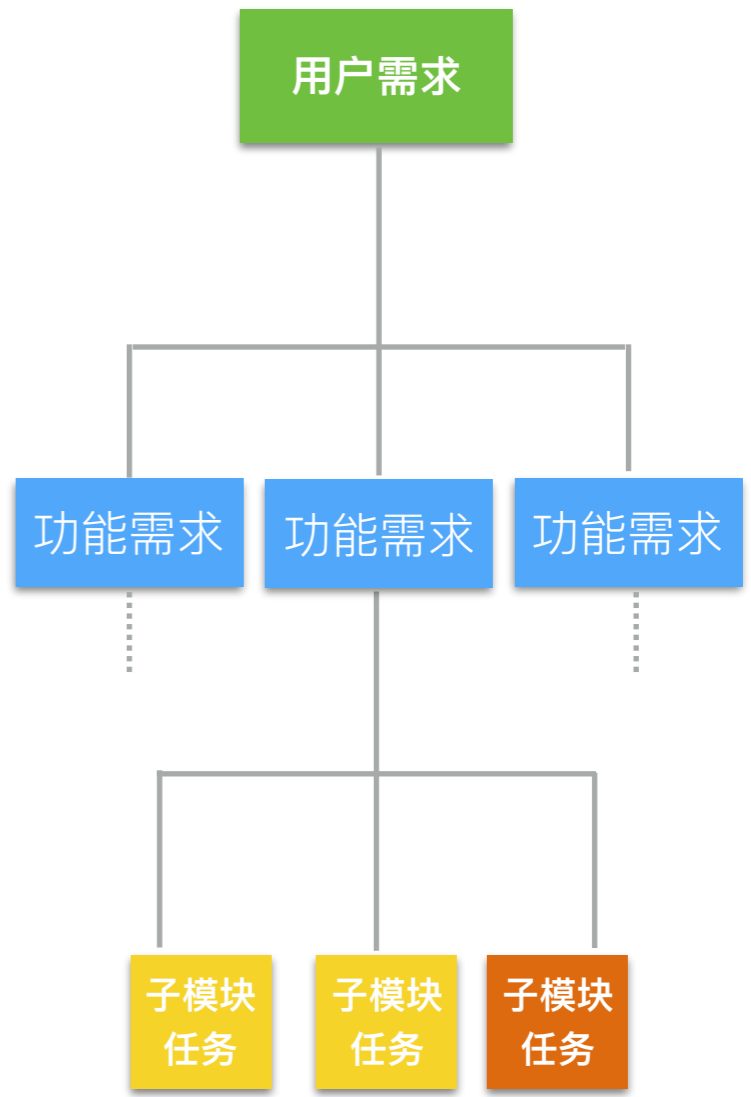
...

Water- Scrum - Fall

产品的层次



价值的层次



现实： 单个团队的实施也无法交付完整的客户价值

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第一性原理

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产品开发的第一性原理

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精益和敏捷的规模化路径

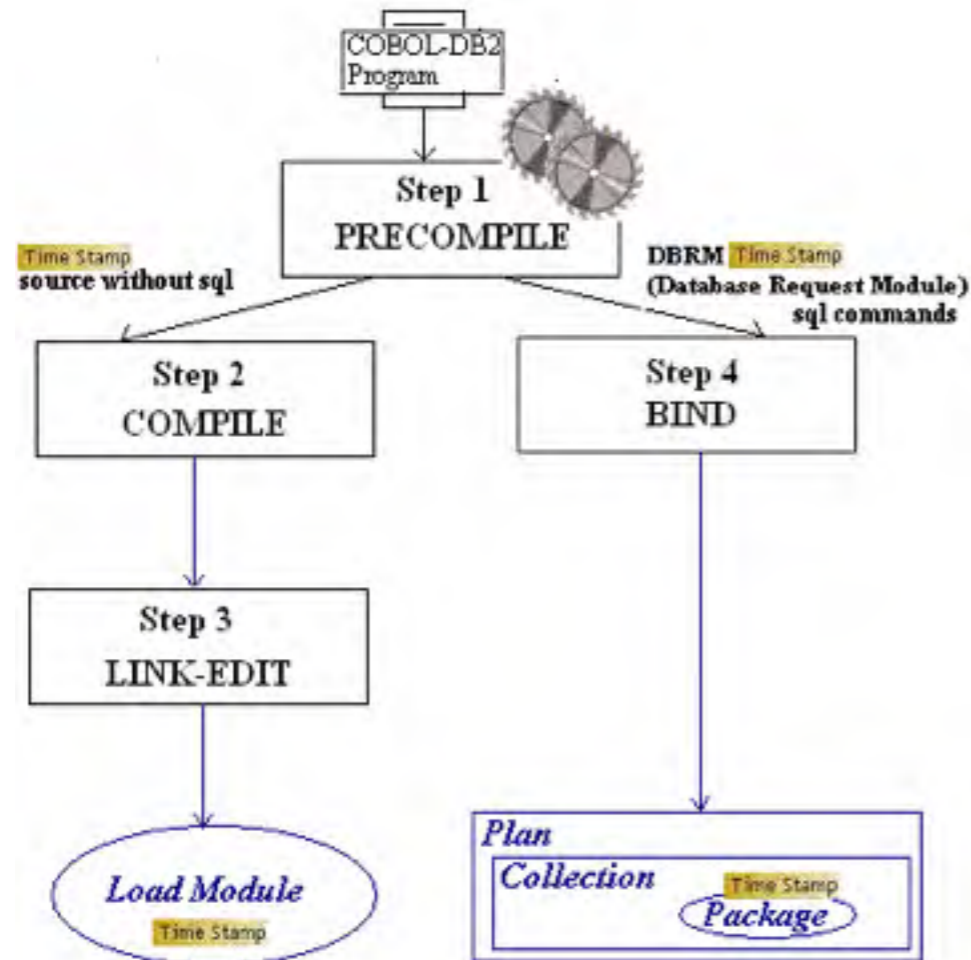


4

从第一性原理反馈规模化的效果

ALGOL programming

3 Person, 3 Steps



COBOL PROGRAMMING

5 Person, 5 Steps



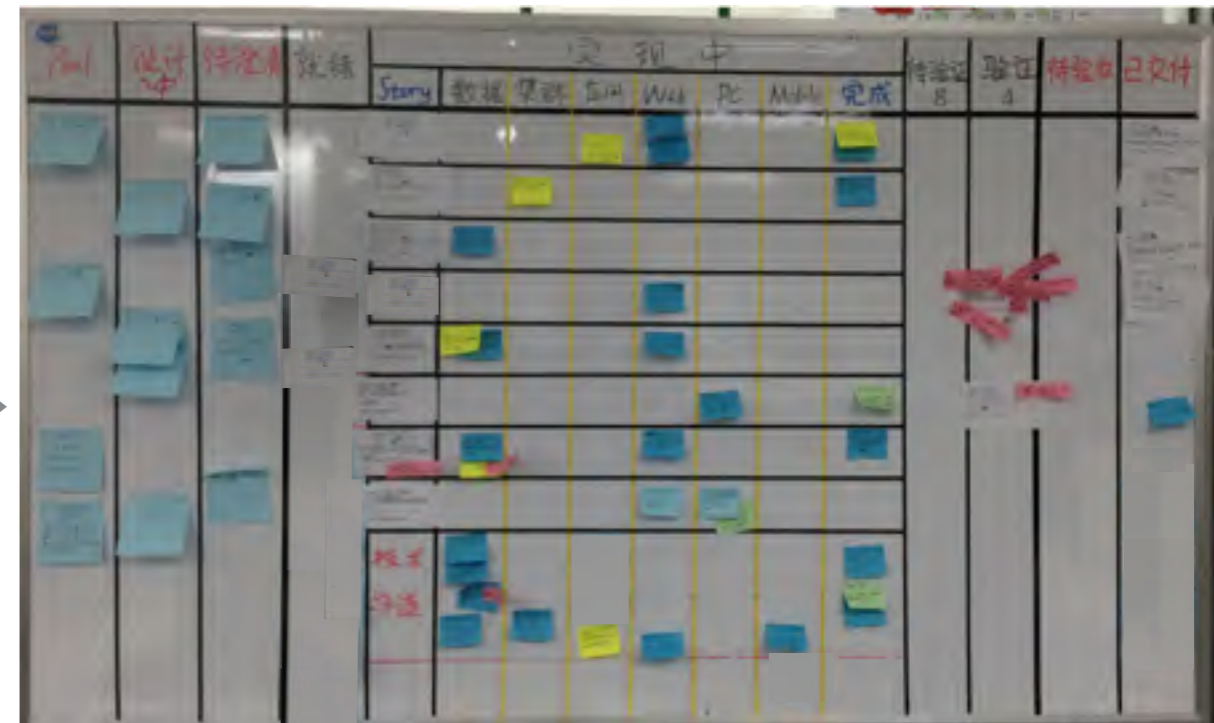
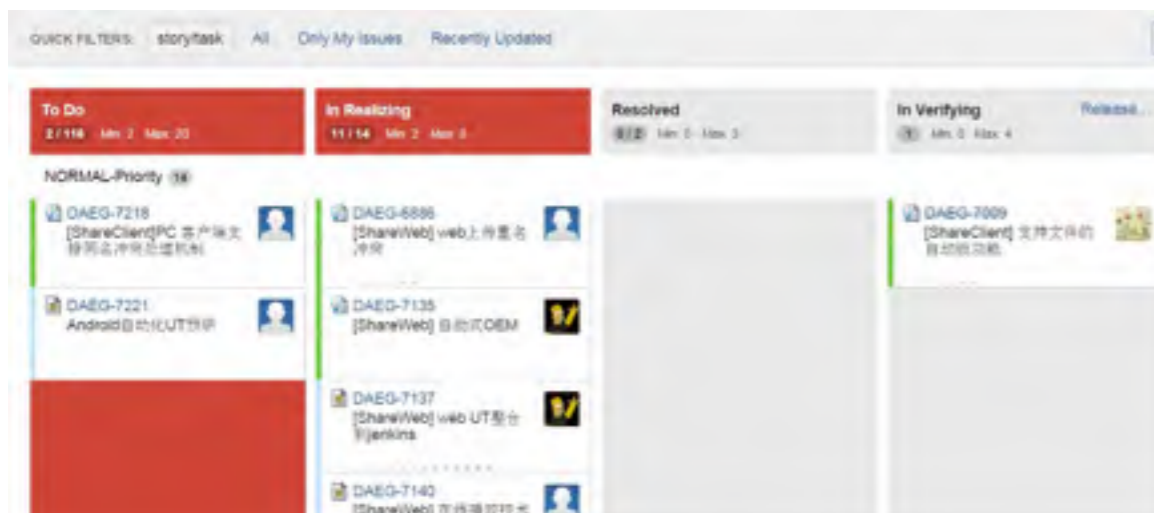
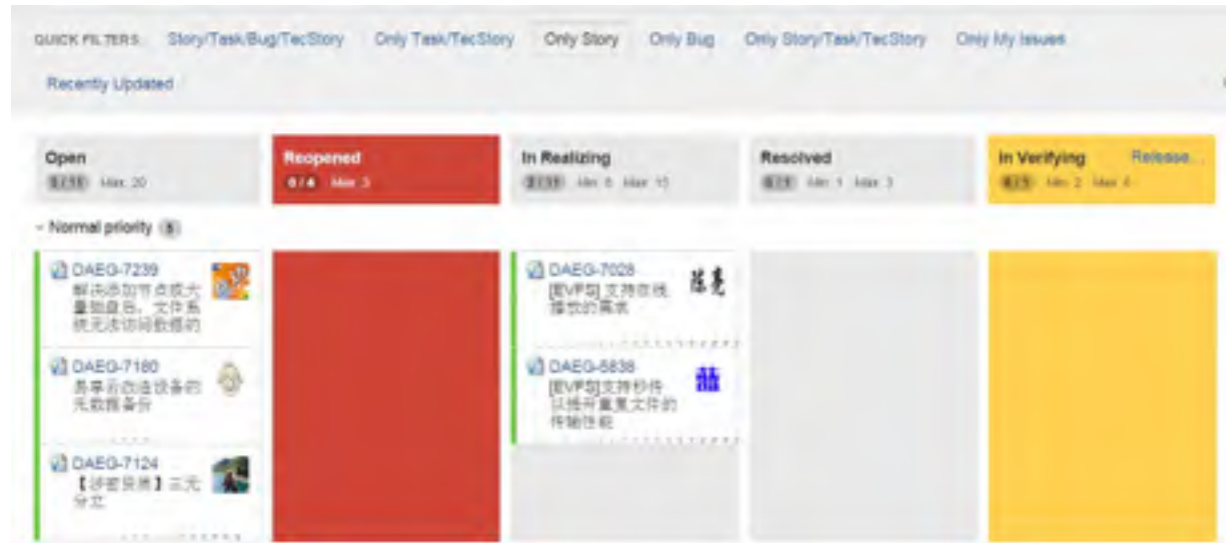
“这一年多，我对 VAX 始终抱有一种恐惧感”，事后的一个晚上，韦斯特在四九五公路上开车时说，“我心里一直没个底。VAX 在市场上叫得很响，因此我想看看自己到底落后到什么程度。我看到他们的机器笨重而昂贵，就像吃了一颗定心丸。它使我坚定了采取一些措施的信心。

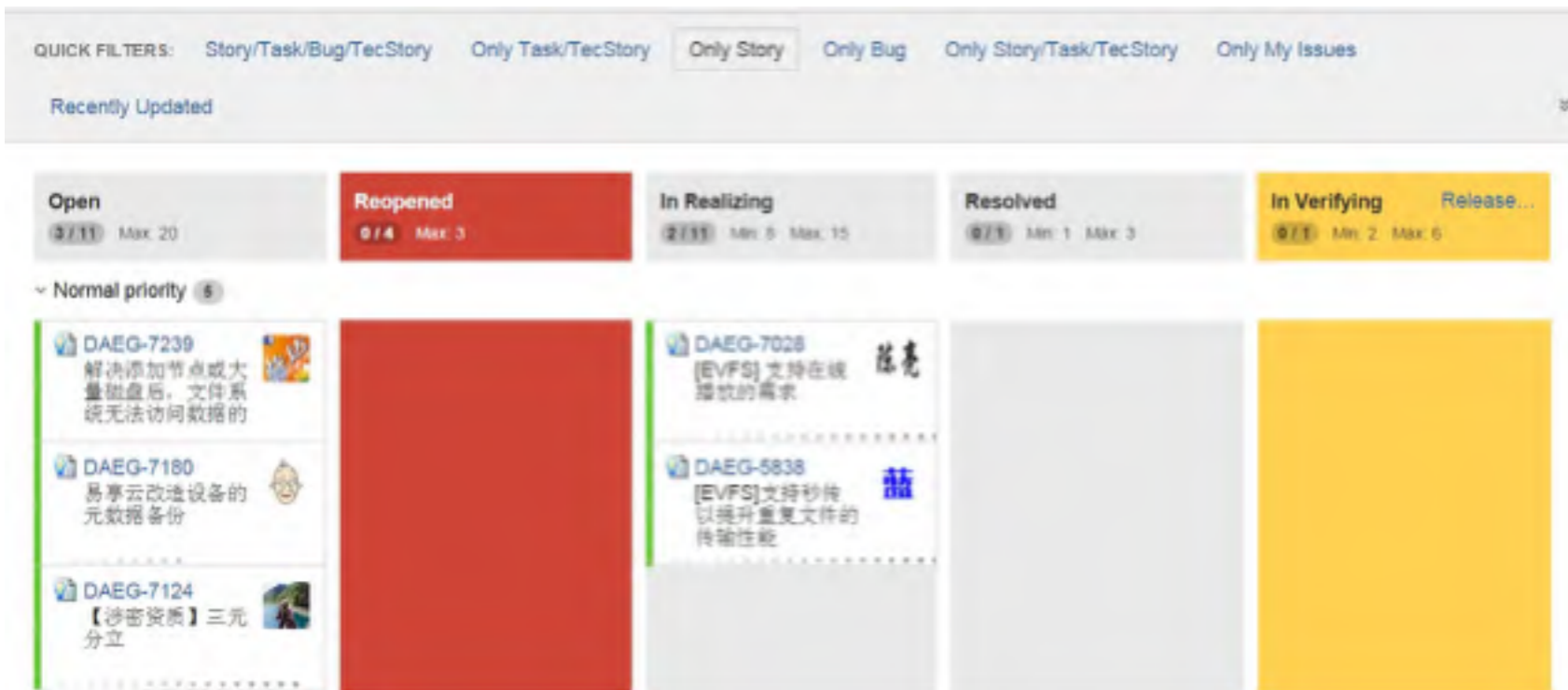
韦斯特觉得从 VAX 身上窥见了 DEC 自身的**企业结构**，VAX 过于复杂了。例如，他对 VAX 机器各部分的连接方式就很不以为然，呆板、单调，并且毫无韵味。VAX 身上映射出 DEC 公司自身结构的许多弱点。从 VAX 身上可以找

