Practical experience with Domain-Driven Design

in context of a shop system for games



Agenda

- Context
- Challenge
- Strategy
- Tactics
- Outcome
- Next steps
- Conclusion



Our shop system

- 12 games (more in pipeline)
- ~300 million players worldwide
- ~120 payment methods
- Channels: web, mobile, facebook and steam
- Diverse monetization features
- Single point of making money



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Channel based features, such as primetimes, incentives, a/b-testing, etc.

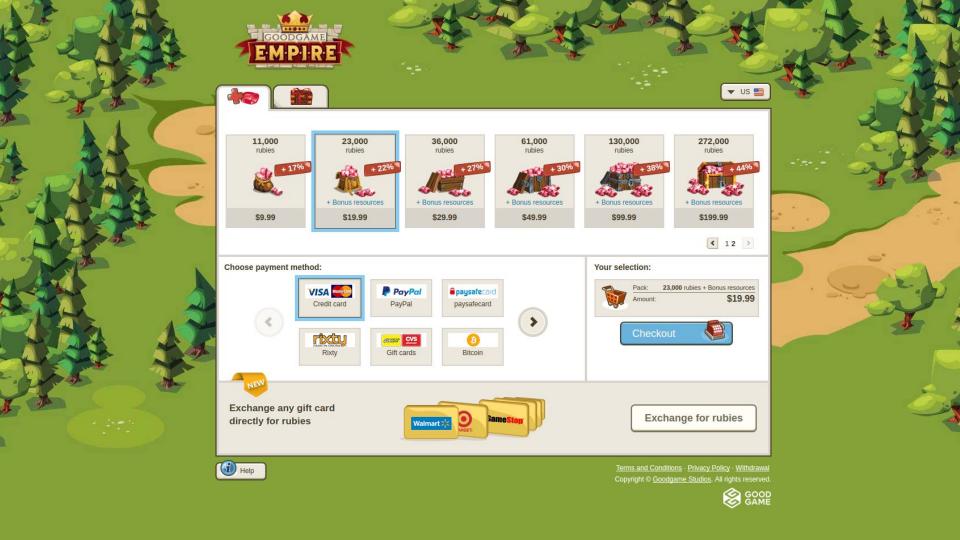


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Shop system is very important and must be stable, resilient, recoverable and easy to change to react on business market

















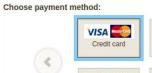
Your selection:



▼ US **■**

12

Payment Methods as a core domain





cvs Cvs

Gift cards



Bitcoin





Checkout



Purchase Service as a core domain



Exchange any gift card directly for rubies



Exchange for rubies



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Localization Service as a **Supporting Domain**



Analytics, Reporting and **Administration** as a supporting

domain











Your selection:

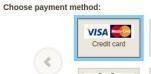






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comme CVS Gift cards









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CHALLENGE

May 2015

Missing big picture Lack of understanding of business and market Customer focus missed

Architecture unfitting for iterations and feature teams

Team interdependencies

Knowledge silos

Maintenance overhead

Poor collaboration

Slow time to market



What can be the solution?



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Domain-Driven Design is promising...



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Domain-Driven Design is promising...

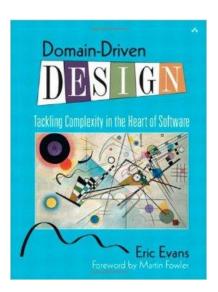
- Tackling complexity
- Understanding business
- Domain experts contribute to software design
- Better user experience
- Clean boundaries
- Better organized elements of enterprise architecture
- Usage of agile, iterative, continuous modeling



