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Agile Days
2011

Planning for Fixed Price Agile projects.
Second step: Problem investigation.

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"It's better to step twice on an adult rake than once to a children's…"

Planning for Fixed Price Agile projects

Contents

- Terms

- Fixed Price Agile projects applicability

- Challenge of estimation

- Reasons for too optimistic estimates

- How to make estimates realistic

- Typical problems and approaches

Terms

- A **fixed-price** contract defines the scope, timing and price of a software project.

- **Agile** software development is a group of software development methodologies based on iterative and incremental development, where requirements and solutions evolve through collaboration between self-organizing, cross-functional teams.

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Agile projects applicability

- Research projects.

- Lack of knowledge about product to be built.

- Customer requires production as soon as possible.

Fixed-price projects applicability

- Well-known business domain area.

- High level of technology expertise on provider side.

- Low risk level for initial estimation.

Challenge of estimation

- Estimate should be done without deep investigation.

- All the activities of project lifecycle should be taken into account.

- Change requests aftermaths should be foreseen.

Possible reasons for too optimistic estimates

- Most of projects activities are ignored

- Background and regular activities are ignored

- Code support cost is ignored

Project activities (1)

- Project understanding.

- Business requirements definition.

- Learning technologies.

- Learning customer environment.

- Developing software requirements.

- Developing software architecture.

- Preparing local development and testing environment.

- Continues integration process support.

- **Development.** Tasks clarification. Integration.

- Change management.

Project activities (2)

- Code quality insurance.

- Testing and quality assurance.

- Bugfixing.

- User manuals preparation.

- Deployment. Integration. Configuration.

- Intermediate releases.

- User Acceptance Testing (UAT).

- Integration Testing.

- Support. Users teaching.

- Legacy data migration.

Background and regular activities

- Inter-project communications.

- Cross-domain communications.

- Communication with providers of third-party tools.

- Development, testing and production environment support.

- Human resources management. Interviews. Hiring.

- Education, professional development.

- Regular scrum meetings.

- Reporting.

Code support

- We need to support written code.
- One developer can support about 100K lines of code.
- Support cost grows imperceptibly during project lifetime.
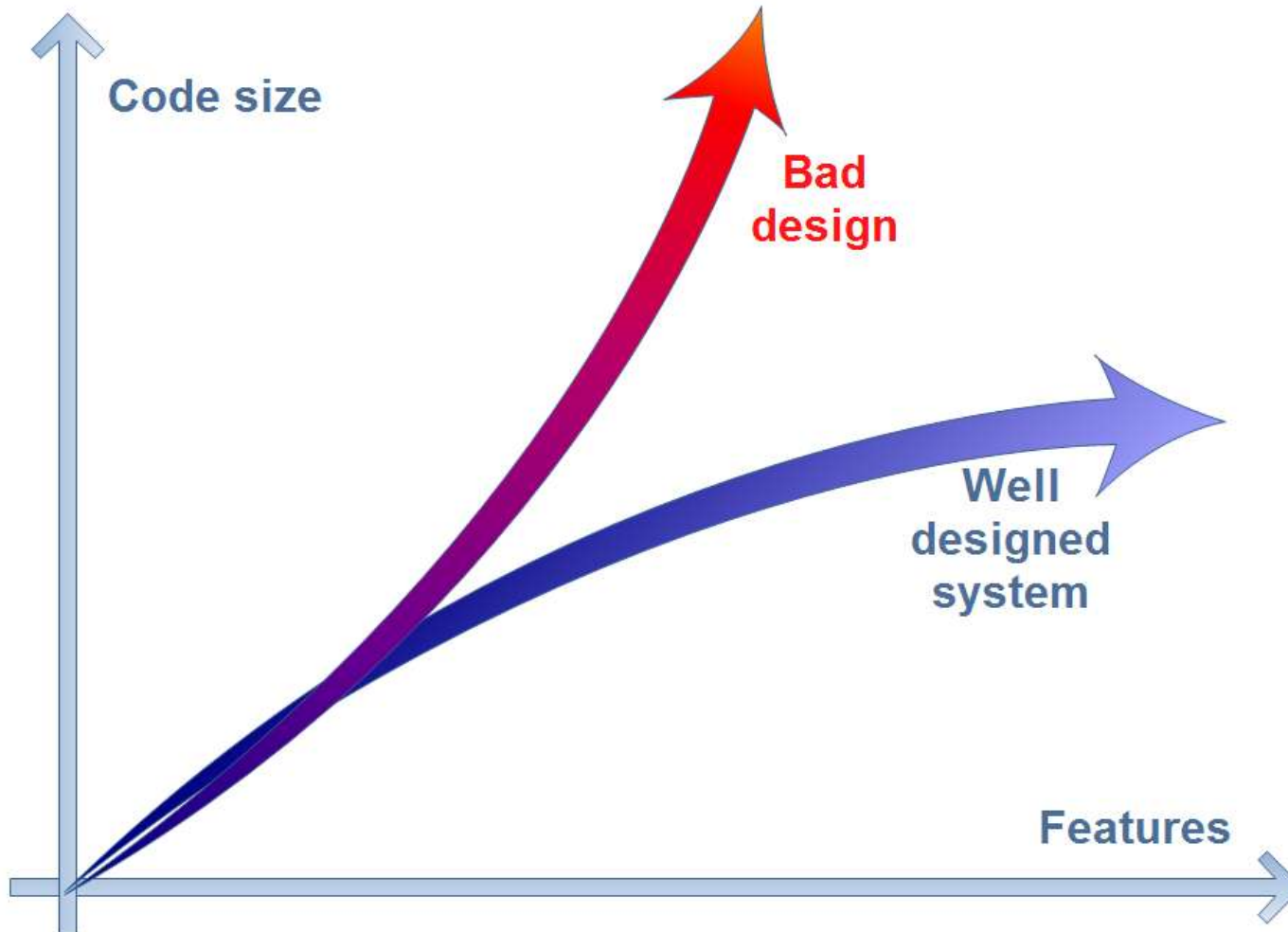- For 1 000 000 lines of code you need about 5 developers dedicated to support this code.