避免从组织结构规模化开始

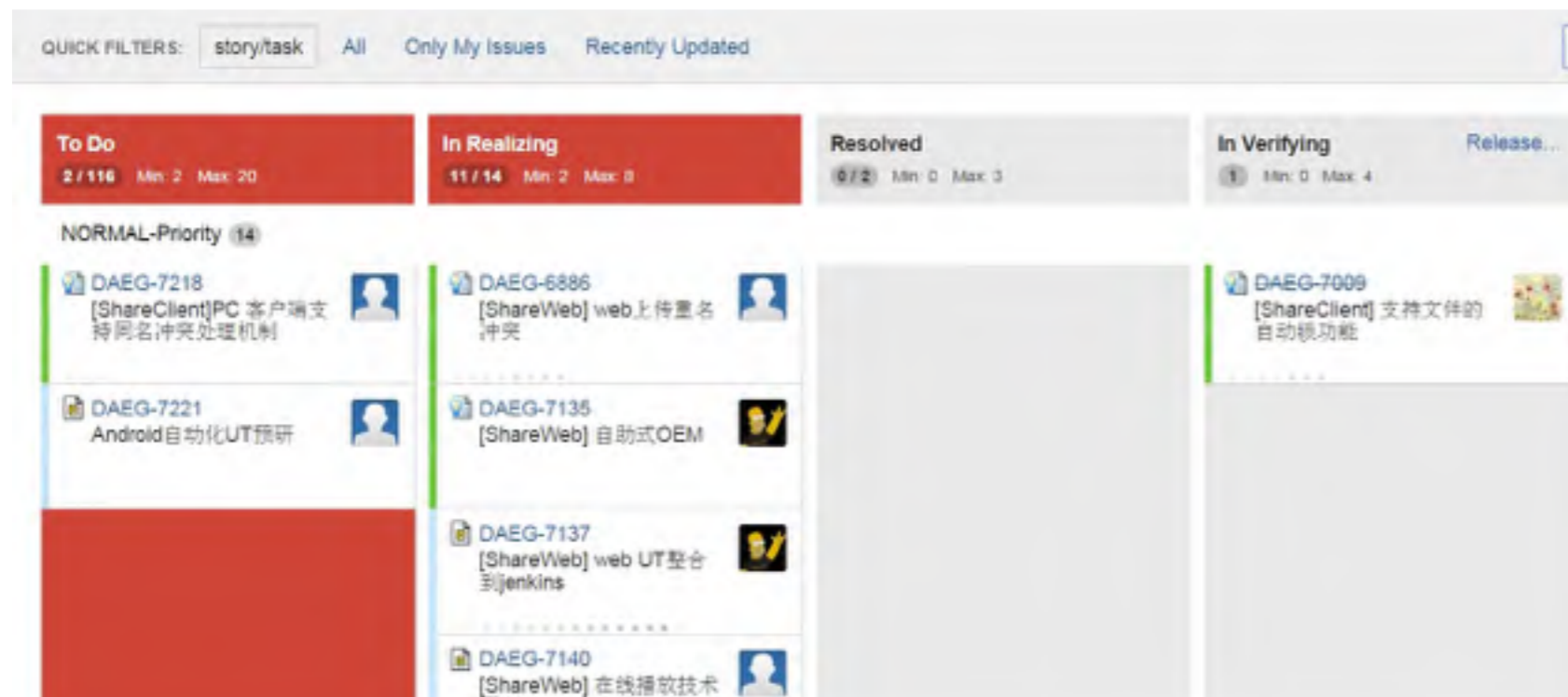
规模化应该被实际的业务需要驱动

融合

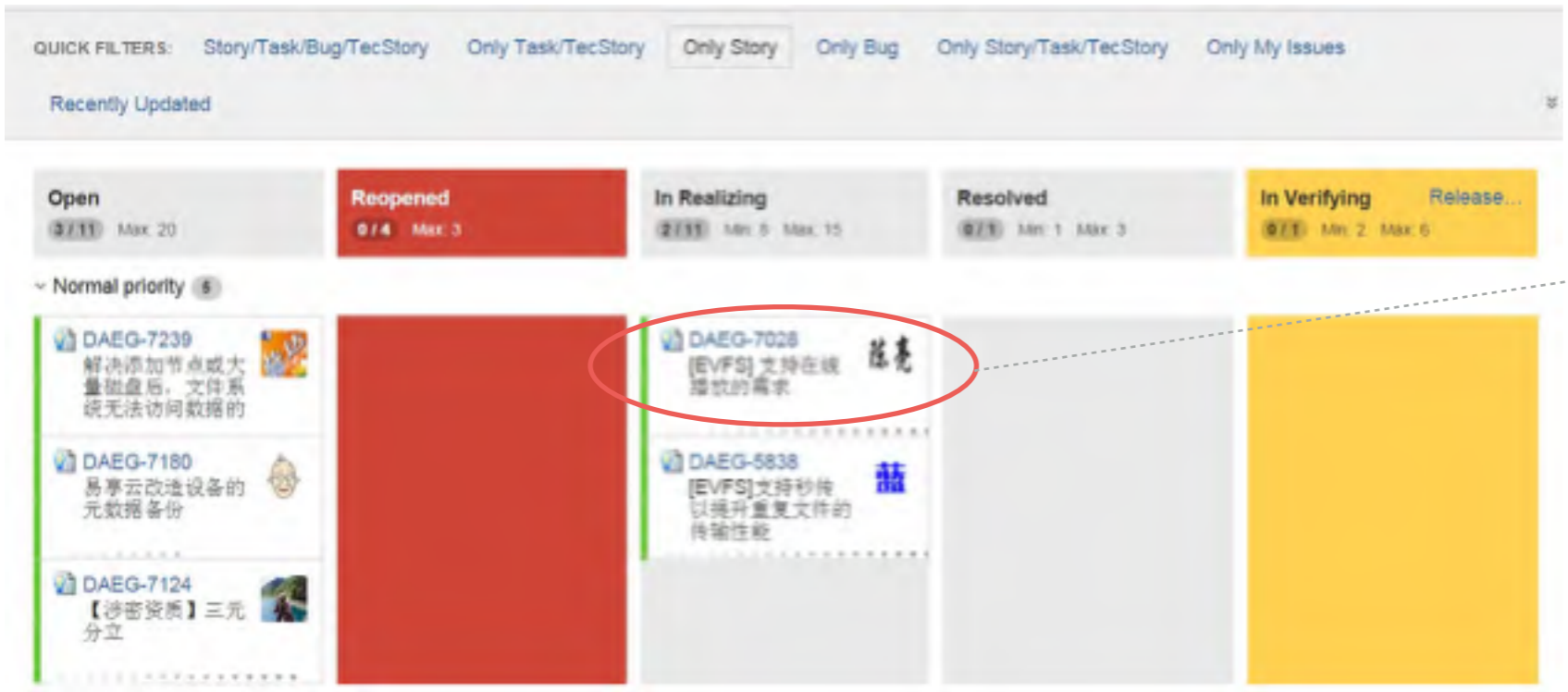




后端团队看板



前端团队看板

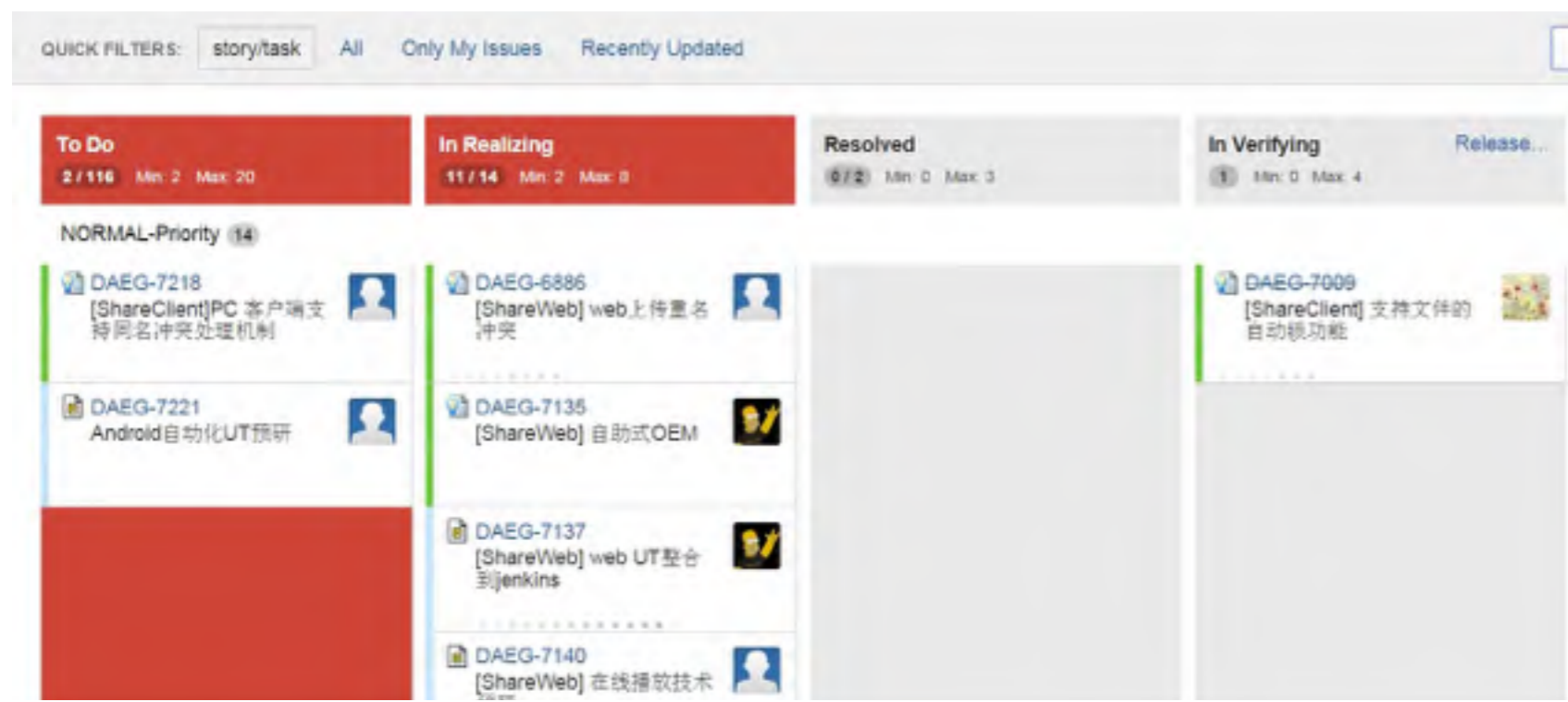


DAEG-7028

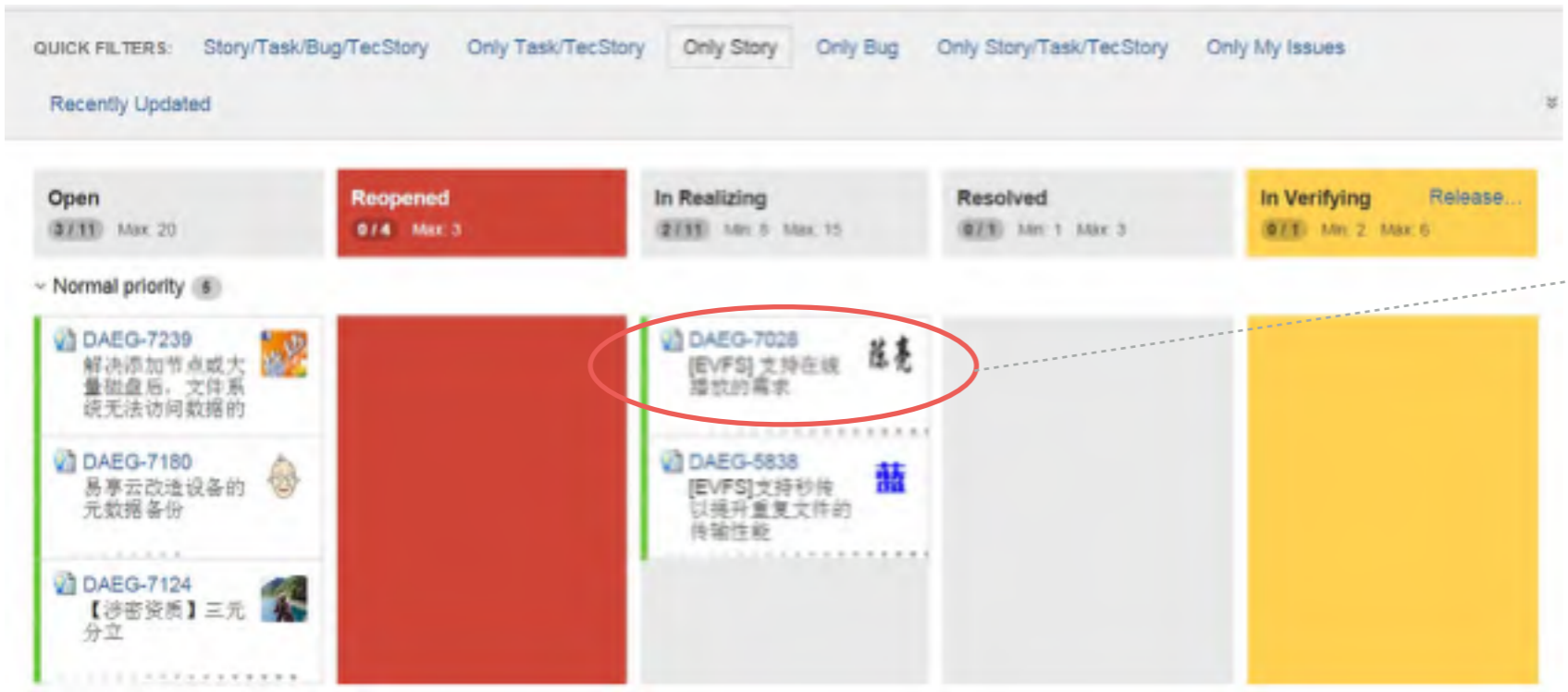
陈亮

[EVFS] 支持在线播放的需求

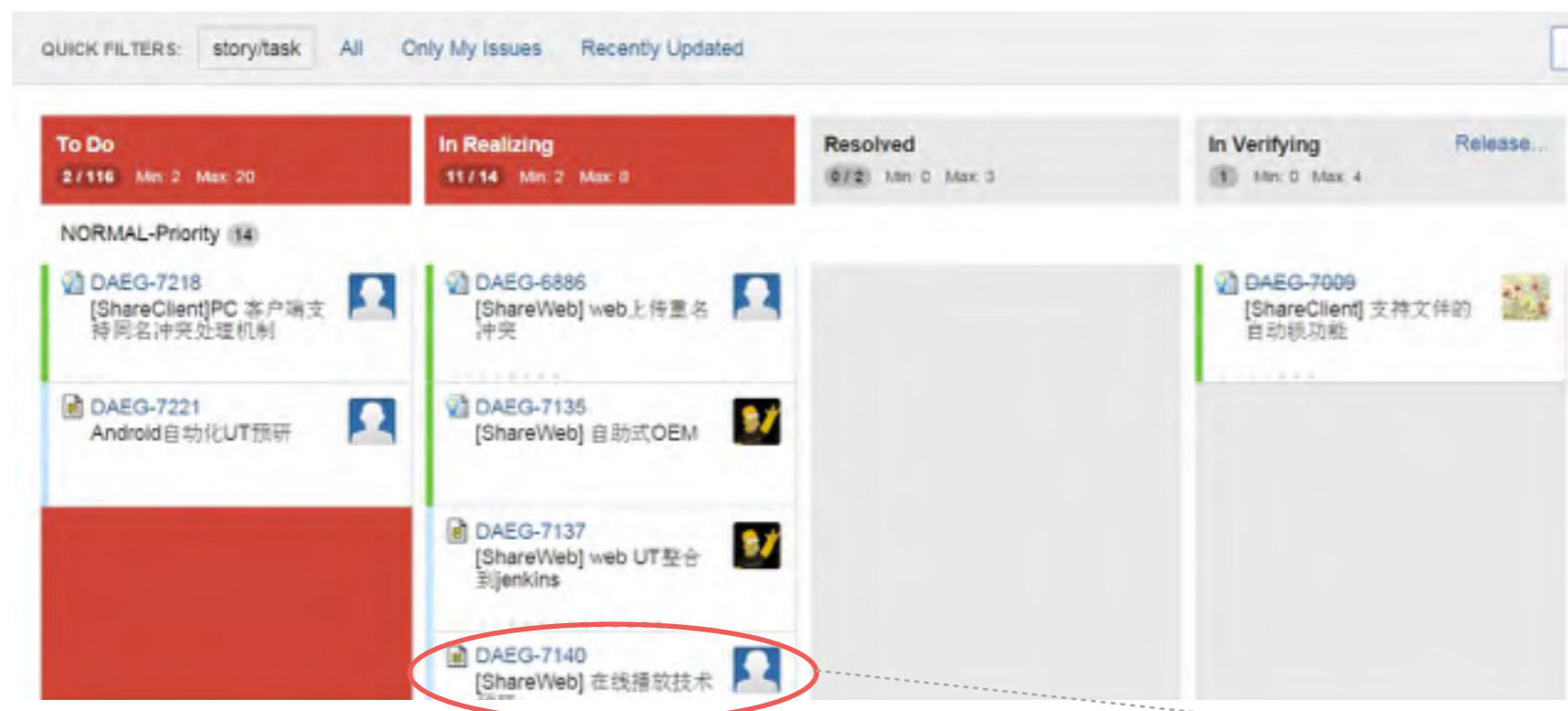
后端团队看板



前端团队看板



后端团队看板



前端团队看板

DAEG-7028

[EVFS] 支持在线播放的需求

陈亮

DAEG-7140

[ShareWeb] 在线播放技术

QUICK FILTERS: Story/Task/Bug/TecStory Only Task/TecStory **Only Story** Only Bug Only Story/Task/TecStory Only My Issues

Recently Updated

Open 3/11 Max: 20

Reopened 0/4 Max: 3

In Realizing 2/11 Min: 5 Max: 15

Resolved 0/2 Min: 1 Max: 3

In Verifying 0/2 Min: 2 Max: 6

Release...

Normal priority 5

- DAEG-7239 解决添加节点或大量磁盘后，文件系统无法访问数据的
- DAEG-7180 易享云改造设备的元数据备份
- DAEG-7124 【涉密资质】三元分立

DAEG-7028 [EVFS] 支持在线播放的需求 陈亮

DAEG-5838 [EVFS]支持秒传以提升重复文件的传输性能

DAEG-7028

[EVFS] 支持在线播放的需求

陈亮

后端团队看板

Displaying issues 1 to 10 of 10 matching issues.

T	Key	Summary	Status	Assignee	Reporter
DAEG-7682		非admin用户调用GetAuth认证时，获得异常不正确	Open	chen liang	zhong hua
DAEG-7660		在未开启三权分立的情况下，使用审计员用户登录时抛出的异常不件	Resolved	zhong hua	zhong hua
DAEG-7674		发送备份恢复的认证请求，输入错误的密码，抛出异常不正确	Resolved	zhong hua	zhong hua
DAEG-7586		【2015-04-03备份-ST】，所有带英文引号的操作，都不会产生日志	Open	li guangyou	wang li01
DAEG-7567		通过使硬盘休眠(Swin)功能为定时备份任务二种操作	In Verifying	tang sha	tang keji
DAEG-7550		【webcam在播放时-ST】存在一个bug视频，播放到中间就停止播放了，而且视频帧数的显示也不固	In Realizing	wang xiao	hong mengqing

缺陷系统

QUICK FILTERS: story/task All Only My Issues Recently Updated

To Do 2/116 Min: 2 Max: 20

In Realizing 11/14 Min: 2 Max: 0

Resolved 0/2 Min: 0 Max: 3

In Verifying 1 Min: 0 Max: 4

Release...

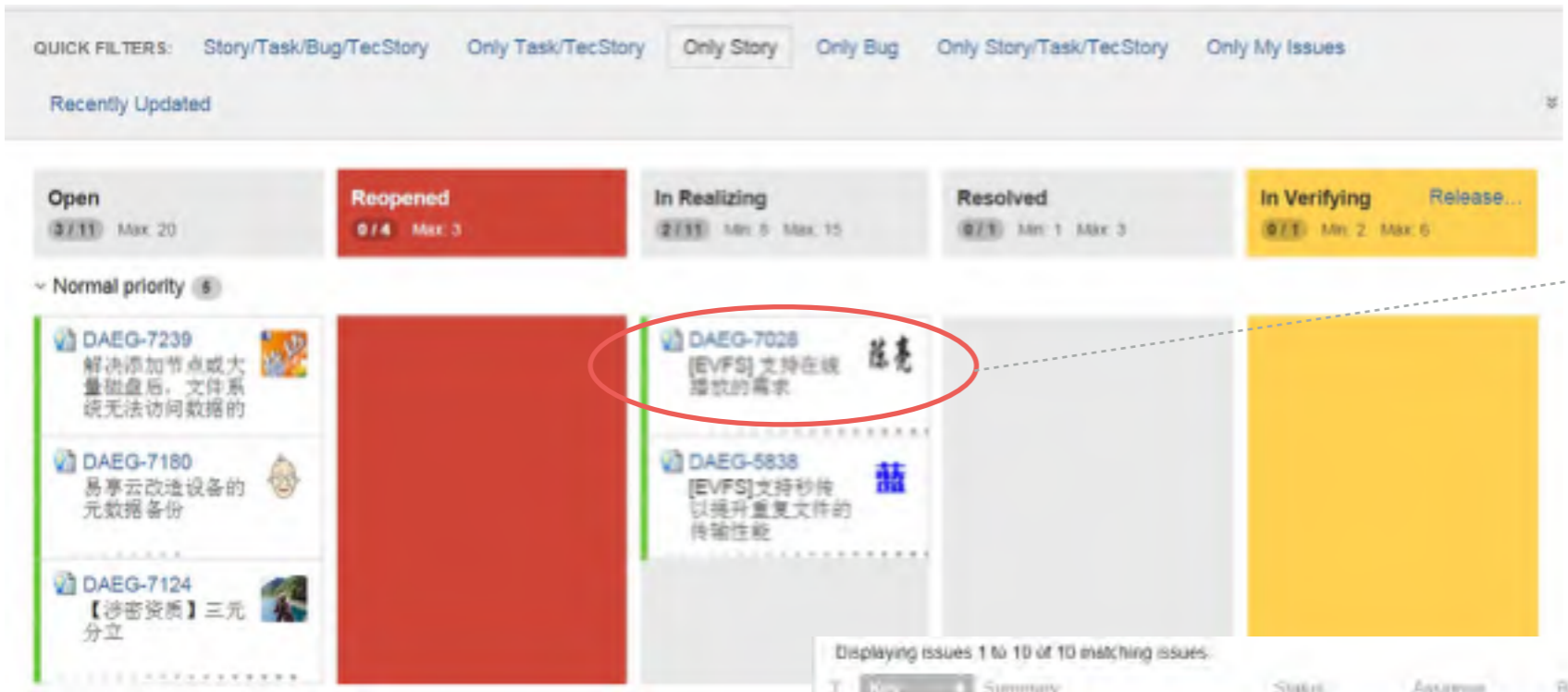
NORMAL-Priority 14

- DAEG-7218 [ShareClient]PC 客户端支持同名冲突处理机制
- DAEG-6886 [ShareWeb] web上传重名冲突
- DAEG-7221 Android自动化UT预研
- DAEG-7135 [ShareWeb] 自助式OEM
- DAEG-7137 [ShareWeb] web UT整合到jenkins
- DAEG-7140 [ShareWeb] 在线播放技术
- DAEG-7009 [ShareClient] 支持文件的自动锁功能

DAEG-7140

[ShareWeb] 在线播放技术

前端团队看板



后端团队看板

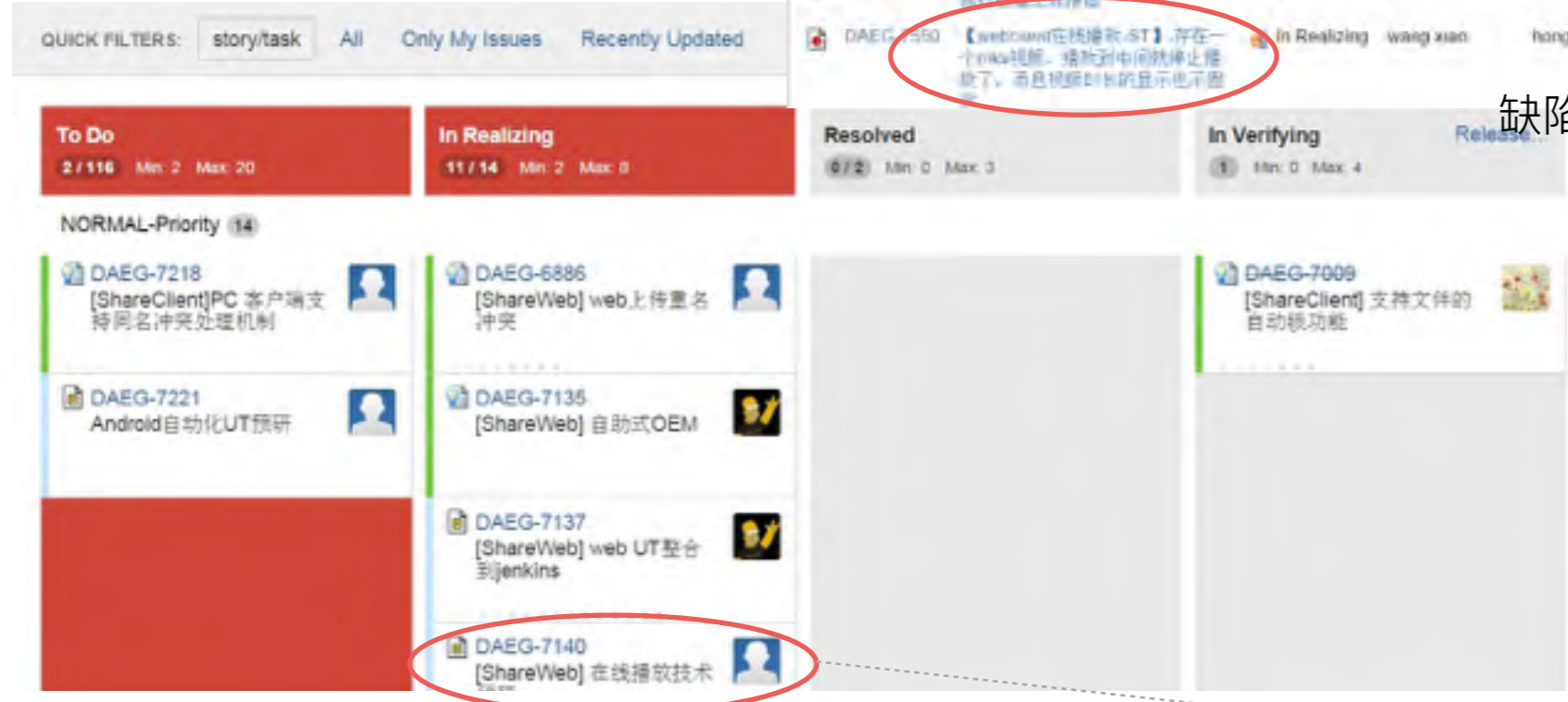
DAEG-7028
[EVFS] 支持在线播放的需求
陈亮

✔ 工作任务分配和其状态

Displaying issues 1 to 10 of 10 matching issues.