STRATEGY



Convincing the team to DDD



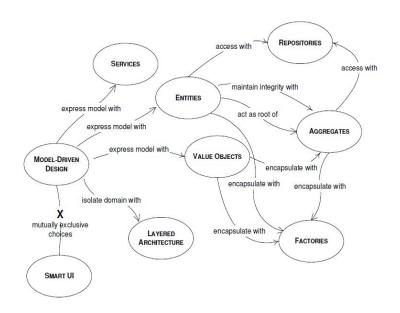


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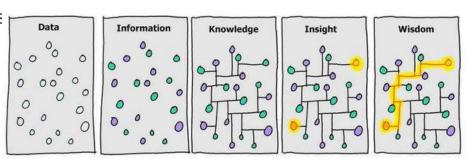


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Live the scrum values and empower the teams "We are a team not a family"

> No "zombie scrum" No micro managment MVP for processes





"Thumbs" method to find the right solution efficiently in big teams as a big booster





Injection of a change driver into the team

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Meet the bottom-up approach instead of doing top-down managment and push majority

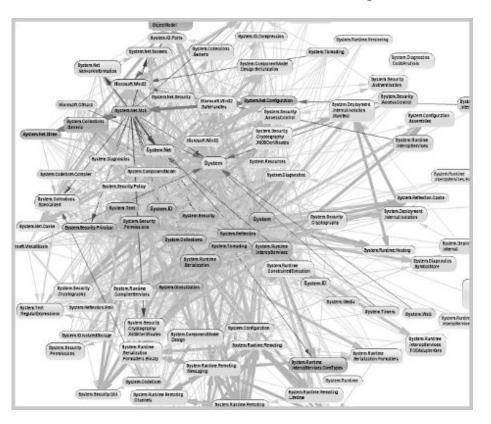


Emphasize Big Ball of Mud

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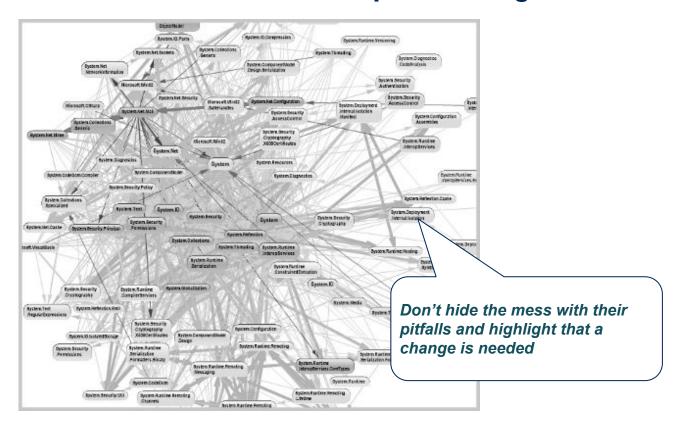


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Workshops for developers and product owners

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Push majority.
Everybody must be aware of the DDD patterns



Pair/Mob programming, dev-meetings and design sessions

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Pair/Mob programming, dev-meetings and design sessions

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Focus on helping each other achieving excellence

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Have passion to inspire each other. Be curious and push innovations

Solving problems before coding

"Measure twice, cut once"



