Crystal

Communication and skills are more important
Crystal: 1992, Crystal is a family of methods and a set of guidelines that you adjust to meet your project's needs
Different flavors:
- No two crystals are the same no two projects are the same
- Tailor the process to the project

Crystal Clear
- Lightest member of crystal family
- Similar to extreme programming
- Intended for small, collocated teams
- 1-6 people

Properties, Strategies, Techniques
- Properties should be true about any project
- Strategies are a plan to accomplish a goal
- Higher level approaches to solving problems
- Techniques are things you do; skills that the team can develop and use to solve problems

Properties across all methods
- **Frequent delivery** (2 weeks to 4 months)
- **Reflective improvement**: reflection workshop; review what parts of process worked and what needs to change; analogous to Sprint Retrospective
- **Osmotic communication**: see, hear and absorb info; improve communication across team
- **Personal safety**: comfortable sharing ideas w everyone; mutual trust across the team
- **Focus**: minimize interruptions from calls, email, meetings
- Clear direction and priorities for the project
- **Easy access to domain experts**: onsite or regular meetings
- **Technical environment:** automated tests
- **Collaboration across organizational boundaries**

Strategies
- **Exploratory 360:** planning at the beginning of the project; early requirements and domain model; demonstrations of feasibility
- **Early victory:** focus on an easy first deliverable; winning helps the team to bond and feel successful
- **Walking Skeleton:** tiny end to end version of the system;s functionality
- **Incremental re-architecture:** be prepared to change the architecture; have a fallback
- Information radiators: display useful information through osmotic communication; updated continuously such as burn down chart to display status and progress

Technologies
- Methodology shaping to define the process: conduct interviews to collect information about the team; conduct workshop to define an optimal process for this team
- Reflection workshop: what are we doing well; what can we do better

- Blitz planning: like XP's planning game; create initial project plan; include all stakeholders : executive sponsor, users, developers

Planning Game	Blitz Planning
User Stories	Tasks
Assume no dependencies between stories	Explicitly analyze dependencies between tasks
Fixed length sprints	Variable iteration durations

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- Delphi estimation: iterative estimation by groups of experts
- Daily standups: what did I accomplish since last time; what's my goal for today; what problems do I have?
- Agile interaction design: user centered design focus on users
- **Role modeling session:** Each card represents a feature or user story; specify the goal on the card; work through a scenario of a user accomplishing a task
- Process miniature: train participants on processes with short exercises
- Side by side programming: sit close enough to see one another's screens; osmotic communication; not quite pair programming
- Burn charts: display progress against goals

Roles and work products
- Executive sponsor
- Team; team structure and conventions
- coordinator/manager: project map
- Business expert and expert user: user role model
- Lead designer
- Tester
- Designer-programmer:
- Writer
- All roles that you can pick from but you do not have to have a role
- Larger projects require more roles

Crystal Clear versus XP programming
- XP requires more discipline than Crystal clear
- XP can be more productive than crystal clear
- It is easier to start using crystal clear
- It is easy to fall back from XP to crystal clear - use only the XP

The family of Crystal methods
- Size in staff 1-6 crystal clear 7-20 crystal yellow 21-40 crystal orange 41-80 crystal red
- Potential risks: comfort, discretionary money (the company will survive in the project fails), essential money, Life