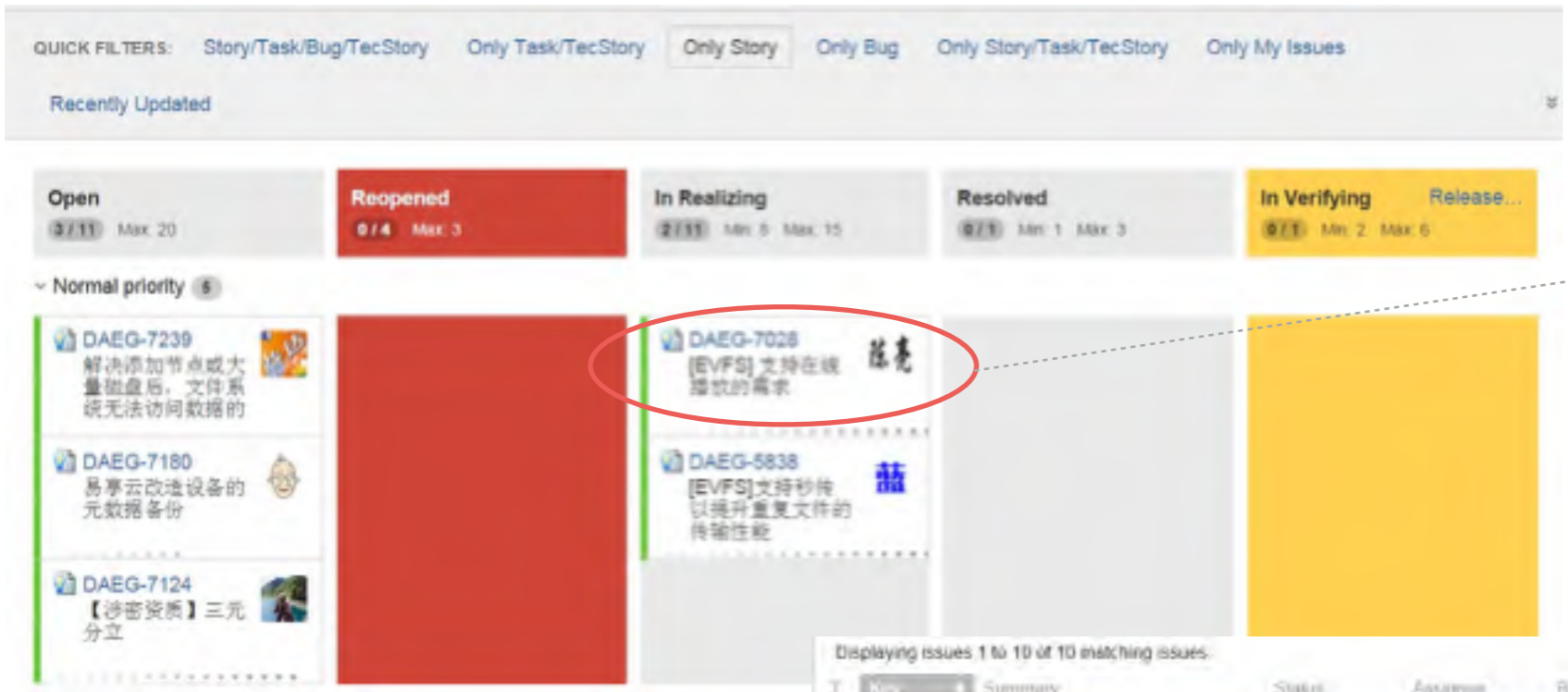
ID	Key	Summary	Status	Assignee	Reporter
DAEG-7562	非admin用户调用GetAuth认证时, 获得异常不正确	Open	chen liang	zhong hua	
DAEG-7560	在未开启三权分立的情况下, 使用审计员用户登录时抛出的异常不件	Resolved	zhong hua	zhong hua	
DAEG-7674	发送备份恢复的认证请求, 输入错误的密码, 抛出异常不正确	Resolved	zhong hua	zhong hua	
DAEG-7566	【2015-04-03备份-ST】, 所有带英文引号的操作, 都不会产生日志	Open	li guangyou	wang li01	
DAEG-7567	通过使能策略(Switch)控制为定时备份策略二种策略	In Verifying	tang sha	tang keji	
DAEG-7560	【webcam在播放时-ST】存在一个webcam, 播放到中间就停止播放了, 而且视频帧的显示也不固	In Realizing	wang xiao	hong mengqing	

缺陷系统



前端团队看板

DAEG-7140
[ShareWeb] 在线播放技术



后端团队看板

DAEG-7028

陈亮

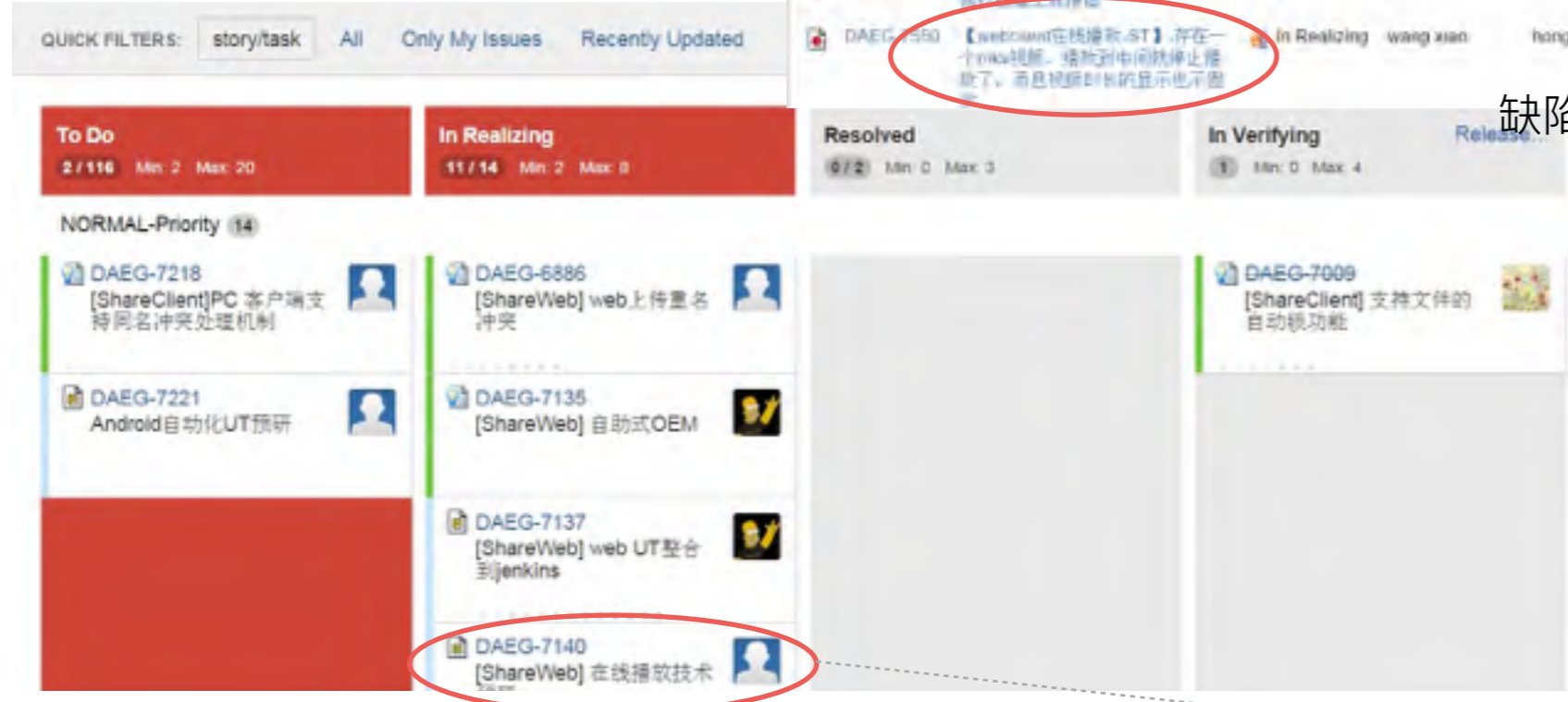
[EVFS] 支持在线播放的需求

Displaying issues 1 to 10 of 10 matching issues.

ID	Key	Summary	Status	Assignee	Reporter
DAEG-7662	非admin用户调用GetAuth认证时，获得异常不正确	Open	chen liang	zhong hua	
DAEG-7660	在未开启三权分立的情况下，使用审计员用户登录时抛出的异常不件	Resolved	zhong hua	zhong hua	
DAEG-7674	发送备份恢复的认证请求，输入错误的密码，抛出异常不正确	Resolved	zhong hua	zhong hua	
DAEG-7566	【2015-04-03备份-S1】，所有带英文引导的操作，都不会产生日志	Open	li guangyou	wang jid1	
DAEG-7567	通过健康度检查(Swift)的能力定时扫描并删除过期数据	In Verifying	tang sha	tang keji	
DAEG-7550	【webcam在播放时-5T】存在一个webcam，播放到中间就停止播放了，而且视频帧数的显示也不固	In Realizing	wang xian	hong mengqing	

缺陷系统

- 工作任务分配和其状态
- 用户需求的端到端流动
- 团队协作，及相关问题
- 缺陷和需求关联



前端团队看板

DAEG-7140

[ShareWeb] 在线播放技术



If you can't describe what you are doing as a process, you don't know what you're doing.

如果你不能以一个清晰的过程来展示你所从事的工作，
你就不会真正的了解你在做什么。

— 戴明 质量管理之父

Pool 设计中 待澄清 就绪 实现中 待验证 验证 待验收 已交付

Story	数据	集群	应用	Web	PC	Mobile	完成	待验证 8	验证 4	待验收	已交付
[Story Card]				[Blue]			[Yellow]				
[Story Card]		[Yellow]					[Blue]				
[Story Card]	[Blue]										
[Story Card]				[Blue]							
[Story Card]	[Yellow]	[Blue]		[Blue]							
[Story Card]					[Blue]						
[Story Card]	[Blue]			[Blue]			[Green]				
[Story Card]	[Blue]	[Yellow]		[Blue]			[Blue]				
[Story Card]				[Blue]	[Blue]						
[Story Card]				[Blue]	[Blue]	[Green]					
技术泳道	[Blue]	[Blue]					[Blue]				
	[Blue]	[Blue]	[Yellow]	[Blue]			[Blue]				

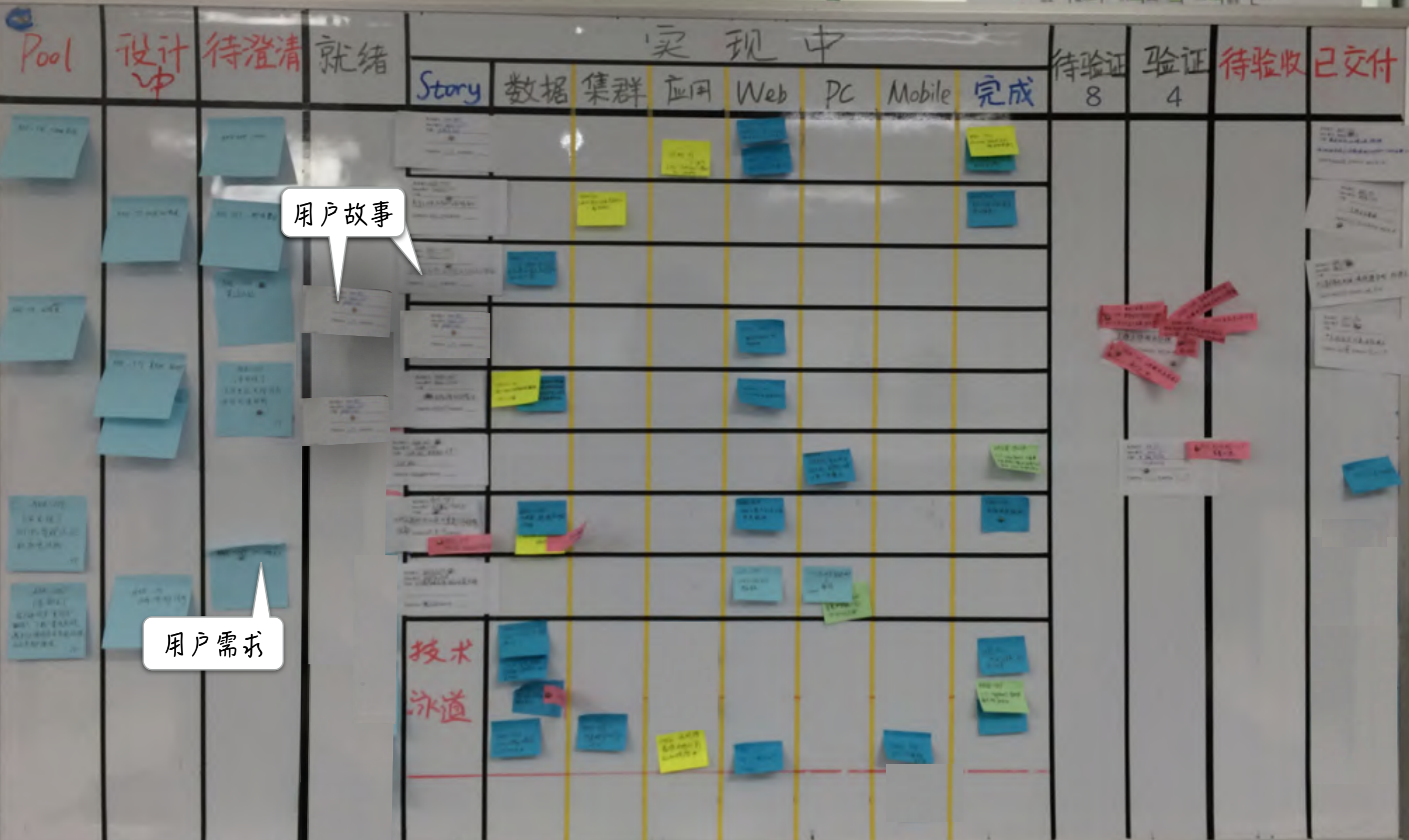
待验证 8
验证 4

已交付

Pool	设计中	待澄清	就绪	实现中					待验证 8	验证 4	待验收	已交付
				Story	数据	集群	应用	Web				
[Sticky Note]	[Sticky Note]	[Sticky Note]		[Sticky Note]	[Sticky Note]	[Sticky Note]	[Sticky Note]	[Sticky Note]	[Sticky Note]			[Sticky Note]
[Sticky Note]	[Sticky Note]	[Sticky Note]		[Sticky Note]	[Sticky Note]				[Sticky Note]			[Sticky Note]
[Sticky Note]	[Sticky Note]	[Sticky Note]		[Sticky Note]			[Sticky Note]					[Sticky Note]
[Sticky Note]	[Sticky Note]	[Sticky Note]		[Sticky Note]			[Sticky Note]		[Sticky Note]			[Sticky Note]
[Sticky Note]	[Sticky Note]	[Sticky Note]		[Sticky Note]	[Sticky Note]		[Sticky Note]		[Sticky Note]			[Sticky Note]
[Sticky Note]	[Sticky Note]	[Sticky Note]		[Sticky Note]			[Sticky Note]	[Sticky Note]	[Sticky Note]			[Sticky Note]
[Sticky Note]	[Sticky Note]	[Sticky Note]		[Sticky Note]	[Sticky Note]		[Sticky Note]	[Sticky Note]	[Sticky Note]			[Sticky Note]
[Sticky Note]	[Sticky Note]	[Sticky Note]		[Sticky Note]	[Sticky Note]		[Sticky Note]	[Sticky Note]	[Sticky Note]			[Sticky Note]
[Sticky Note]	[Sticky Note]	[Sticky Note]		[Sticky Note]	[Sticky Note]		[Sticky Note]	[Sticky Note]	[Sticky Note]			[Sticky Note]
				技术泳道	[Sticky Note]	[Sticky Note]	[Sticky Note]	[Sticky Note]	[Sticky Note]			[Sticky Note]