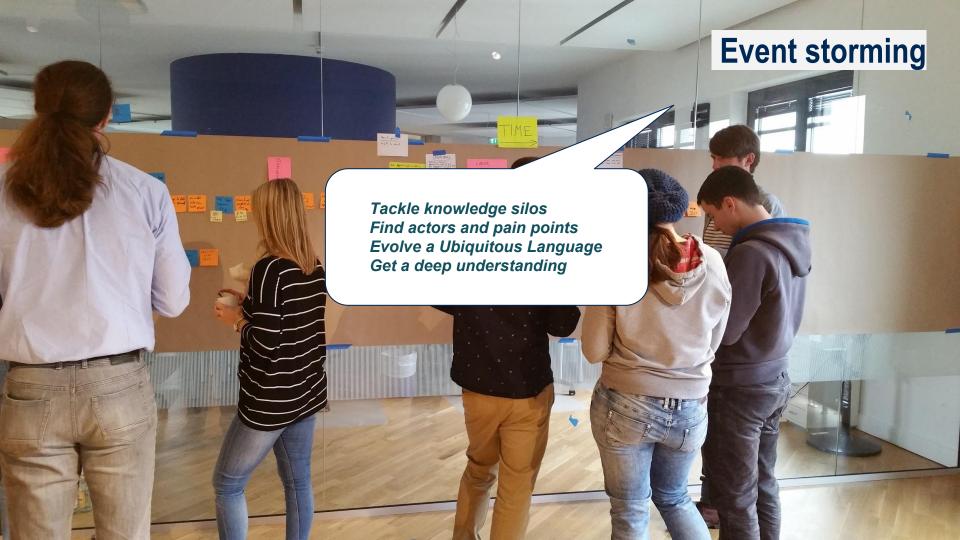


Event storming

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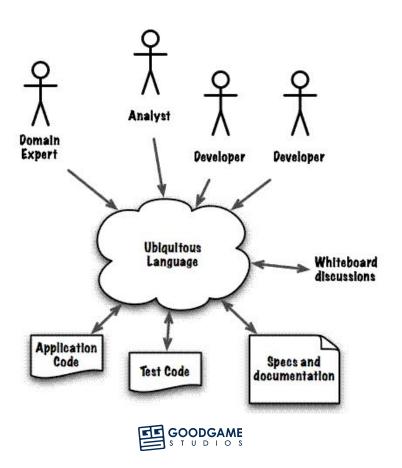


Ubiquitous Language

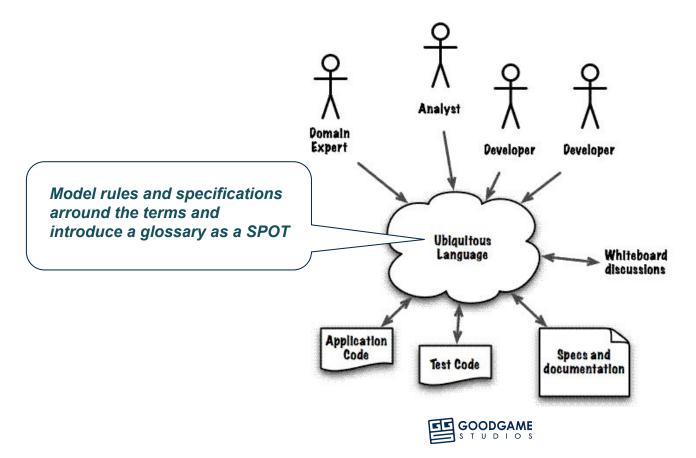
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Ubiquitous Language