Recommendations

- Reduce amount of produced code.
- Most of new features should be implemented based on existing code.
- Always measure time spend to code support.

Code size and project complexity

Code size

Bad design

Well designed system

Features

Development itself takes about

10%

of project effort!

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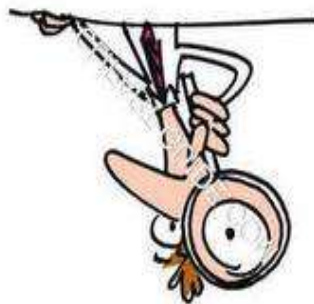
HOW TO MAKE YOU ESTIMATES MORE REALISTIC

The penalties method

- Incomplete business or software requirements – 30-50%.

- Indistinct requirements like user interface, performance – 20-40%.

- Lack of examples or samples to verify and validate software – 10-30%.

- New business domain area – 20-50%.

- New tools & technologies – 20-40%.

- Poorly specified execution environment – 20-30%.

- New customer – 10-20%.

- New team – 20-50%.

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Typical problems and solution approaches (1)

Problem	Solution approach
Developers tends to dig into problem too deeply. They are ready to spend all the available time to polish their solution. This is too time consuming.	Manage developer's time. Provide detailed planning for user stories dividing them into small tasks. Setup deadlines for all tasks and keep an eye on them. "Today is better than two tomorrows".
Communication can be very time consuming.	Find a way to publish information which should be shared. News, Wiki pages, Meeting minutes. Introduce "silent periods", when no communications allowed.
Lack of specific knowledge can significantly slow down team work.	Provide trainings and other types of knowledge sharing. It's never too early. Make presentations, pair programming, "round tables".

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Typical problems and solution approaches (2)

Problem	Solution approach
Lost information about project state and project problems	Always be reactive to all information about project state. Information can arrive from customer, developers, and other stakeholders. Always provide feedback and publish information about problems resolving, keep people involved. Create open atmosphere for feedback providing. Teach people to provide constructive feedback.
Project quality degradation	Make quality your first requirement. Check quality by metrics. Check always. Make bug fixing the first priority task. Quality has very high return of investments. Plan to have stabilization periods for project.
Project is late	Negotiate with customer. Control user expectations. Feature cut. Team cut.

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TO BE CONTINUED

Next step

- Work breakdown structure

- Risk management

- Negotiations

- Priorities

- Deadlines

- Good enough software

- Fast decisions

- Options

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There are no final decisions

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