用户需求

待验证



Pool

设计中

待澄清

就绪

实现中

待验证
8

验证
4

待验收

已交付

Story

数据

集群

应用

Web

PC

Mobile

完成

用户故事

用户需求

技术泳道

后端模块

Pool

设计中

待澄清

就绪

实现中

Story

数据 集群 应用

Web

PC

Mobile

完成

待验证 8

验证 4

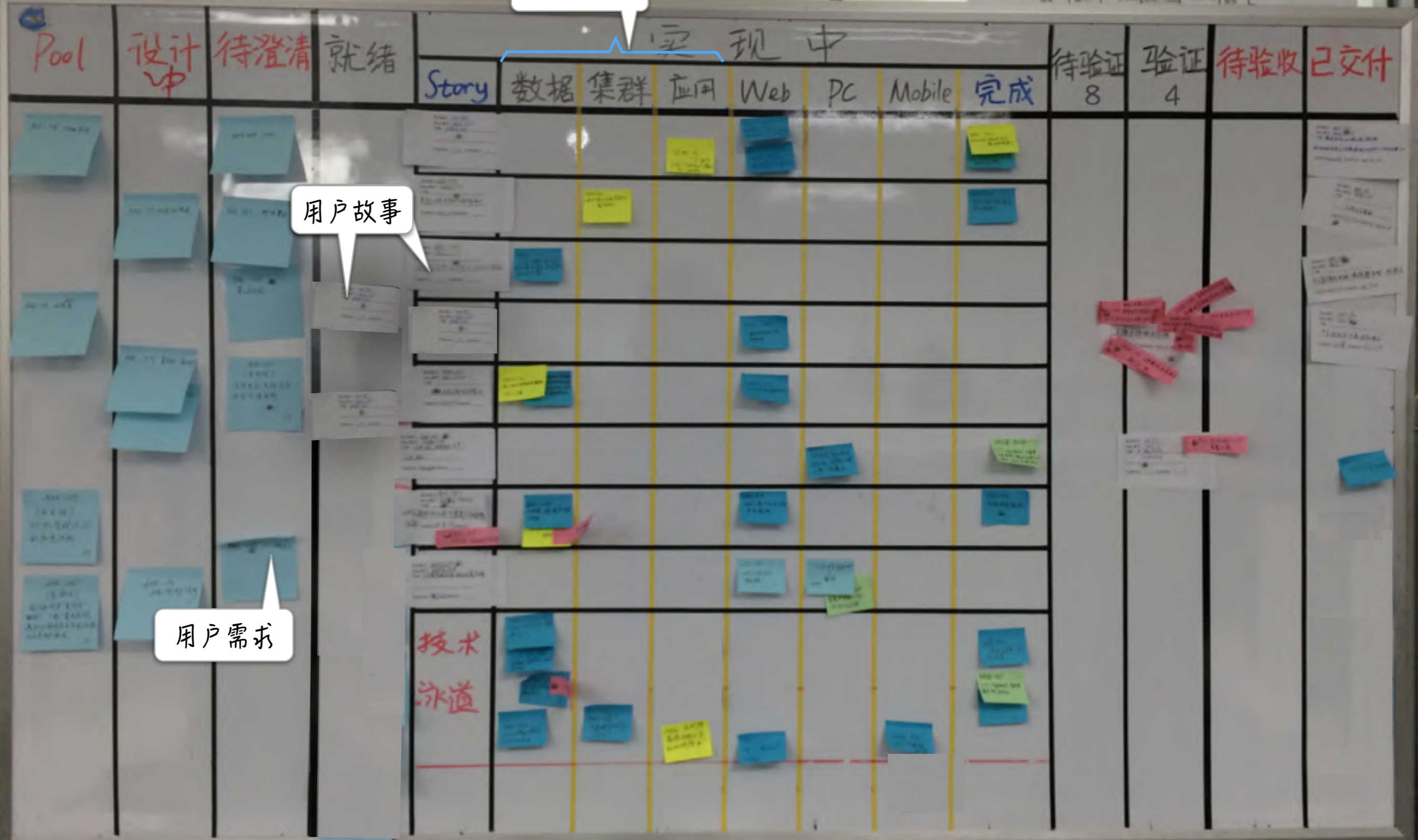
待验收

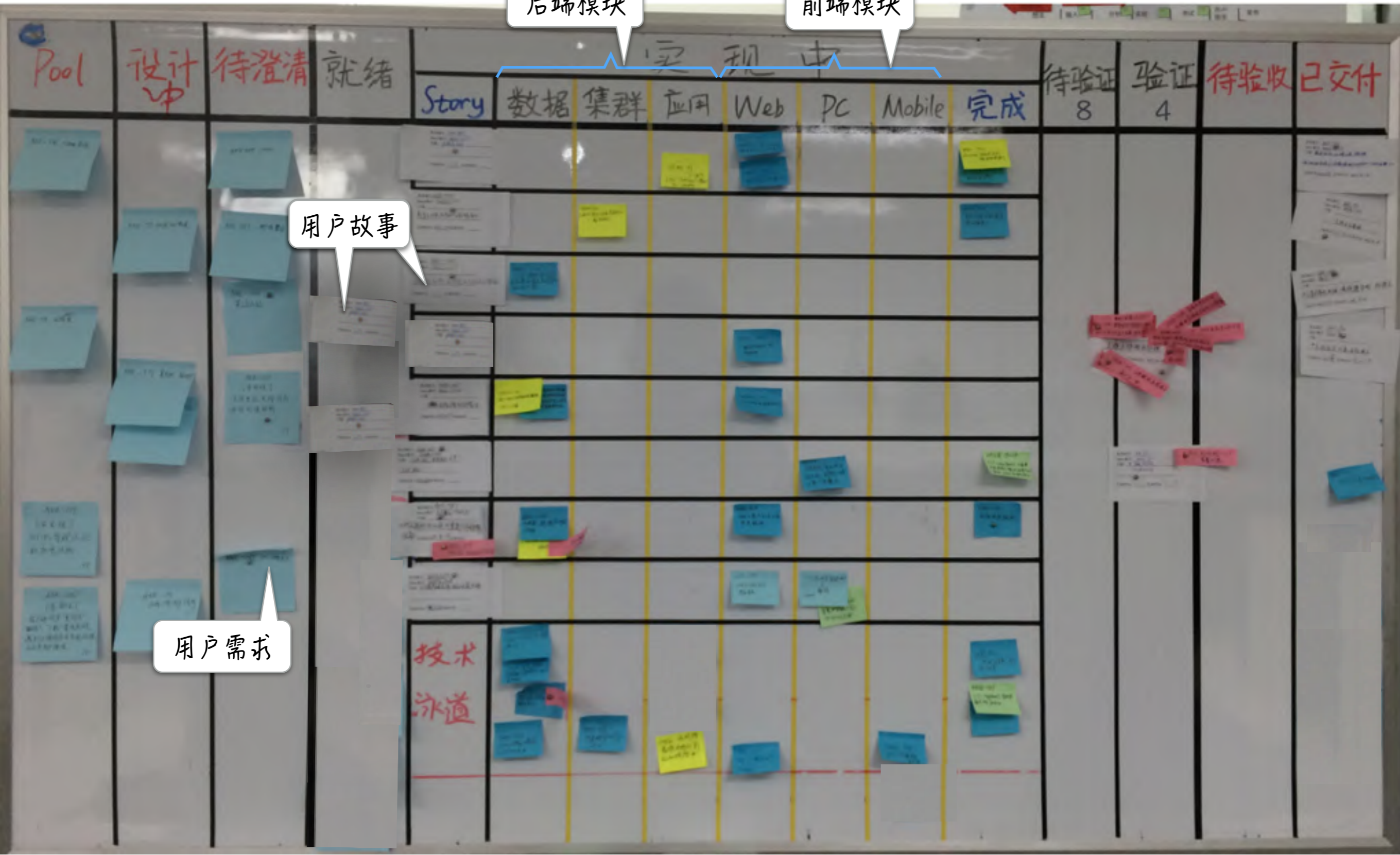
已交付

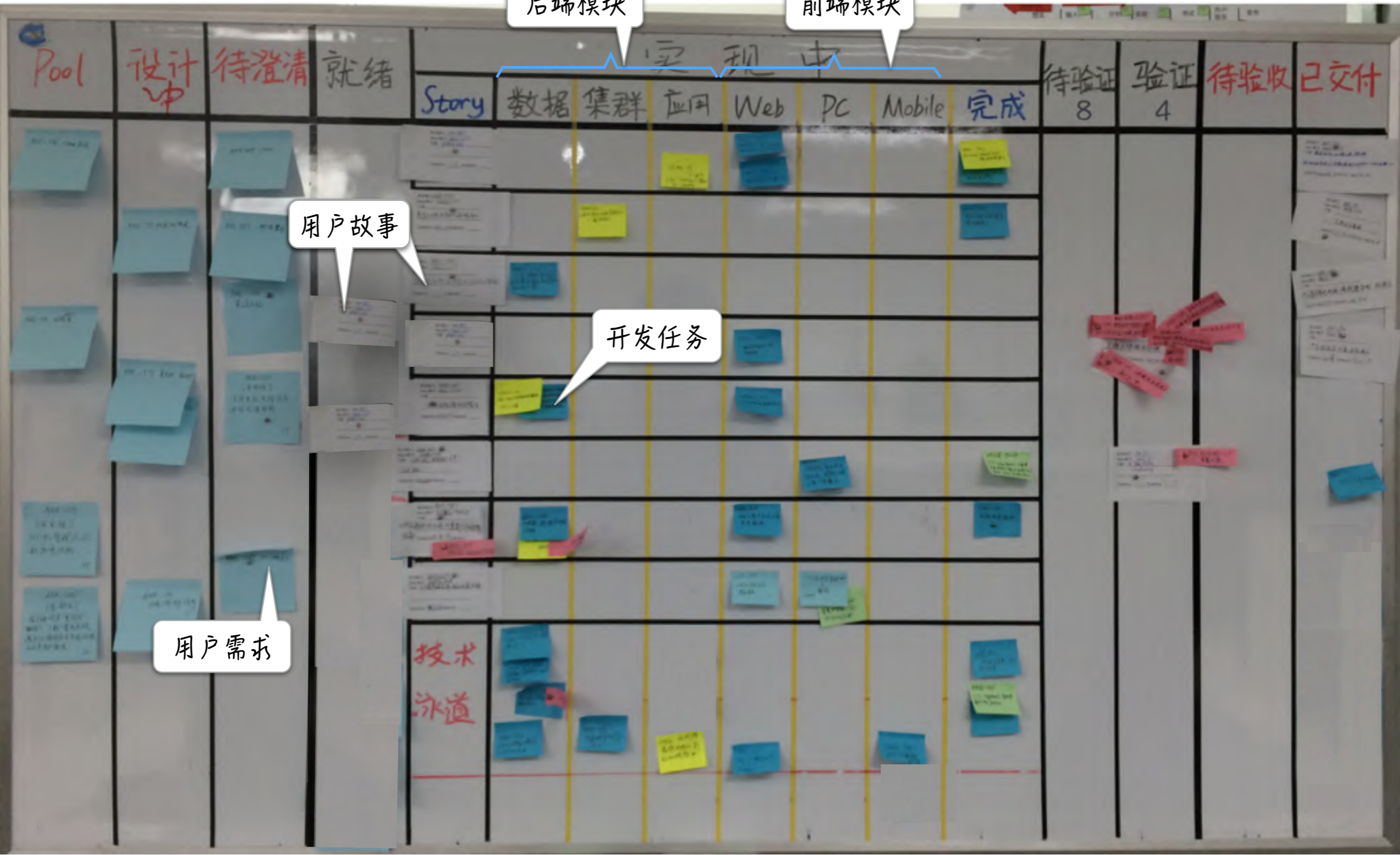
用户故事

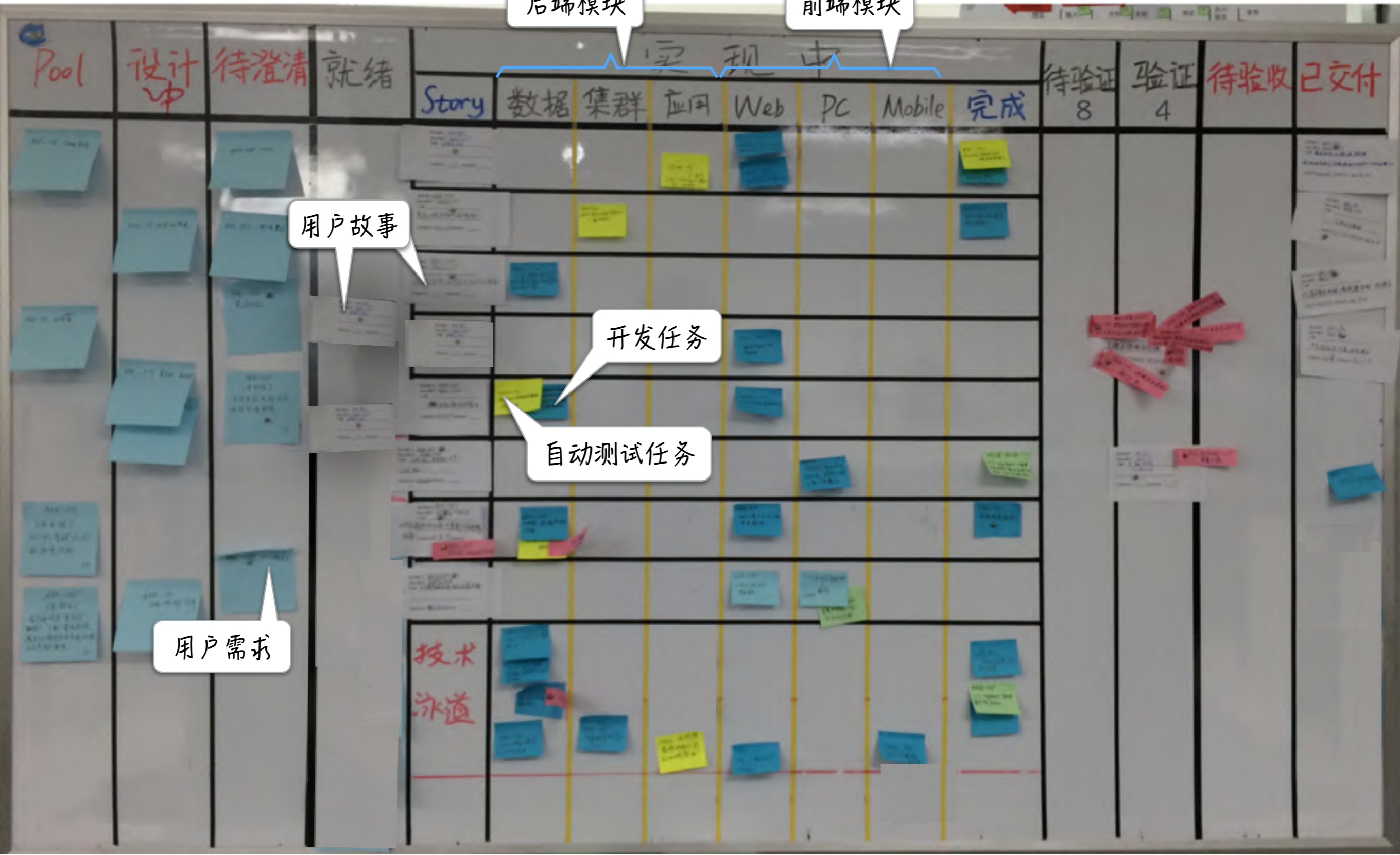
用户需求

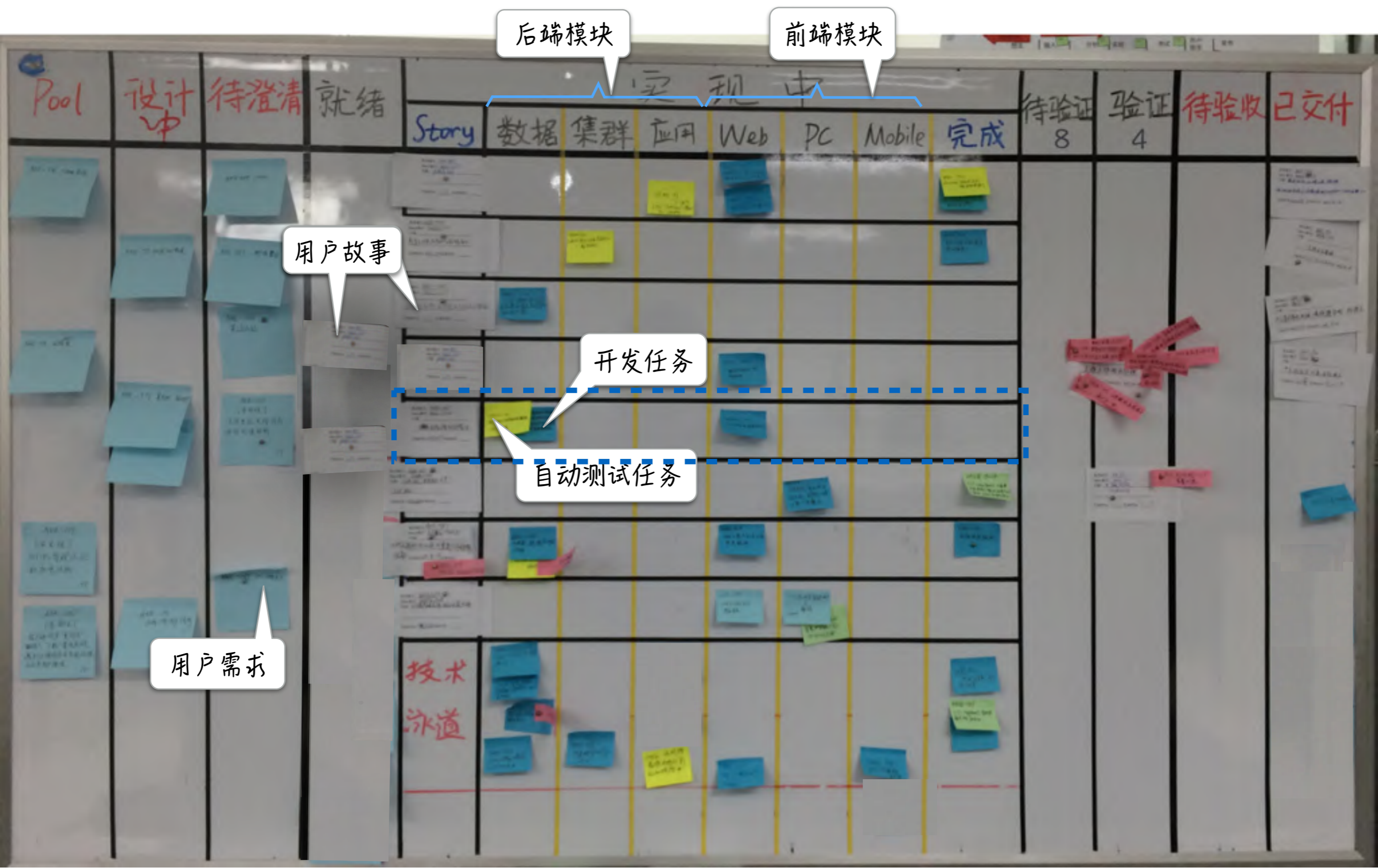
技术泳道

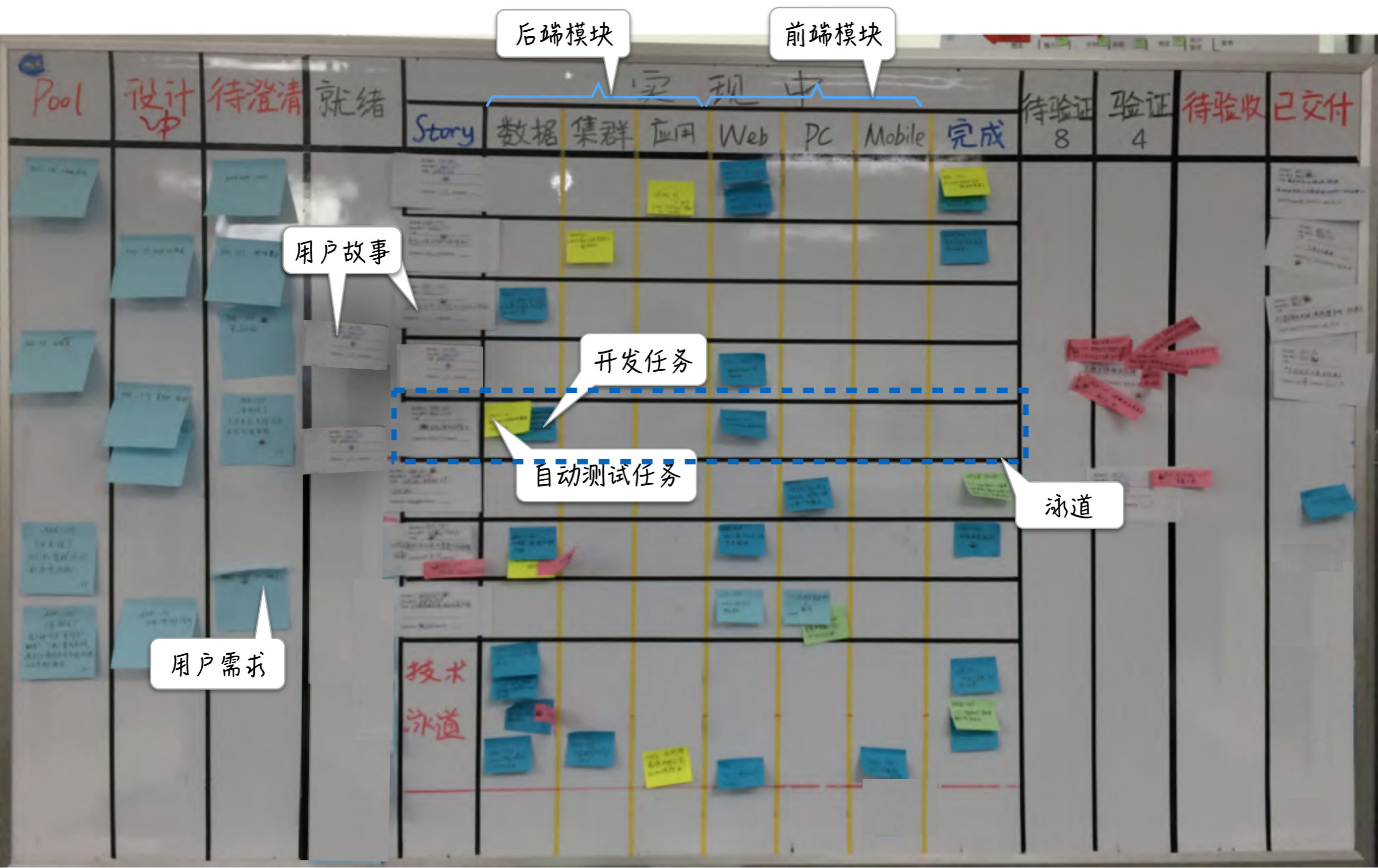


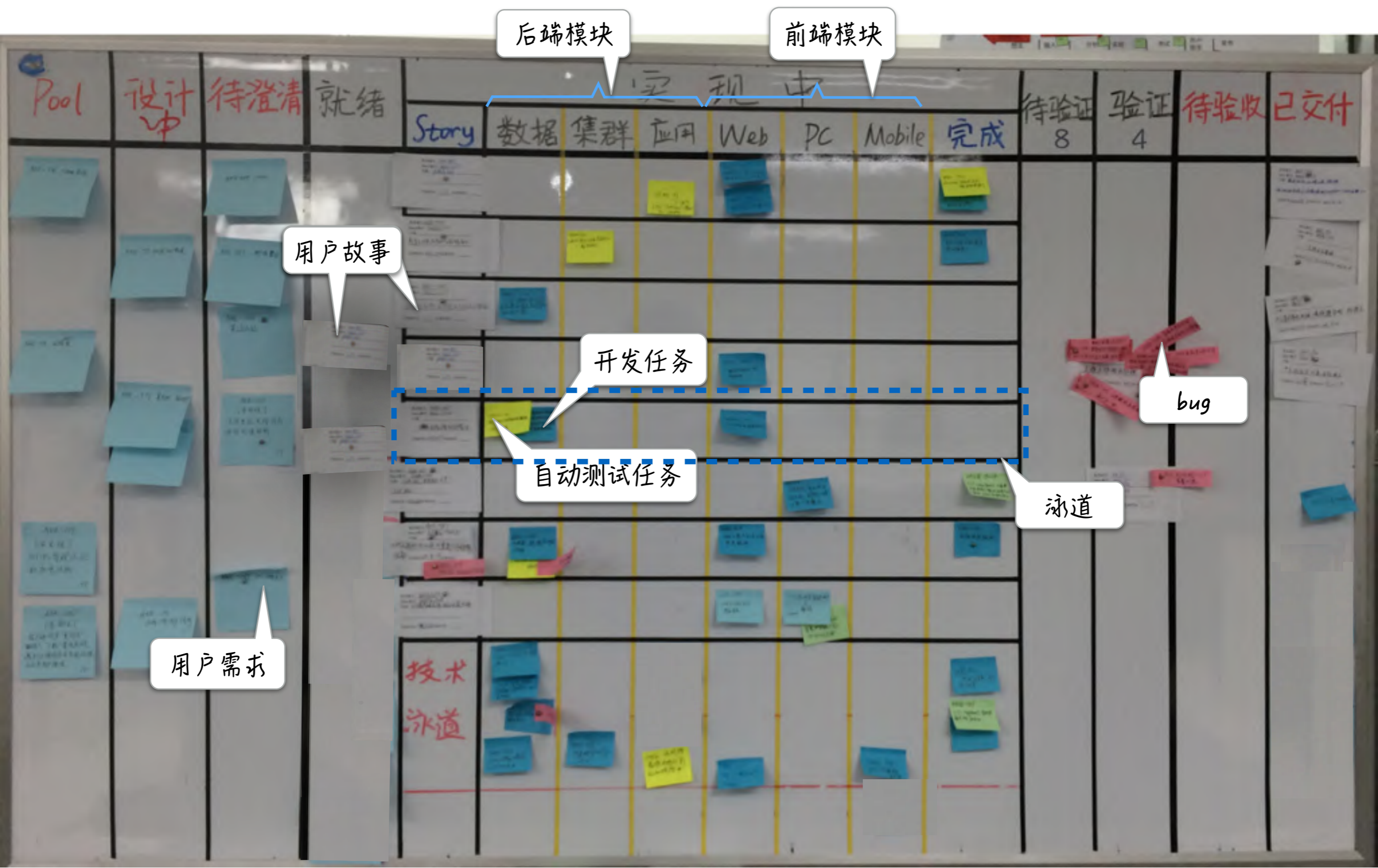


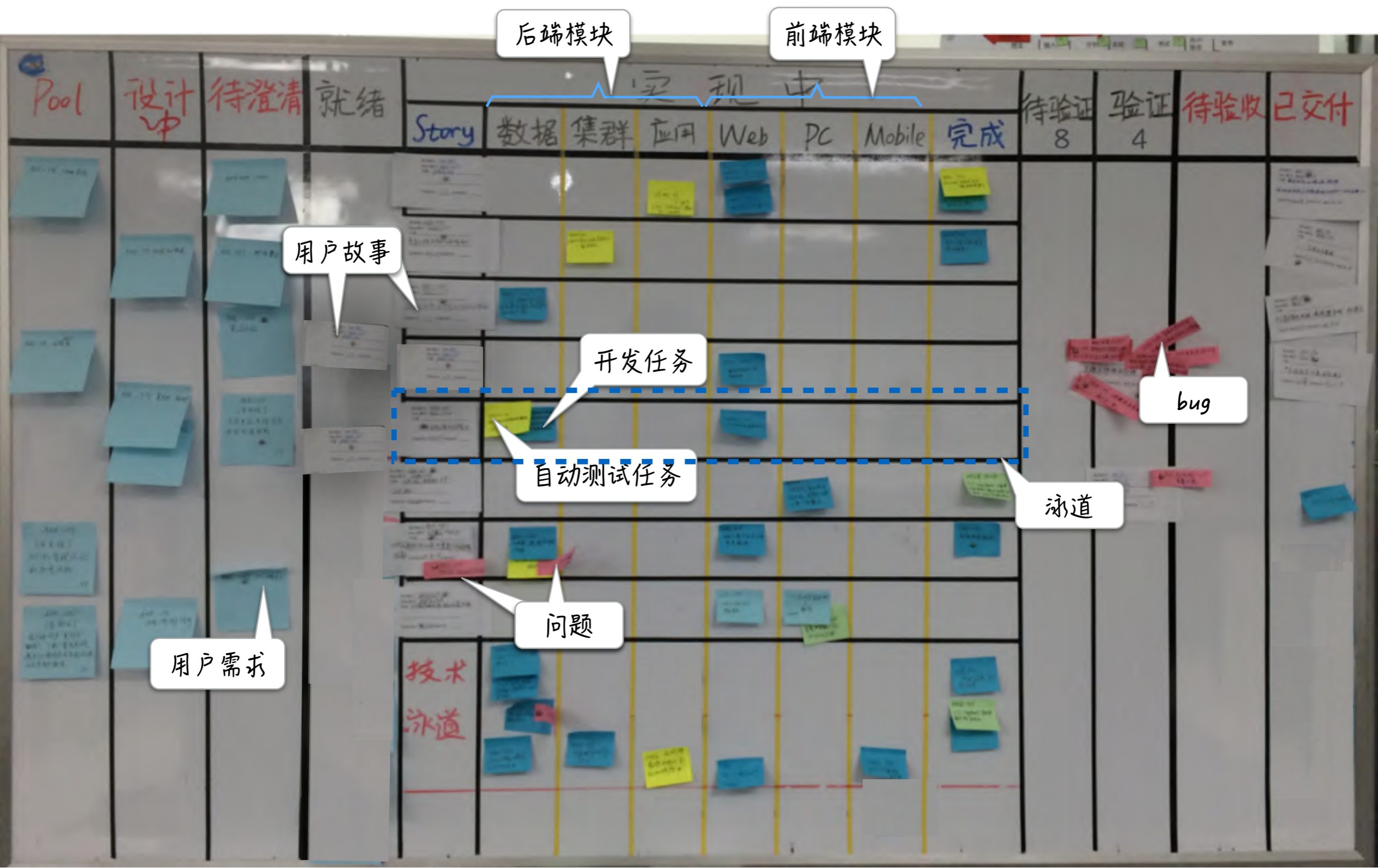










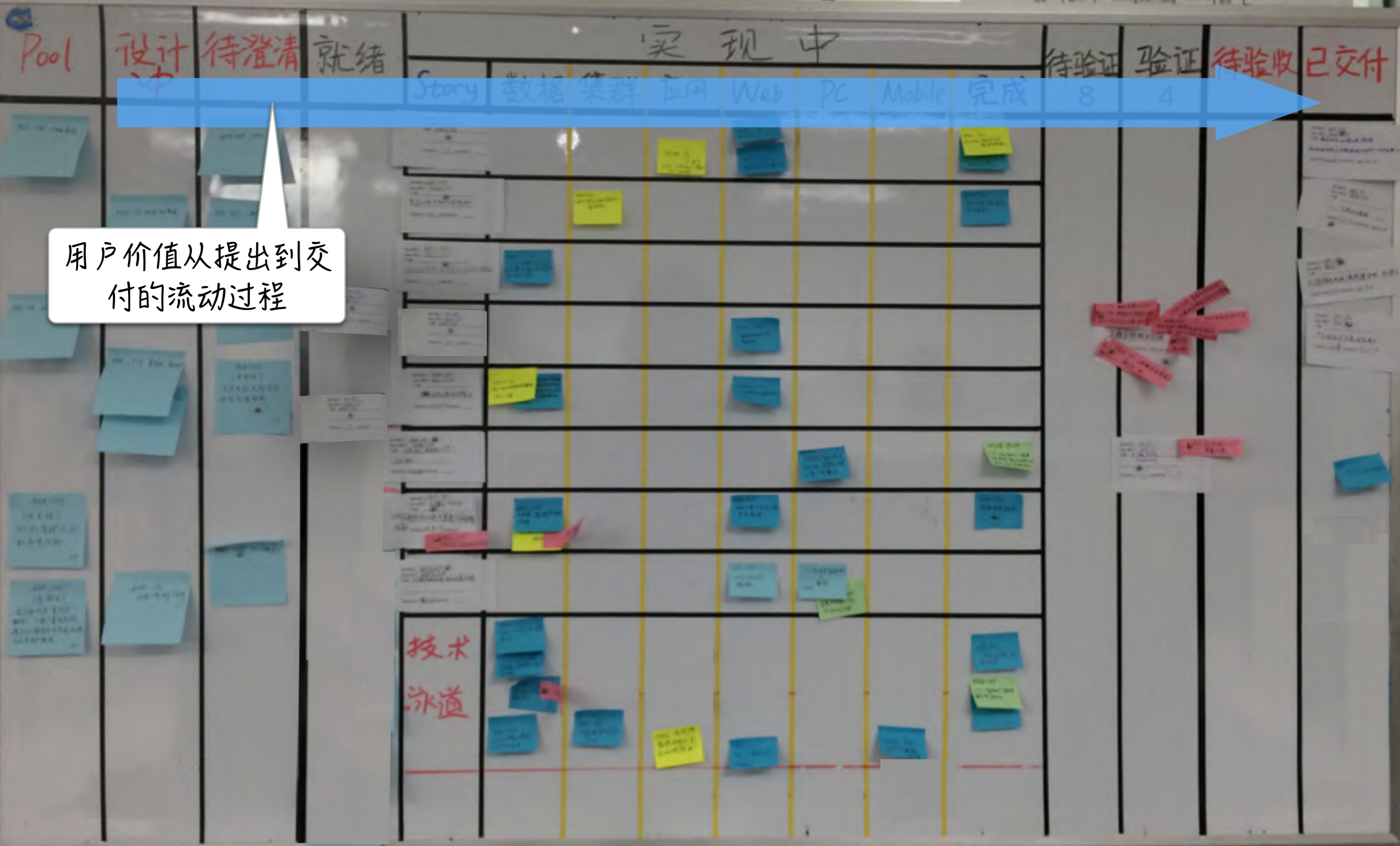


Pool 设计中 待澄清 就绪 实现中 待验证 验证 待验收 已交付

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[Story Card]		[Yellow]					[Blue]				
[Story Card]	[Blue]										
[Story Card]				[Blue]							
[Story Card]	[Yellow]	[Blue]		[Blue]							
[Story Card]					[Blue]						
[Story Card]	[Blue]			[Blue]			[Green]				
[Story Card]	[Blue]	[Yellow]		[Blue]			[Blue]				
[Story Card]				[Blue]	[Blue]						
[Story Card]				[Blue]	[Blue]	[Green]					
技术泳道	[Blue]	[Blue]					[Blue]				
	[Blue]	[Blue]	[Yellow]	[Blue]			[Blue]				