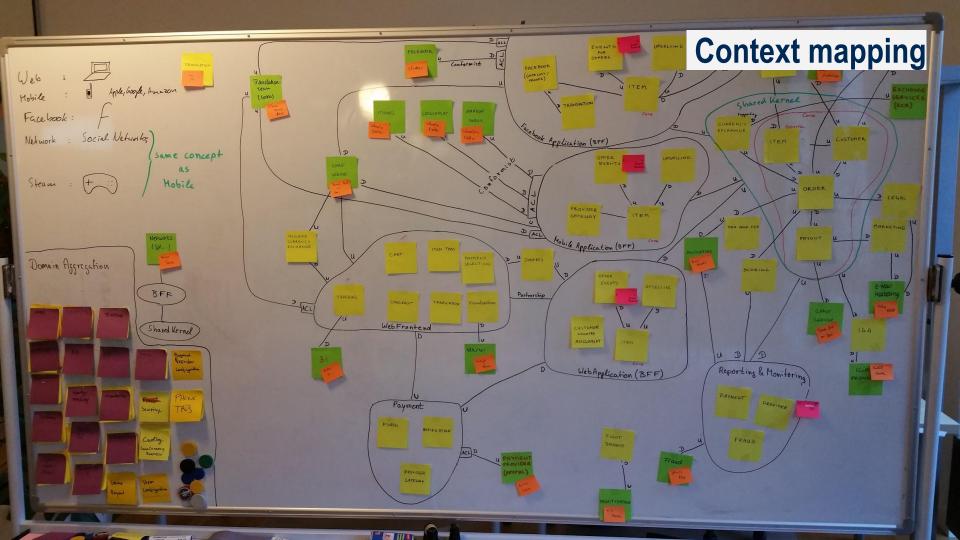
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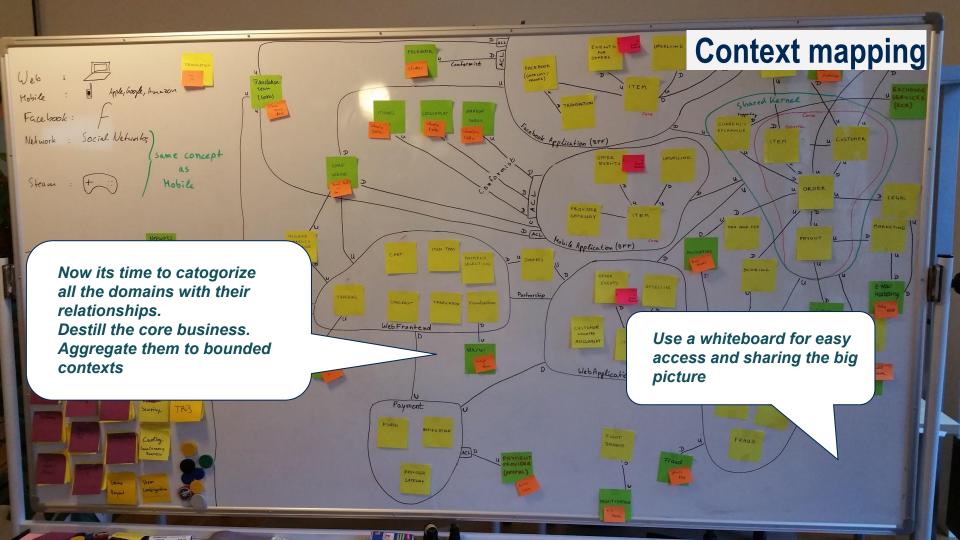


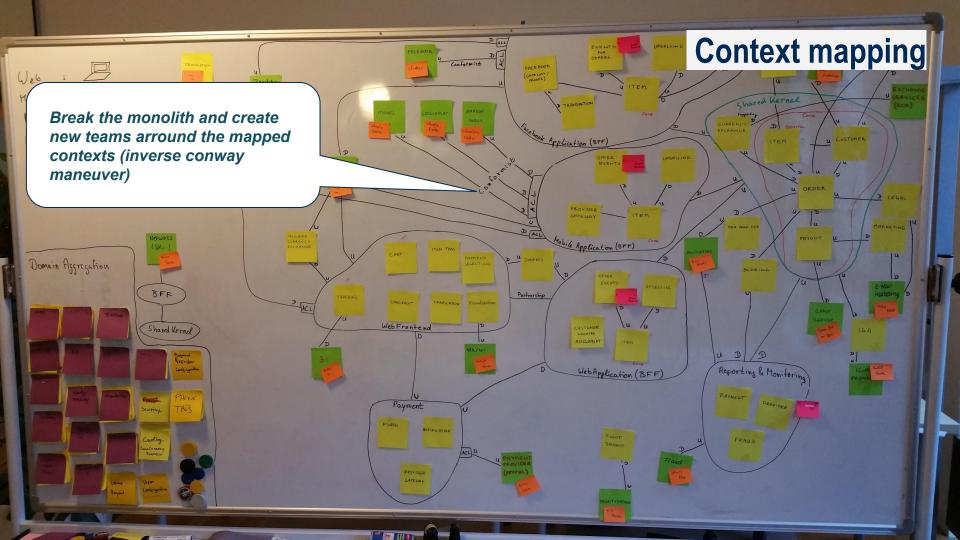
Context mapping

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Living documentation

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Documentation is part of knowledge sharing Documentation is part of knowle

Living documentation



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Living documentation

Documentation is about knowledge sharing. Find a concept and layer your documentation.



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Living documentation

Needs to be next to code.
Use the right tools, such as
Clean Code, TDD, BDD, README,
WIKI, Ubiquituous Language.
Know the audience.



Business value estimation

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Understand the business and deliver value rather than story points. Find out what MVP is in your context.



Creativity-friendly office space

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Anti-JIRA attitude, less bureaucracy

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"Automate all the things" + "You build it, you run it" attitude

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Automate all jobs, which are not relevant to the real business.

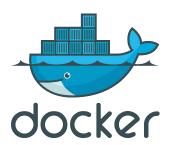




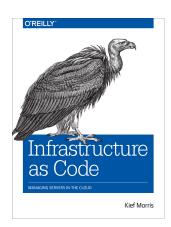


GitLab



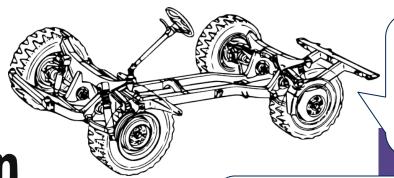






Make the teams independent. Favor PaaS over self-hosted solutions.





Create chassis for context based application creation to start with implementing business code as fast as possible

₋ab

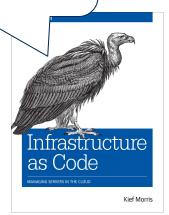


Describe the full server stack as code with Terraform or Cloudformation to meet Phoenix Environments



Use it to document and share the application environment.