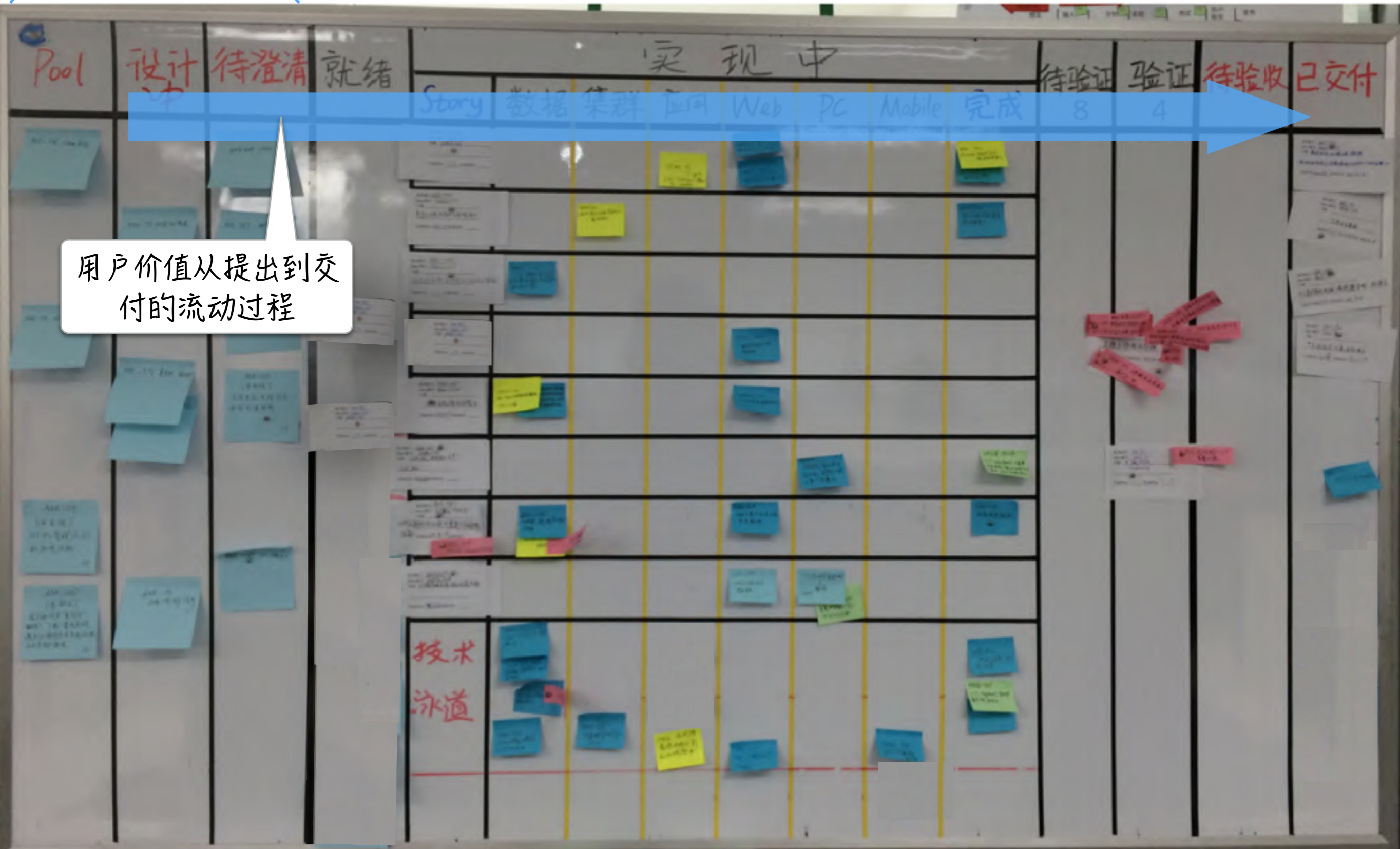
待验证 8
验证 4

已交付



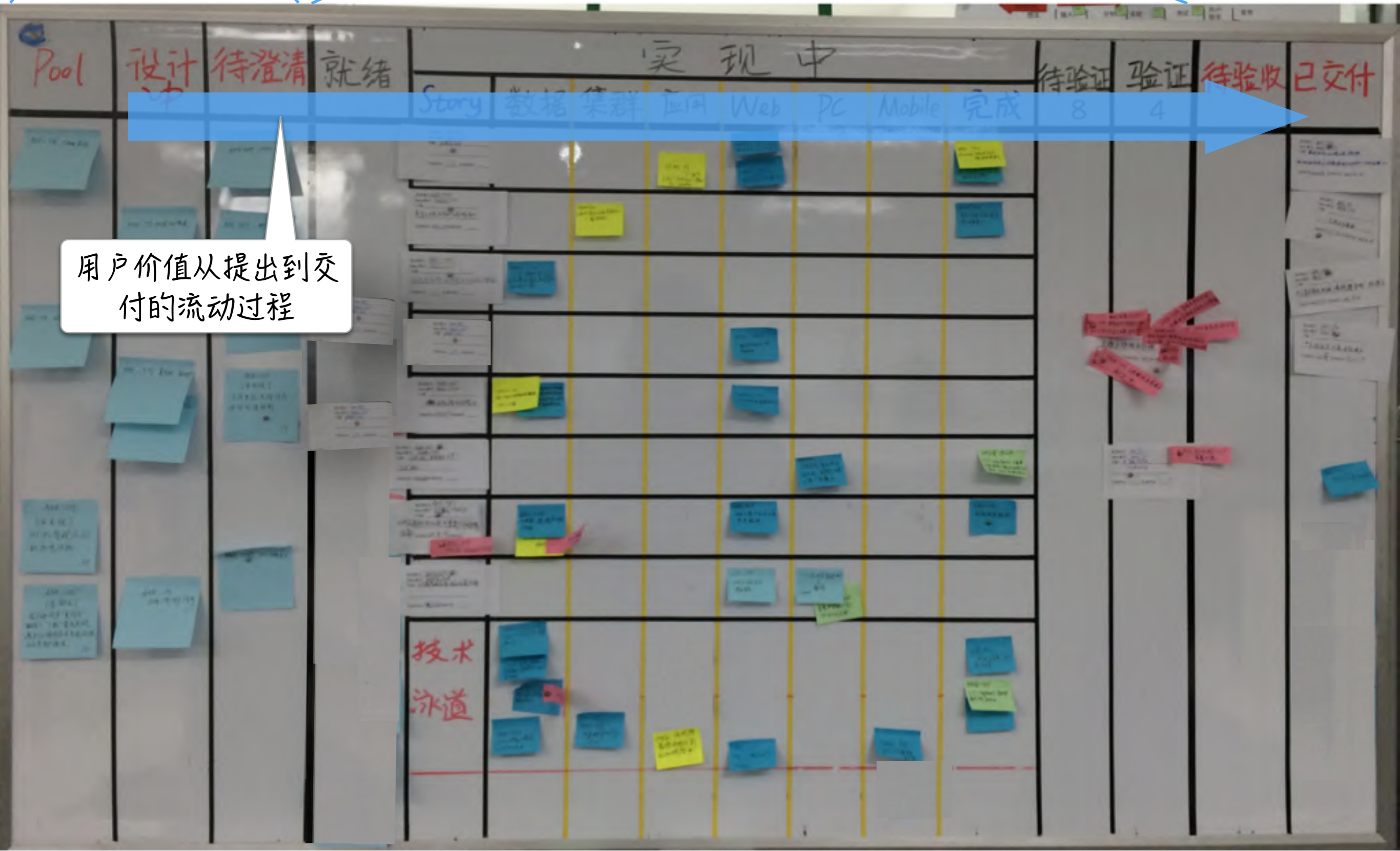
用户价值从提出到交付的流动过程

产品



产品

研发



产品

研发

产品

Pool

设计中 待澄清 就绪

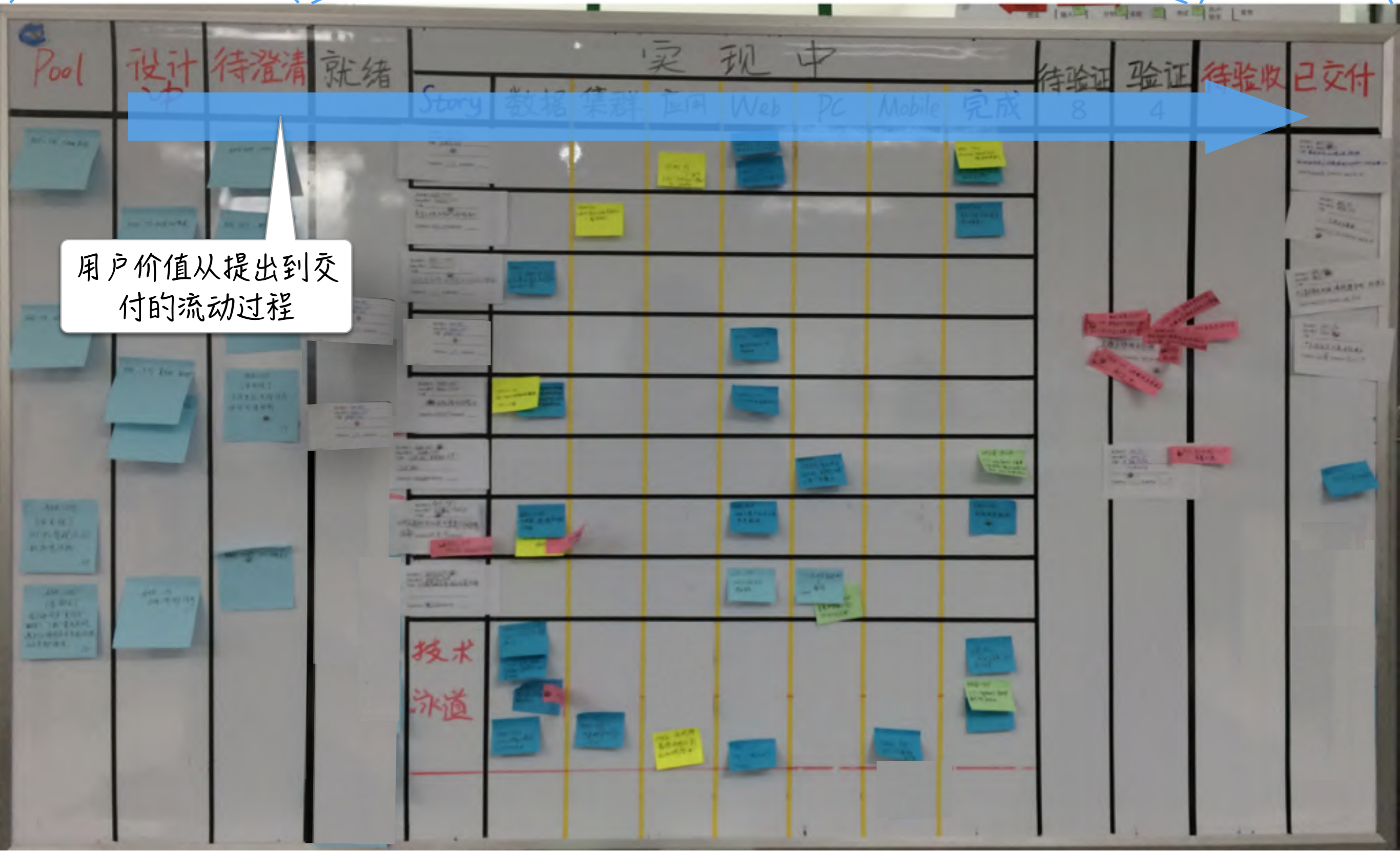
实现中 待验证 验证 待验收 已交付

Story 数据 集群 应用 Web PC Mobile 完成

8 4

用户价值从提出到交付的流动过程

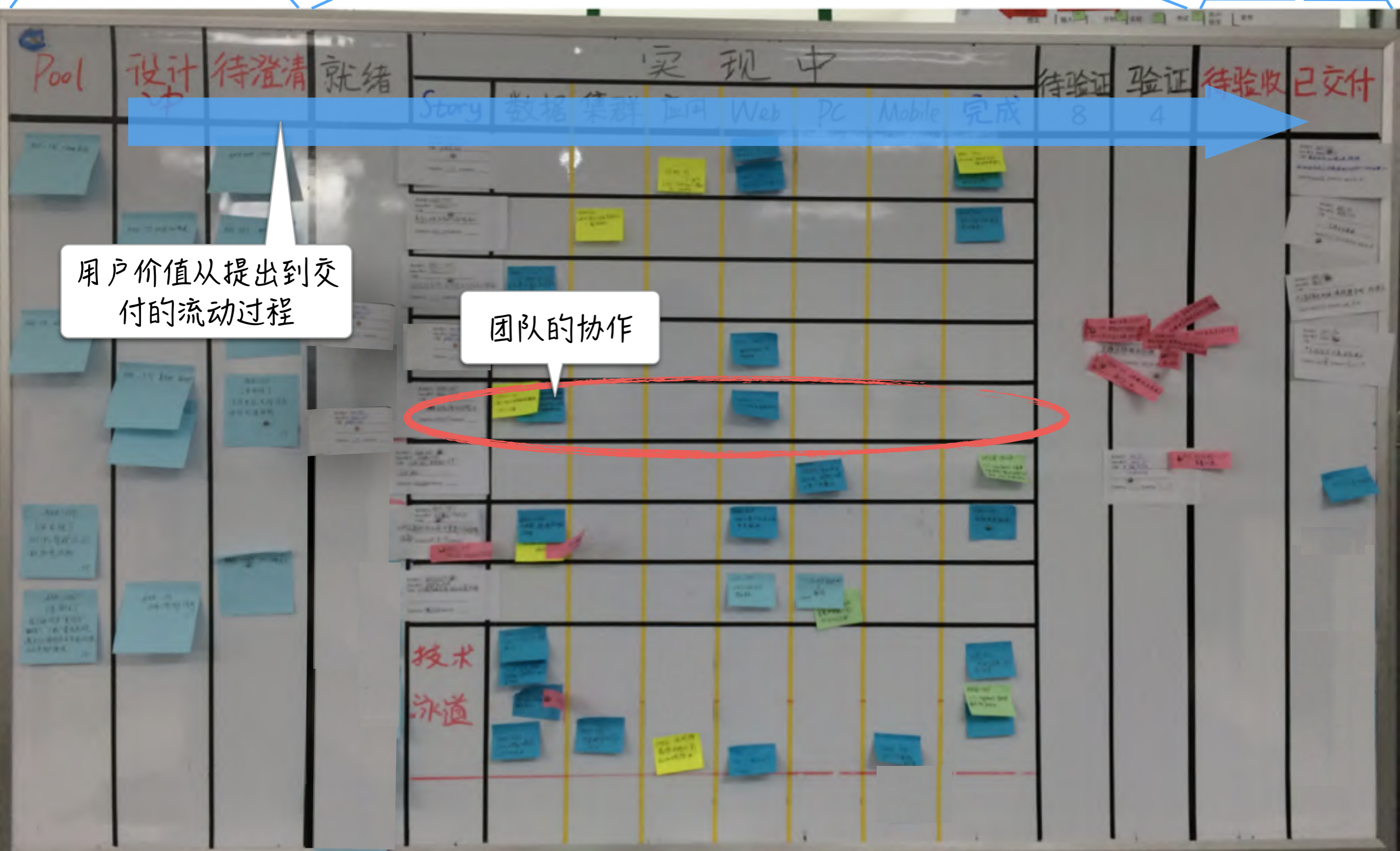
技术泳道



产品

研发

产品



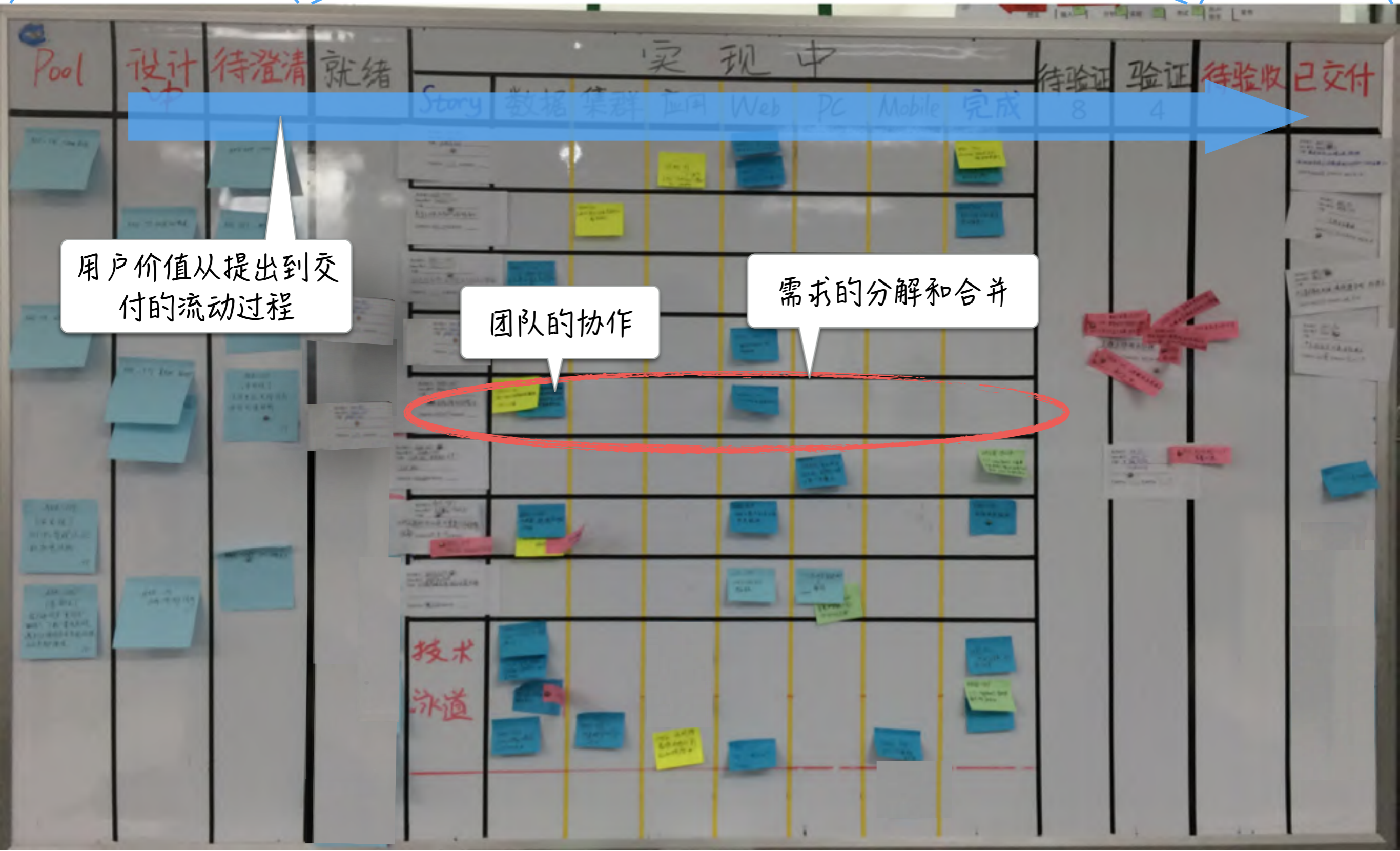
用户价值从提出到交付的流动过程

团队的协作

产品

研发

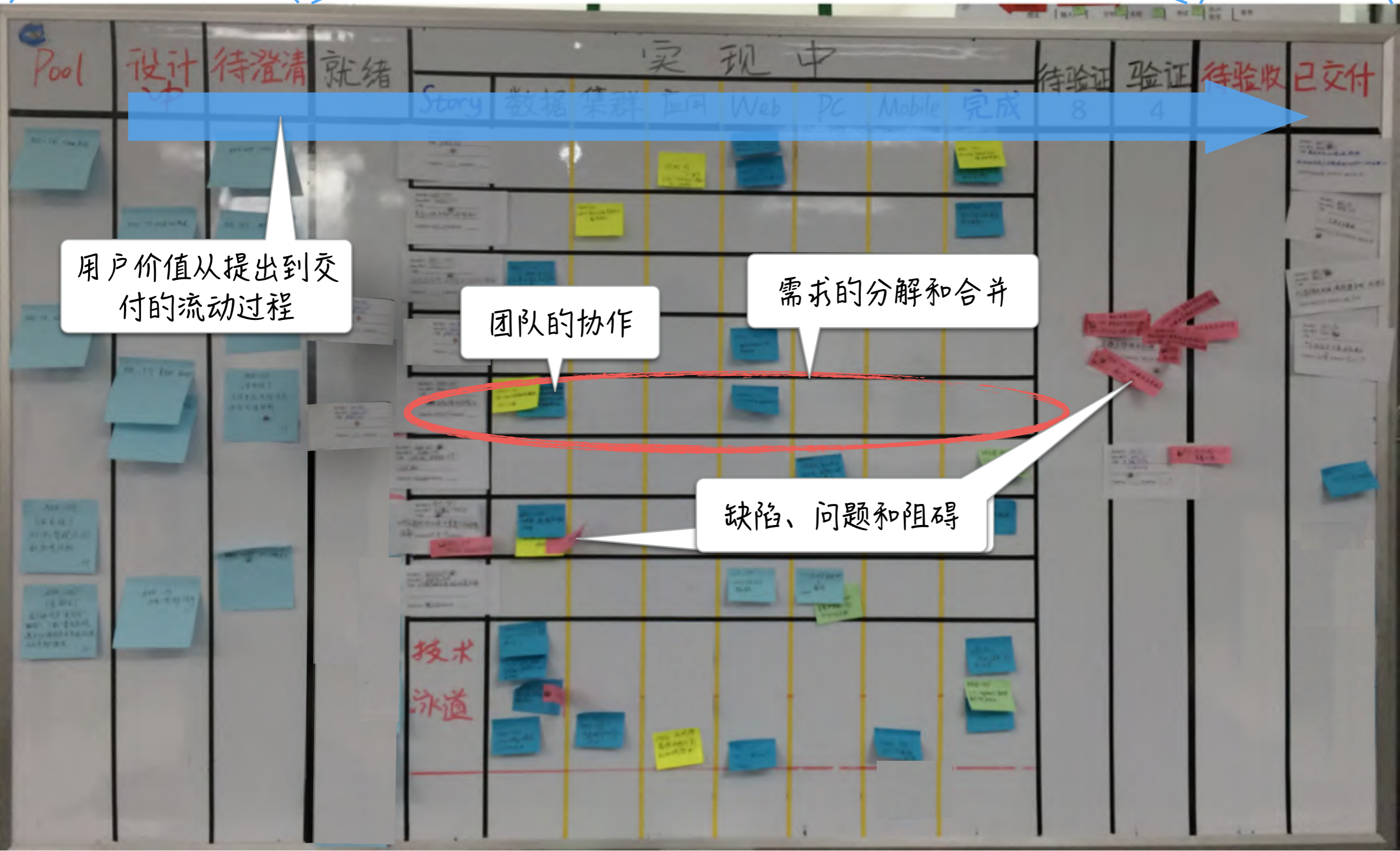
产品



产品

研发

产品

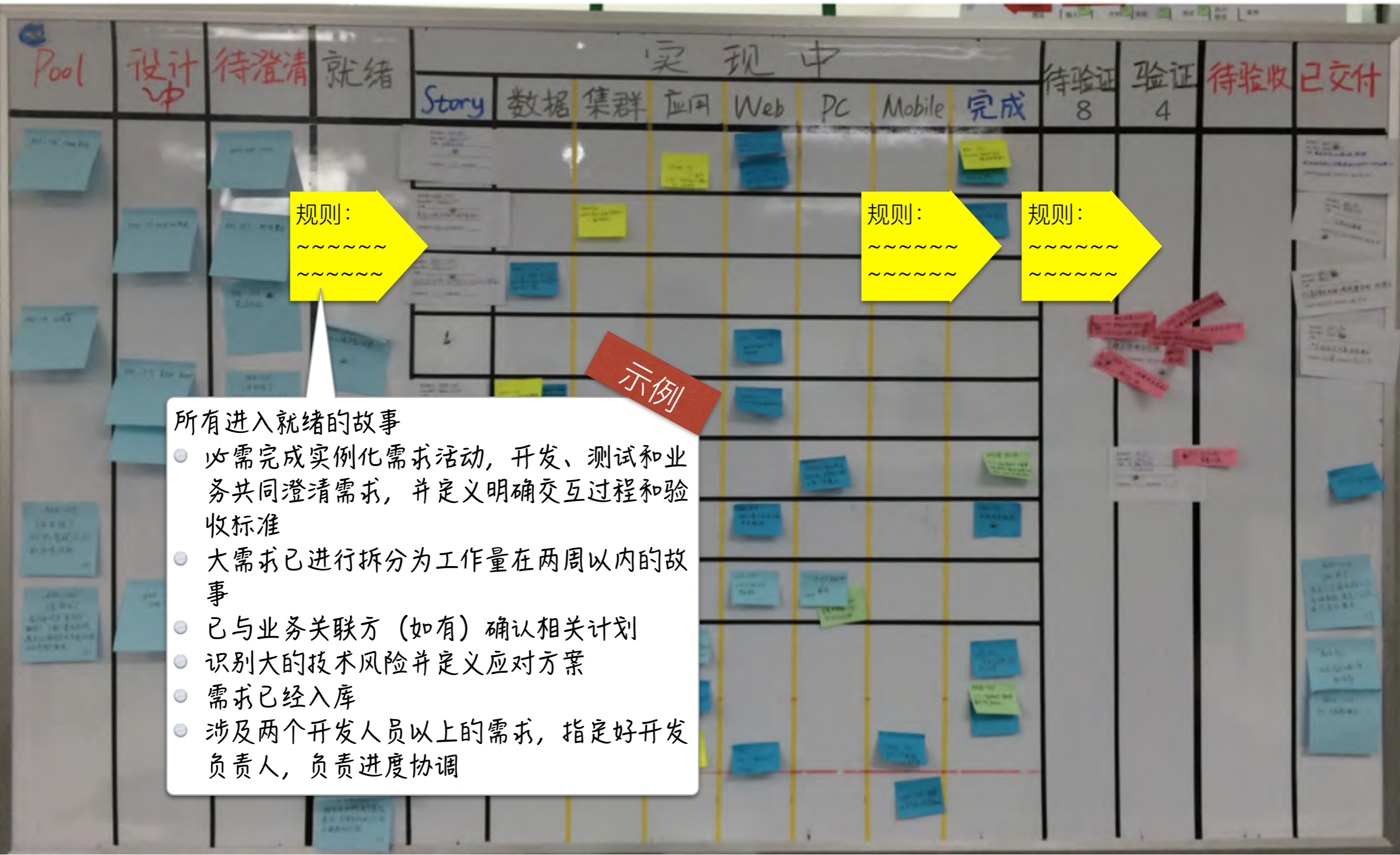


用户价值从提出到交付的流动过程

团队的协作

需求的分解和合并

缺陷、问题和阻碍



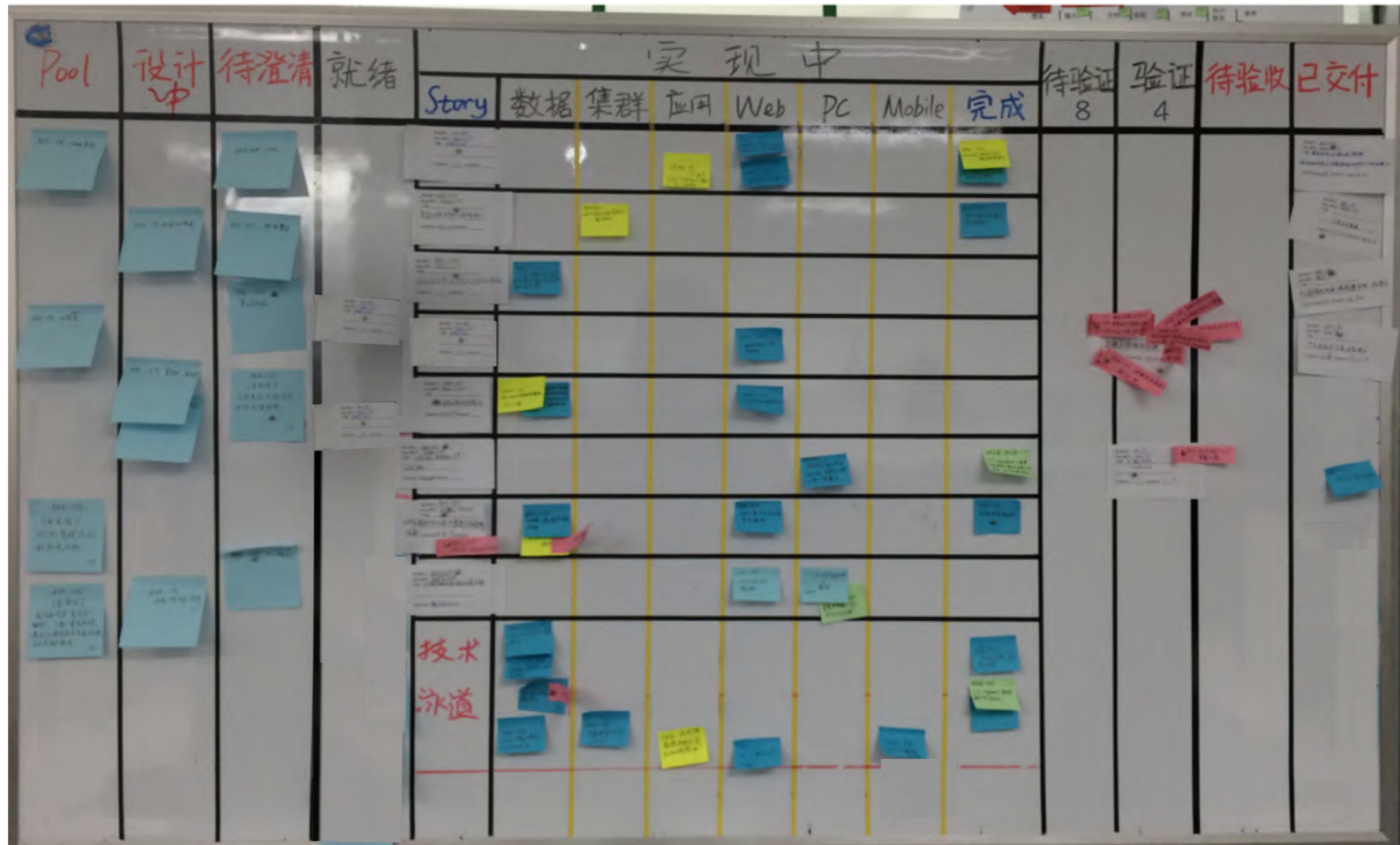
规则:
~~~~~  
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规则:
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规则:
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示例

- 所有进入就绪的故事
- 必需完成实例化需求活动，开发、测试和业务共同澄清需求，并定义明确交互过程和验收标准
 - 大需求已进行拆分为工作量在两周以内的故事
 - 已与业务关联方（如有）确认相关计划
 - 识别大的技术风险并定义应对方案
 - 需求已经入库
 - 涉及两个开发人员以上的需求，指定好开发负责人，负责进度协调



清晰全面地反映需求和需求交付过程



瓶颈和问题能在看板上得到即时体现

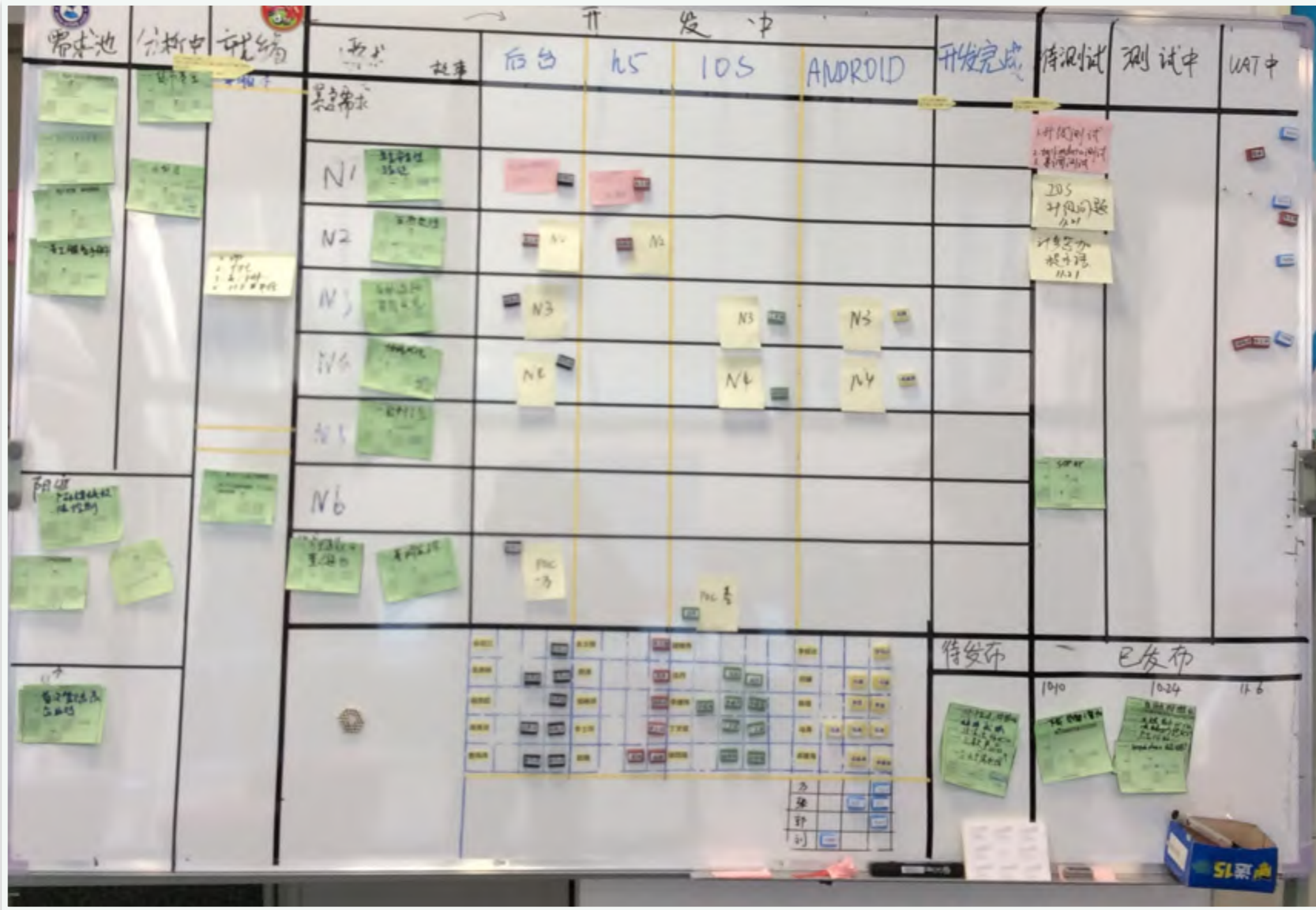


团队可以根据看板信息协作和做决定

拓展

A handwritten Kanban board titled "开发中" (In Development). The board is organized into columns representing different stages of development: 需求 (Requirements), 分析 (Analysis), 设计 (Design), 开发 (Development), 测试 (Testing), and 发布 (Release). The "开发" column is further divided into sub-columns for "iOS" and "Android". The board contains numerous green sticky notes, each representing a task or feature, with some notes having handwritten labels like "N1", "N2", "N3", "N4", "N5", "N6". There are also some yellow and red sticky notes. A small calendar or grid is visible in the bottom right corner of the board.

A handwritten Kanban board titled "产品设计" (Product Design). The board is organized into columns representing different stages of the