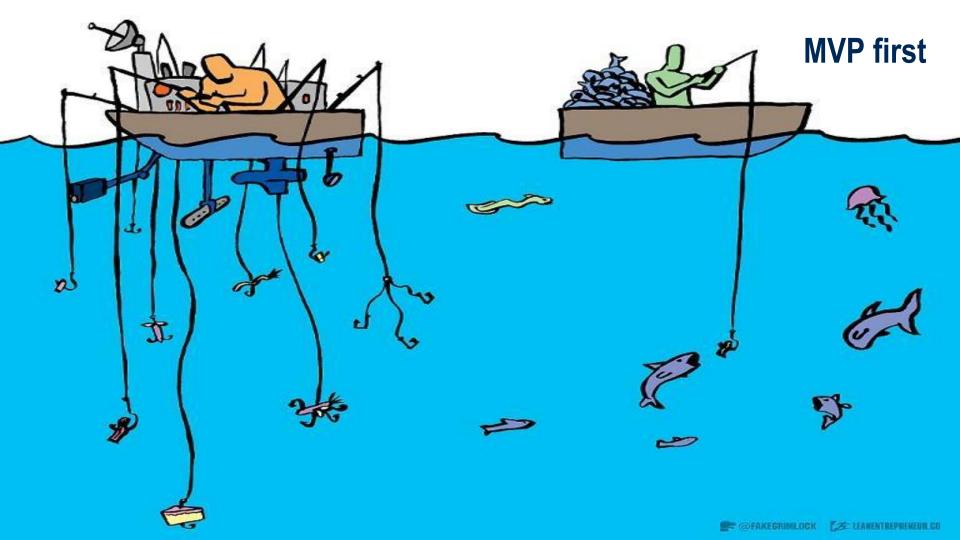


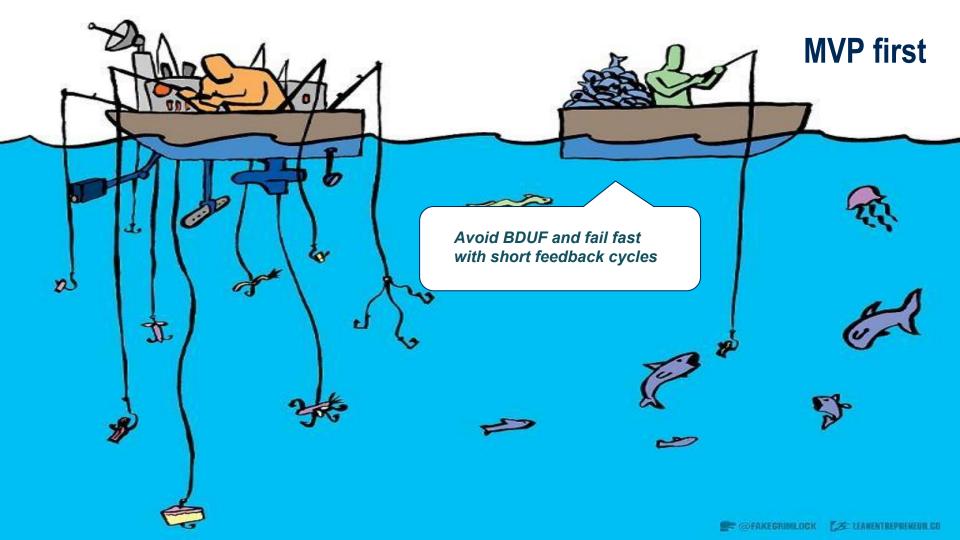


MVP first

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Assigning projects to fitting context

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OUTCOME



- Synergy of teams and systems
- Adventurous teams
- Business discussions alongside technology conversations
- Solving problems before implementing
- Doing important things
- Quick time to market with cost reduction
- We are learning
- Happier developers & happier stakeholders



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Context Map enabled us to build teams and products arround bounded business capabilities to meet feature teams without interdependecies



- Synergy of teams and systems
- Adventurous teams

With the right tactical pattern its easy to change underlying technologies

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- Synergy of teams and systems
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Without knowledge silos everybody can participate to find the right solution



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By automation

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With the right tactical patterns the business is explicit and understandable by ubiquitous language which means we can deliver quickly



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Fail Fast with MVP, do experiments and business perfomance monitoring



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Everything is emergent, easy to understand, well shared and stabilized





- Strongest impact
 - Introduction of a change driver
 - Emphasize Big Ball of Mud
 - Event storming
 - Context map
 - Usage of DDD tactical patterns



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Bottom-Up supports morality.

Make the troubles transparent.

Event Storming highly efficient to get deep into everything.

Context Map provides a big picture and destills the core domain.

Tactical patterns improves the maintainability, sideeffect is everybody trust their products



Strongest impact

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Not so good results

- Introduction of business value estimation
- Ubiquitous language glossary implementation



Strongest impact

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- Not so good results
 - Introduction of business value estimate
 - Ubiquitous language glossary implementation

Product Owners tend to keep value information to themselves and developers are often not interested to this job.

Glossary is very hard to maintain and far away from code. We did not find the right tool yet.



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- Most challenging
 - Leaving a comfort zone
 - Getting every team member on the same track°

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Self-organization is a major challenge for people who have been constantly told what to learn

Typical problem for big teams.
Sometimes DDD sounds like BDUF,
but it isn't!

NEXT STEPS

Business performance monitoring

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Knowledge about the business KPI's is a need to understand the market



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Model the idea with LEGO to fail fast. Making the abstract things concrete.























Document your model with LEGO makes really fun





Business value estimation

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Business value estimation

Introducing it was not accepted. But we see a high value here, so we will give another try.

We also think about Risk Value Estimation.

Having Story Points, Business Value and Risk Value enable us to automate story prioritization.



CONCLUSION

Return of investment



Return of investment

Introducing DDD is not easy but it helped us to improve our productivity and to be agile.

We are able to choose the right architecture on organisation as well as on technical level. Even in case of changes we can react easily without pain.

DDD ensures long term success to our products without introducing a rewrite of the entire system as a worst-case scenario.



Missing big picture Lack of understanding of business and market

Customer focus missed

Architecture unfitting for iterations

and feature teams

Team interdependencies

Maintenance overhead

Knowledge silos Poor collaboration

Slow time to market



Thank you

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