product lifecycle: 需求 (Requirements), 设计 (Design), 开发 (Development), 测试 (Testing), and 发布 (Release). The "设计" column is further divided into sub-columns for "UI/UX", "交互设计" (Interaction Design), and "视觉设计" (Visual Design). The "测试" column is further divided into sub-columns for "UAT" and "UAT中". The board contains numerous green sticky notes, each representing a task or feature, with some notes having handwritten labels like "P1", "P2", "P3", "P4", "P5", "P6", "P7", "P8", "P9", "P10". There are also some yellow and red sticky notes.



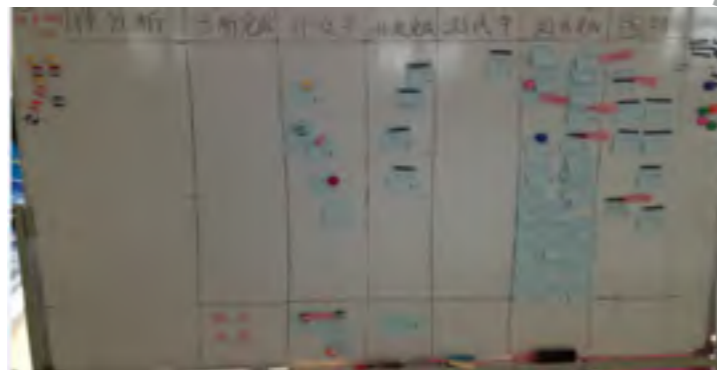
连接

业务方
(深圳)

底层服务开发
(上海)

应用开发
(成都)

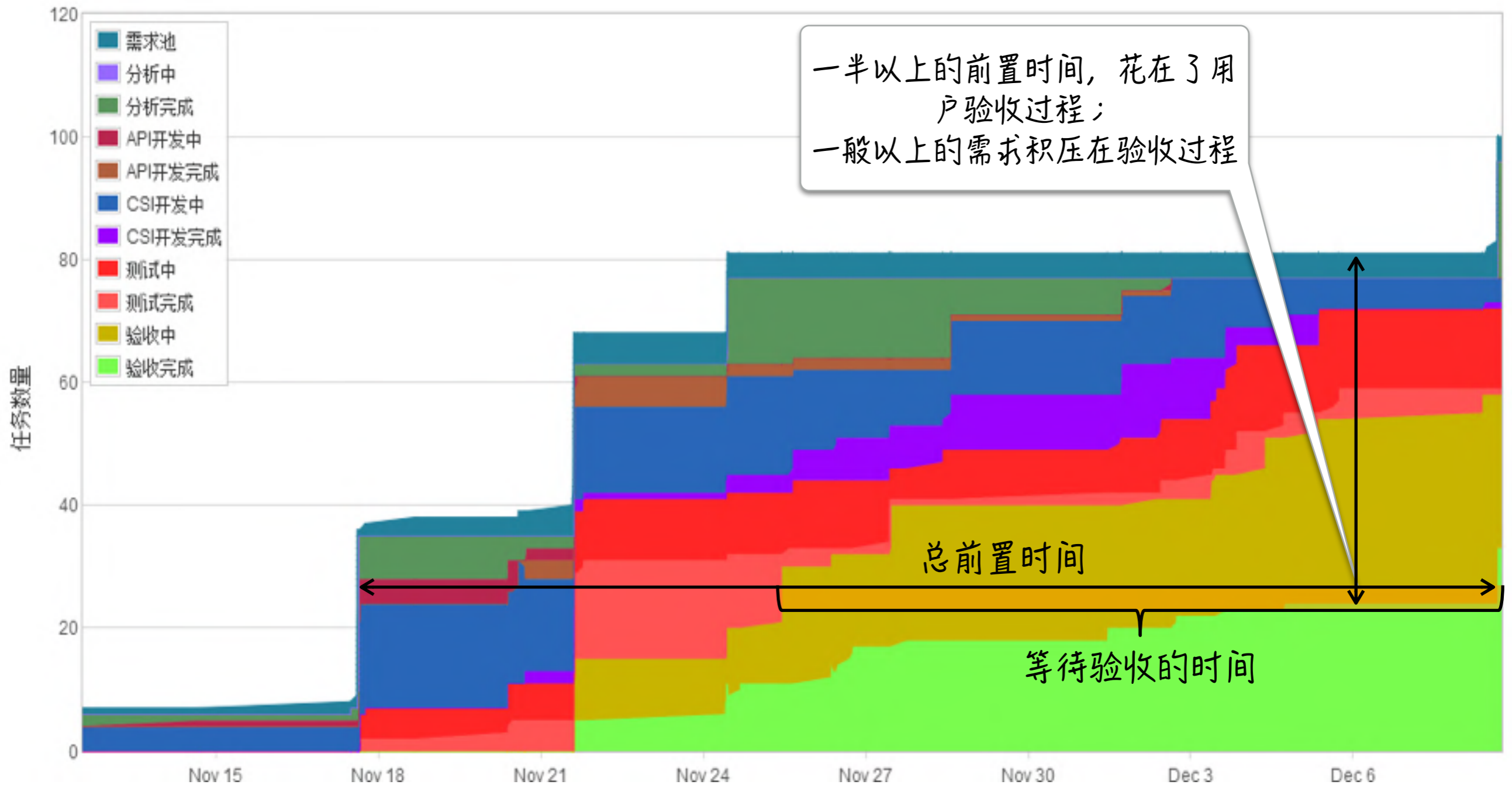
业务方
(深圳)



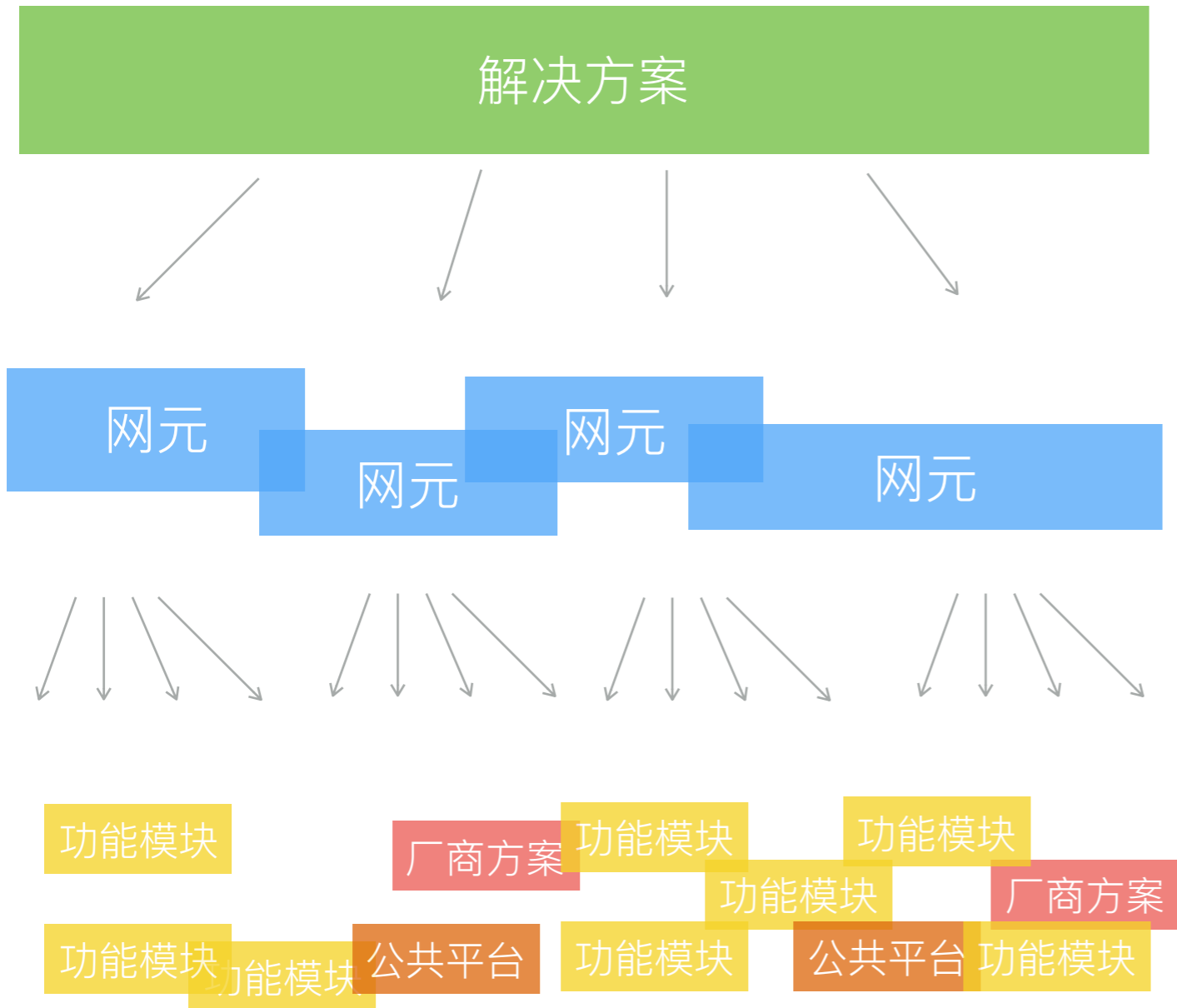
上海底层服务开发团队
物理看板



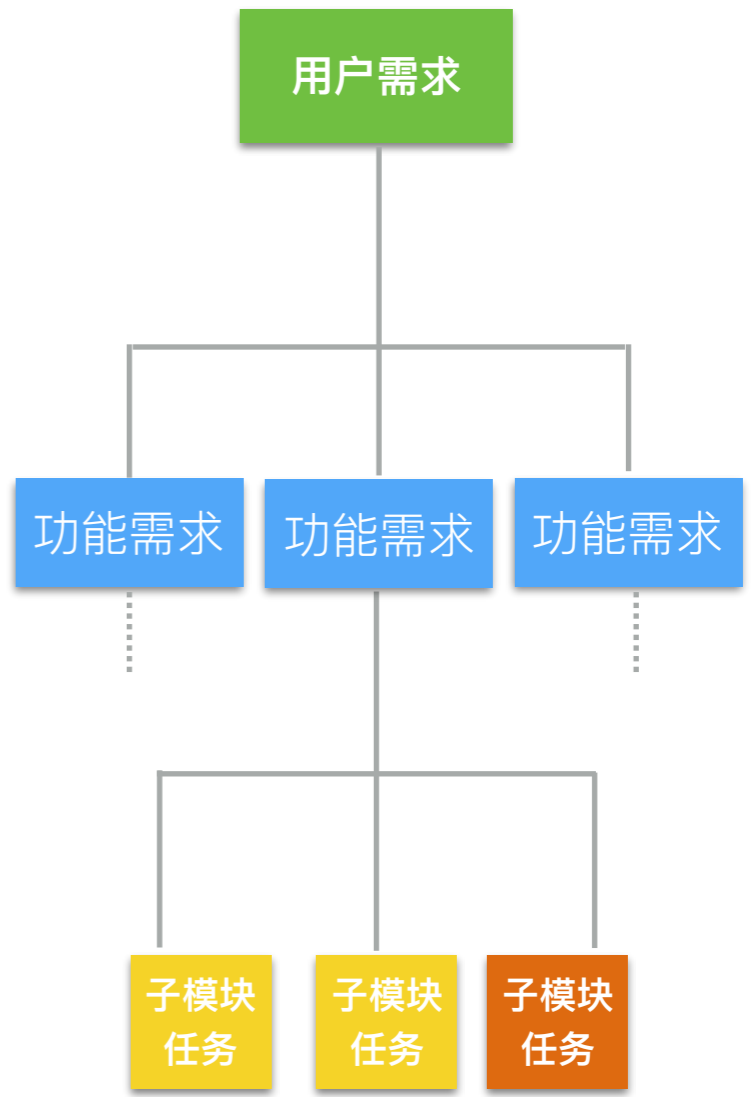
成都应用开发团队
物理看板



产品的层次

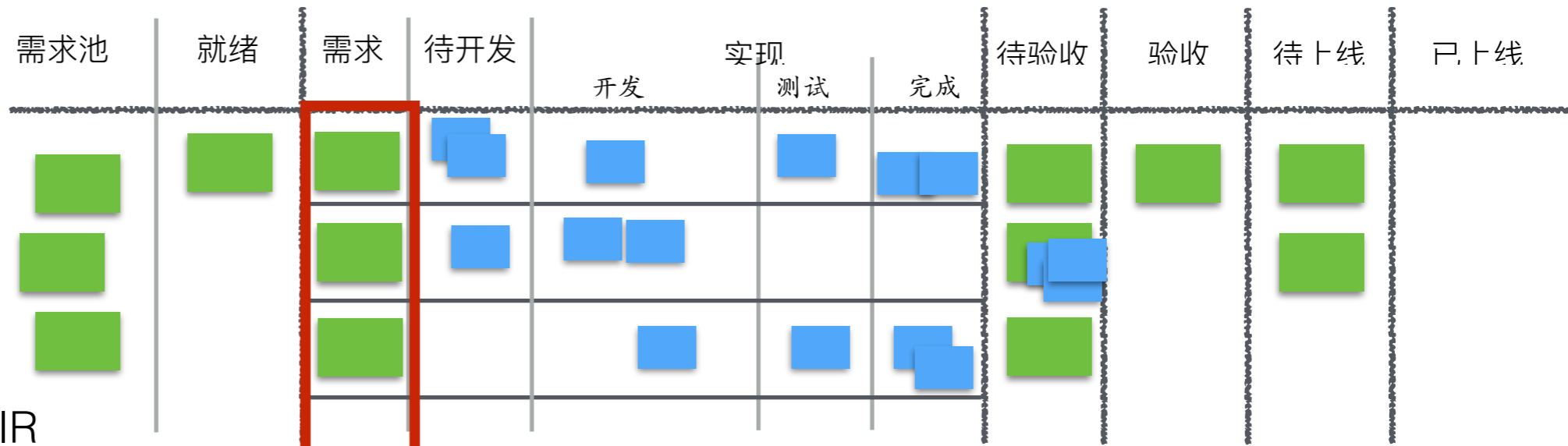


价值的层次

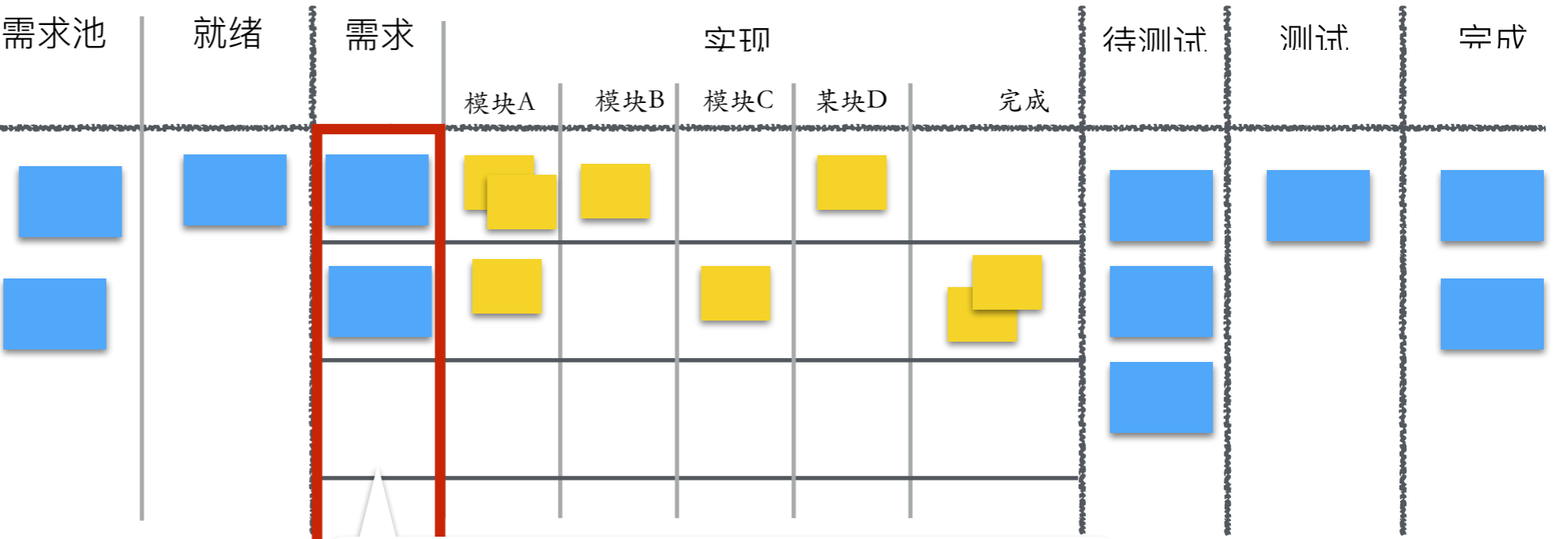


现实： 单个团队的实施也无法交付完整的客户价值

层次化



解决方案层面，约束并行IR的数目，FUR向IR对齐。追求IR的快速交付。



项目层面，约束并行FUR的数目，AR向FUR对齐，追求FUR的快速交付

1

第一性原理

2

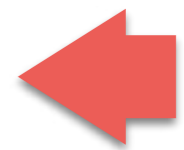
产品开发的第一性原理

3

精益和敏捷的规模化路径

4

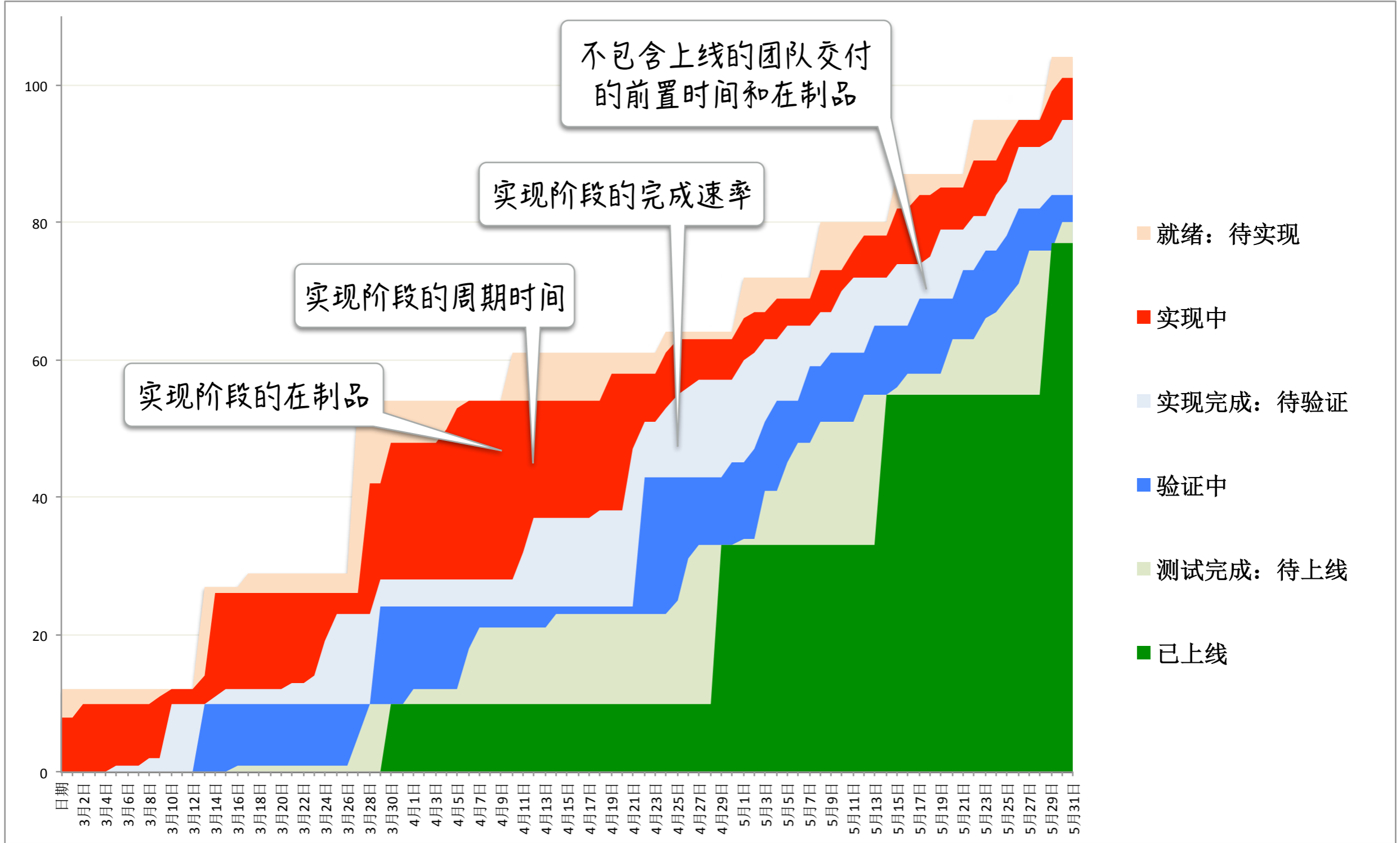
从第一性原理反馈规模化的效果

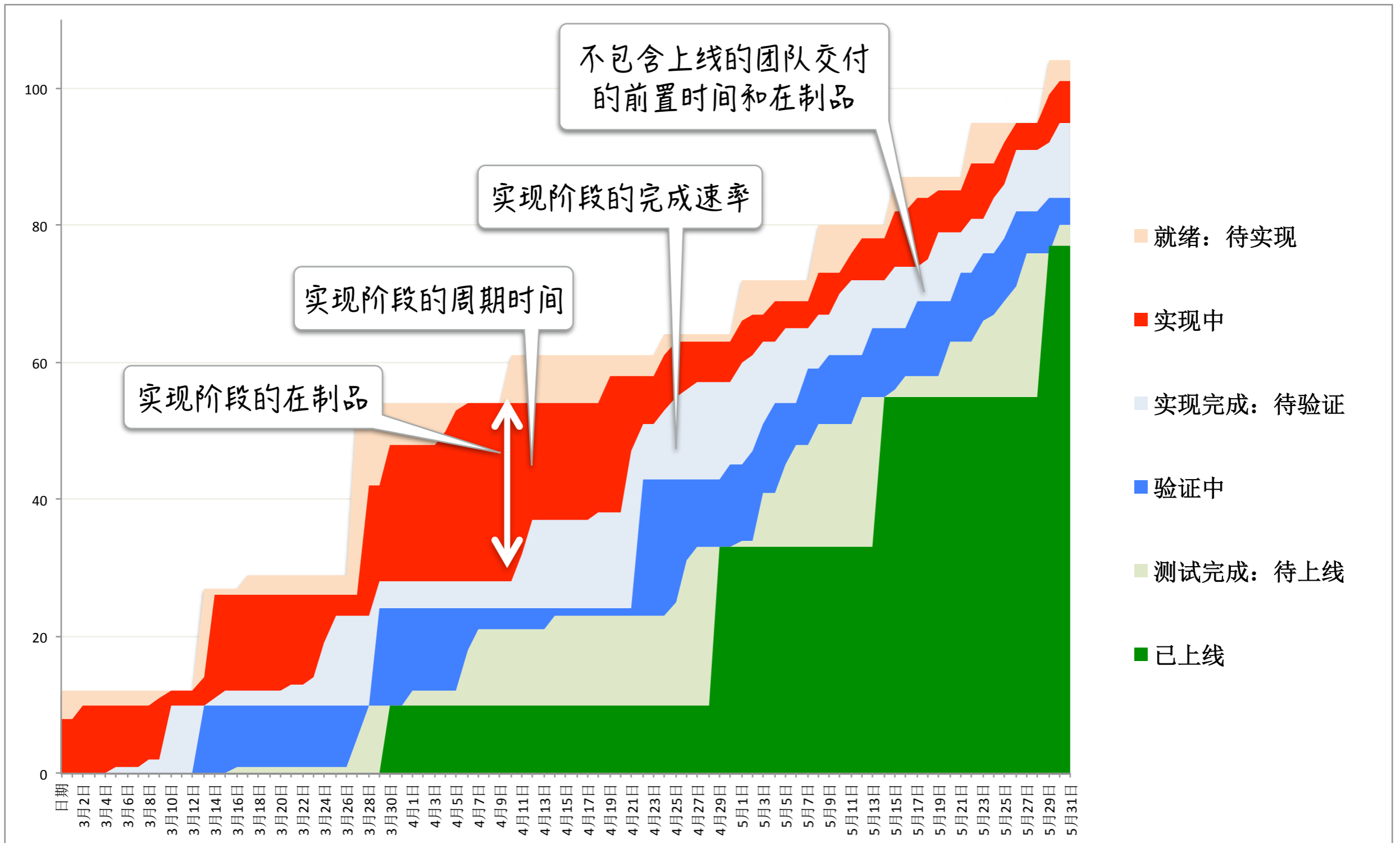


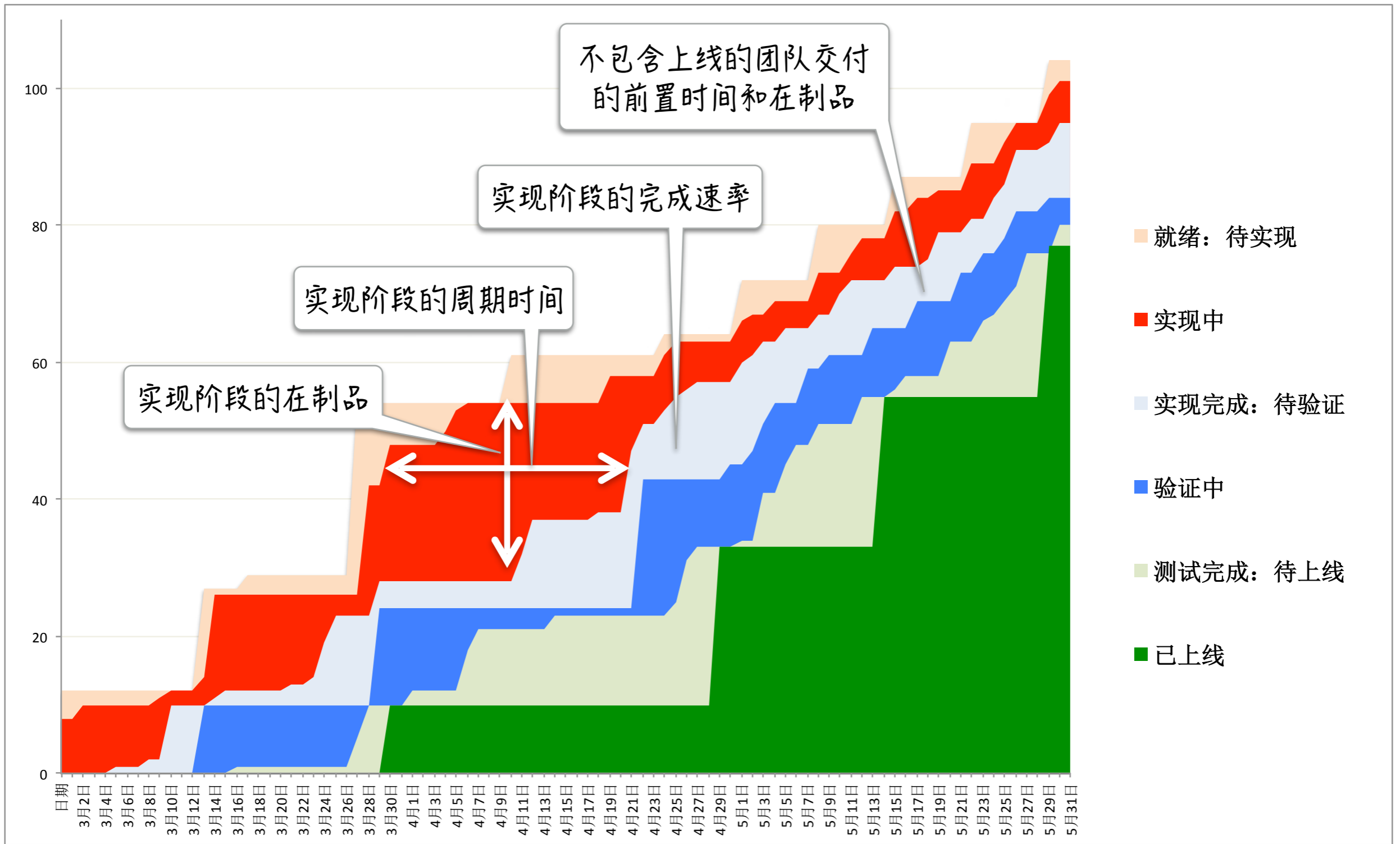


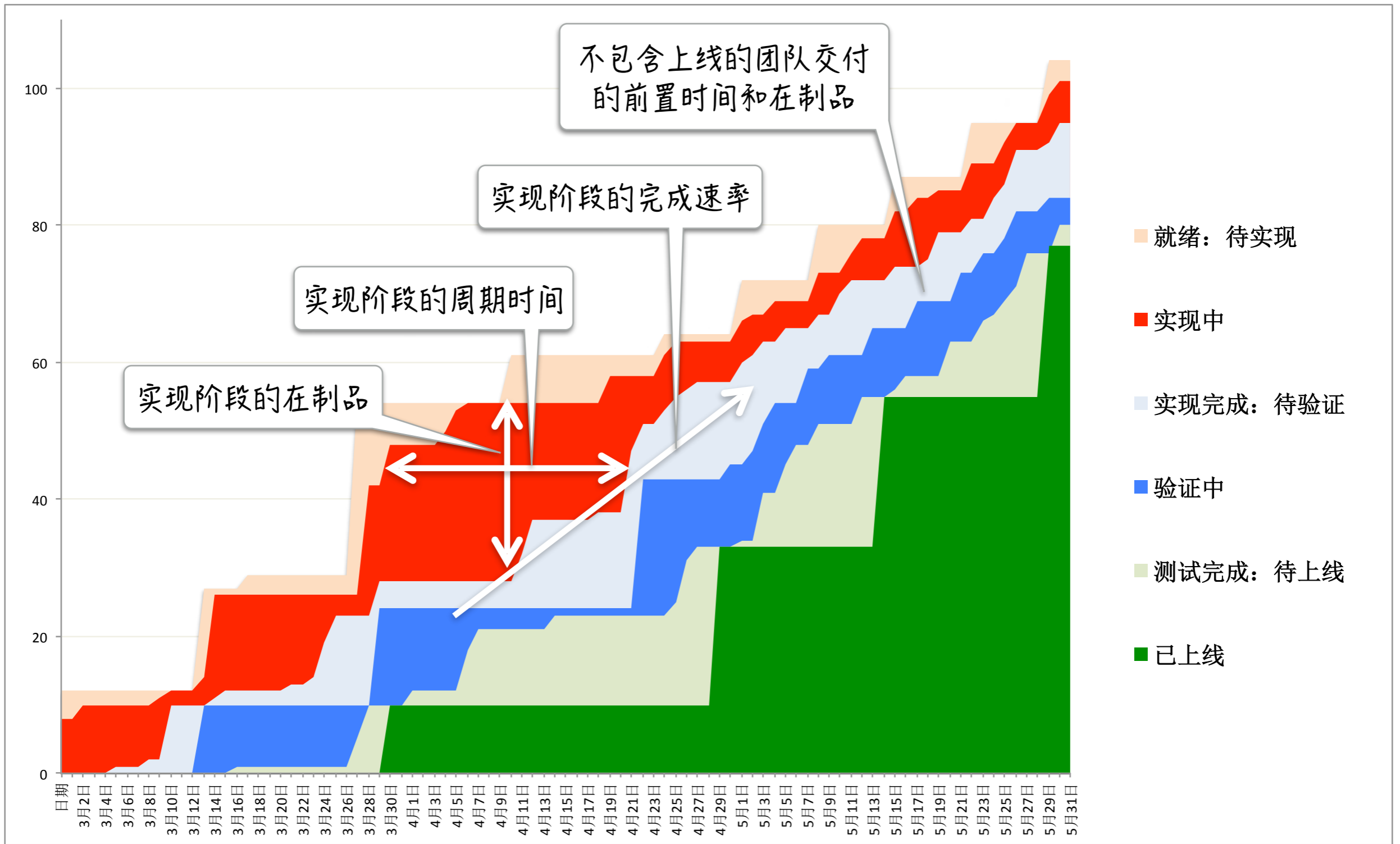
顺畅、高质量的交付真正的价值

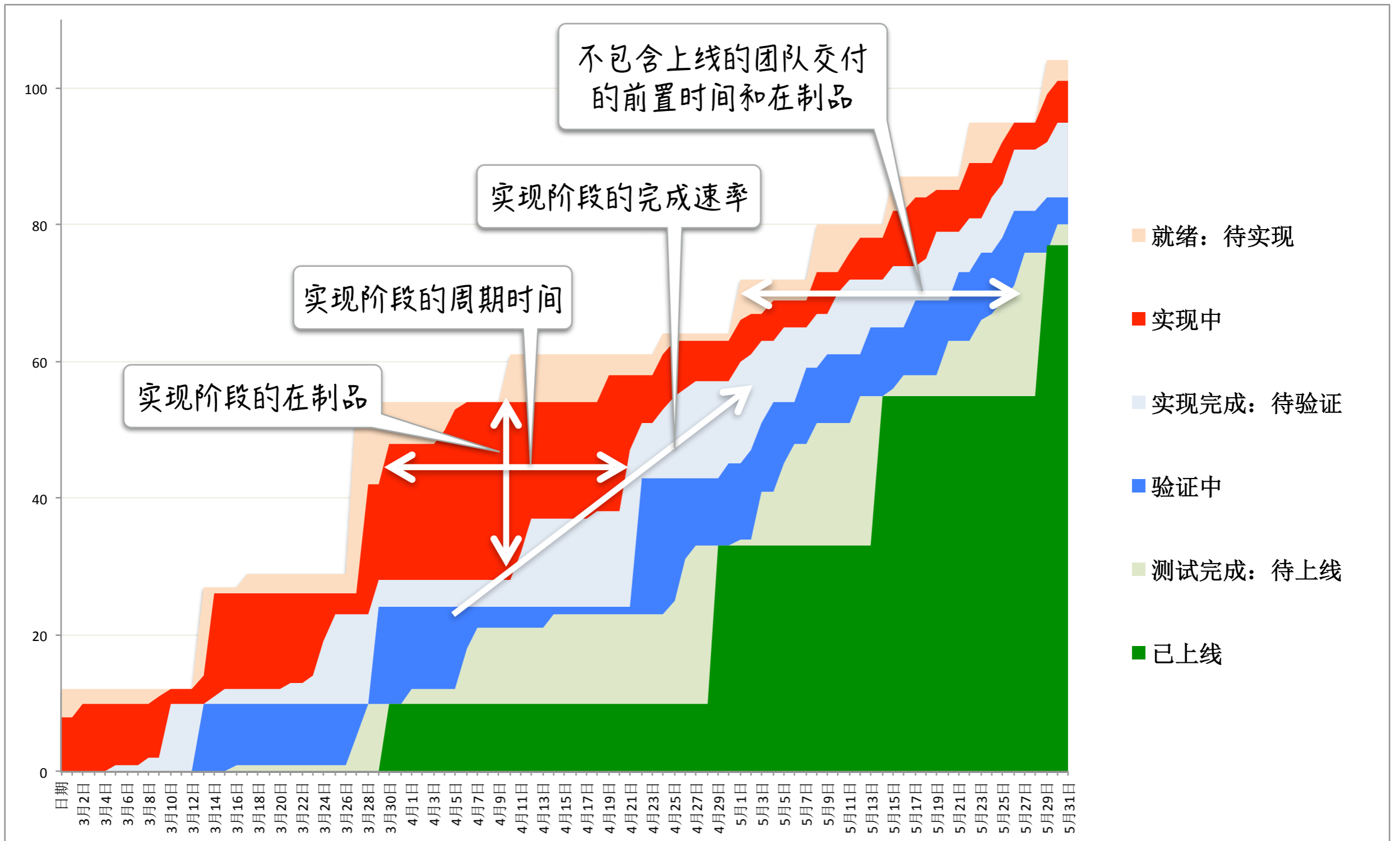


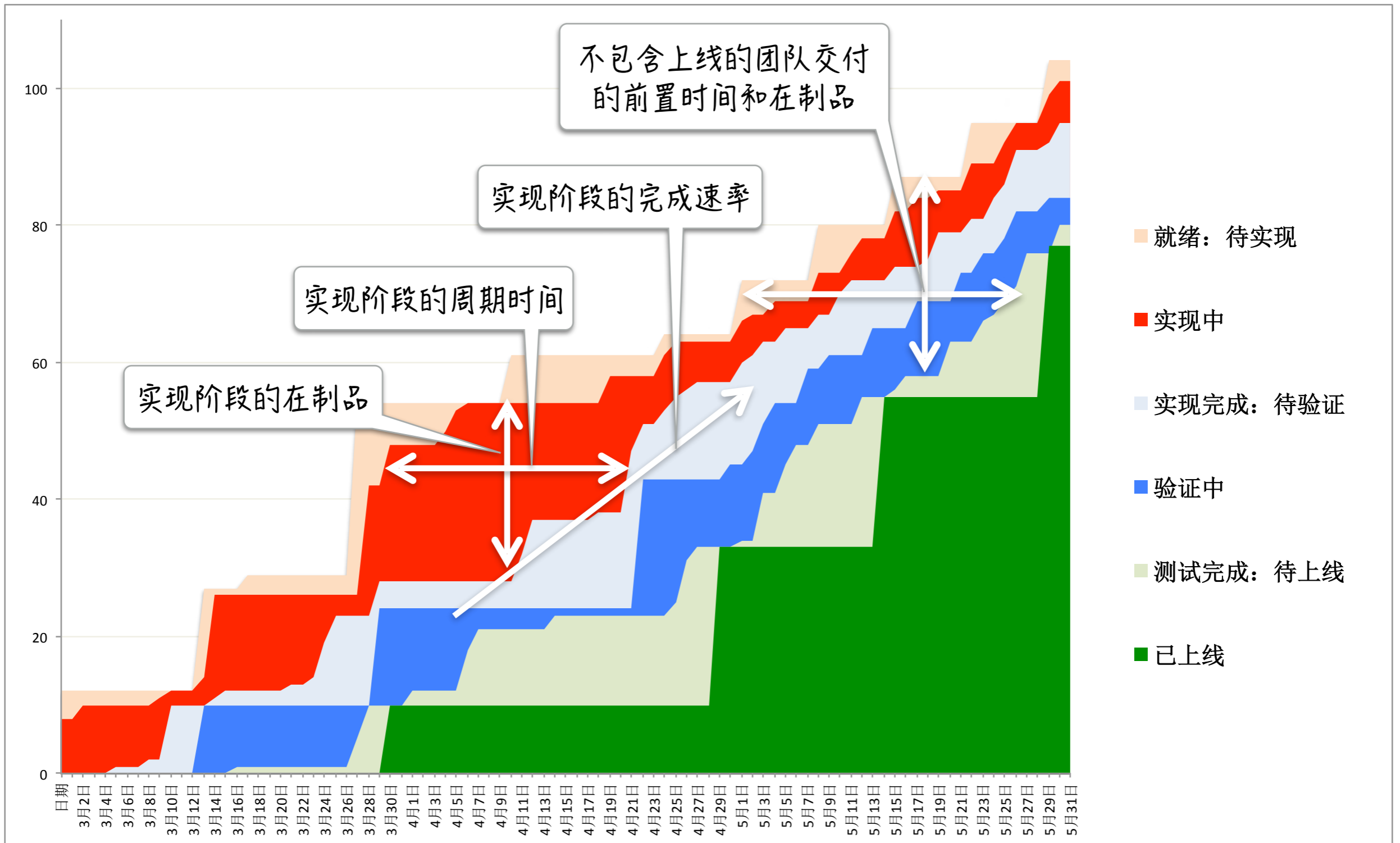


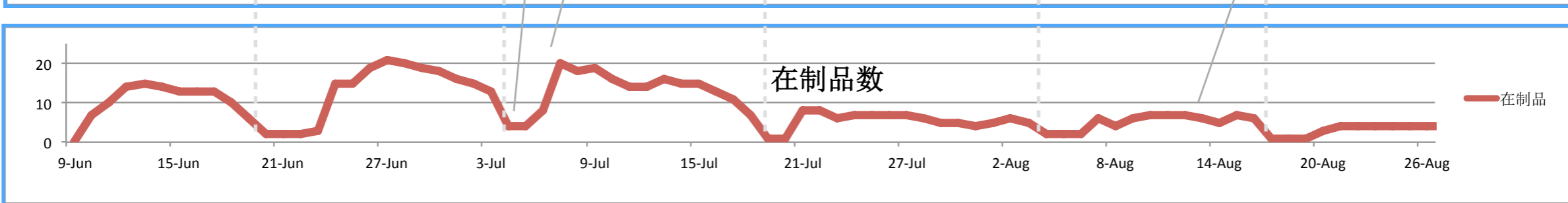
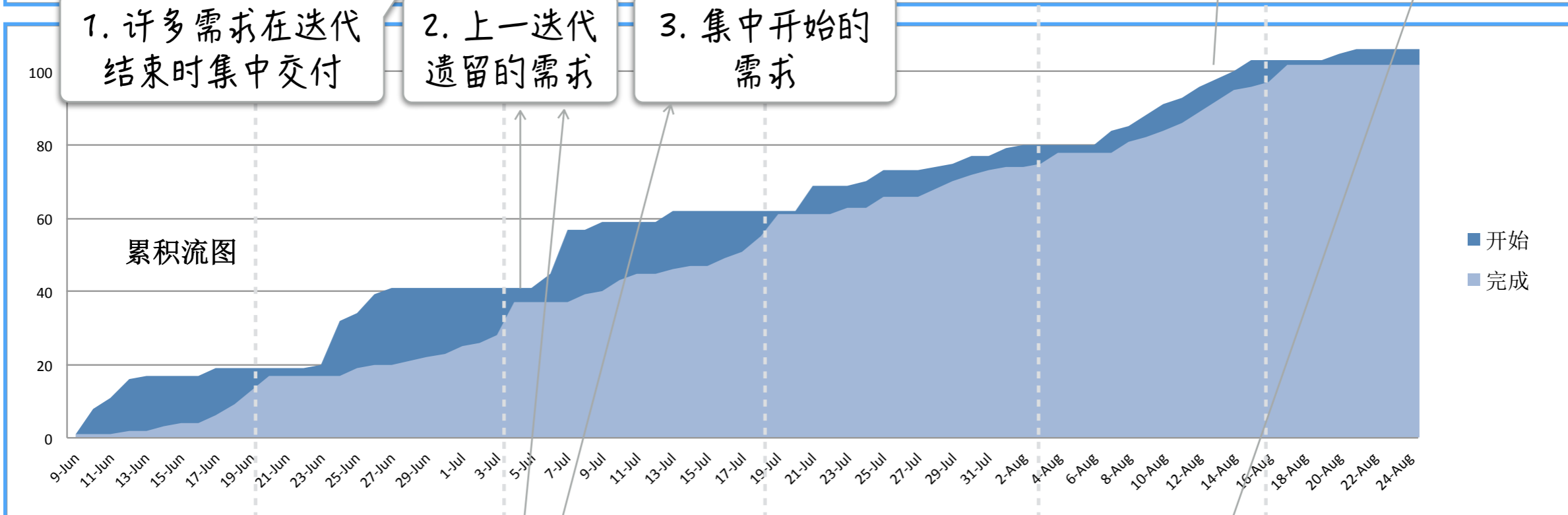
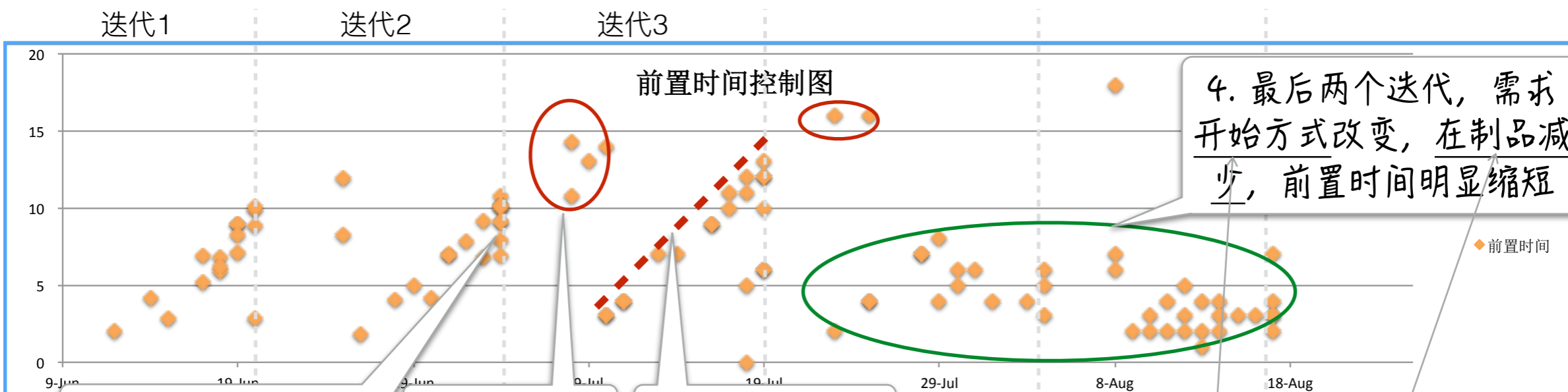






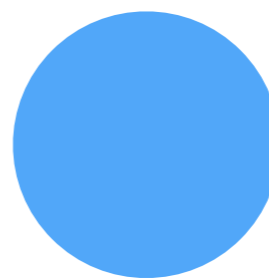
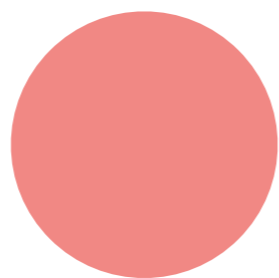




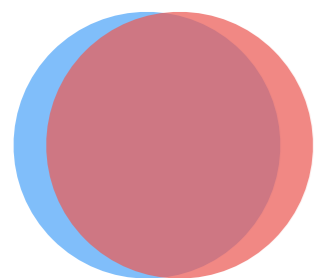


总结

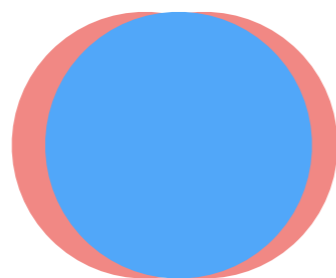
团队级的实施



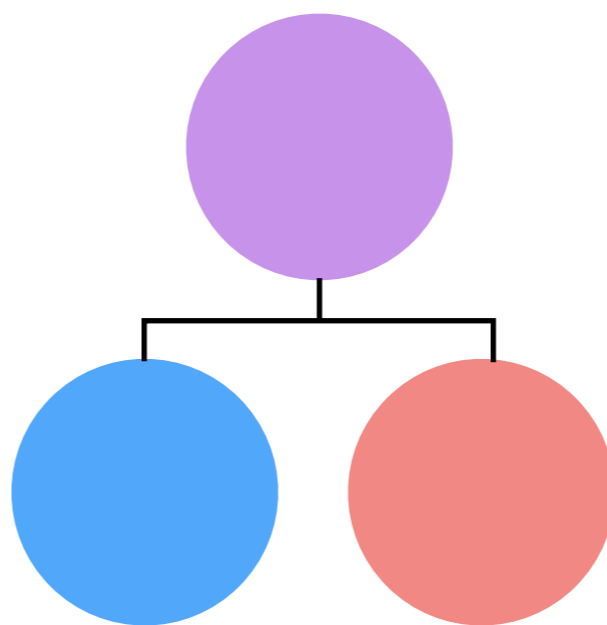
规模化的方案



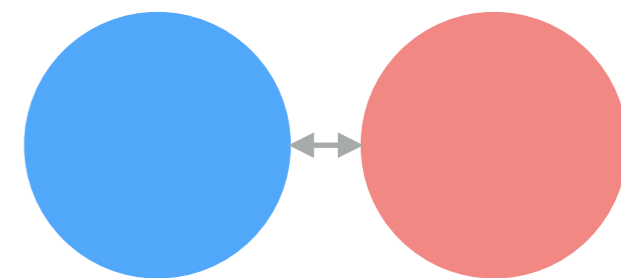
融合



拓展



层次化



连接

谢谢!

