Software Engineering Project

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Product owner, team and project management

Agile manifesto

The agile manifesto will steer the project's strategy

1. Individuals and interactions over processes and tools

2. Working software over comprehensive documentation

3. Customer collaboration over contract negotiation

4. Responding to change over following a plan

Agile project management

Product backlog

PO

Customer

90%

75%

Development team
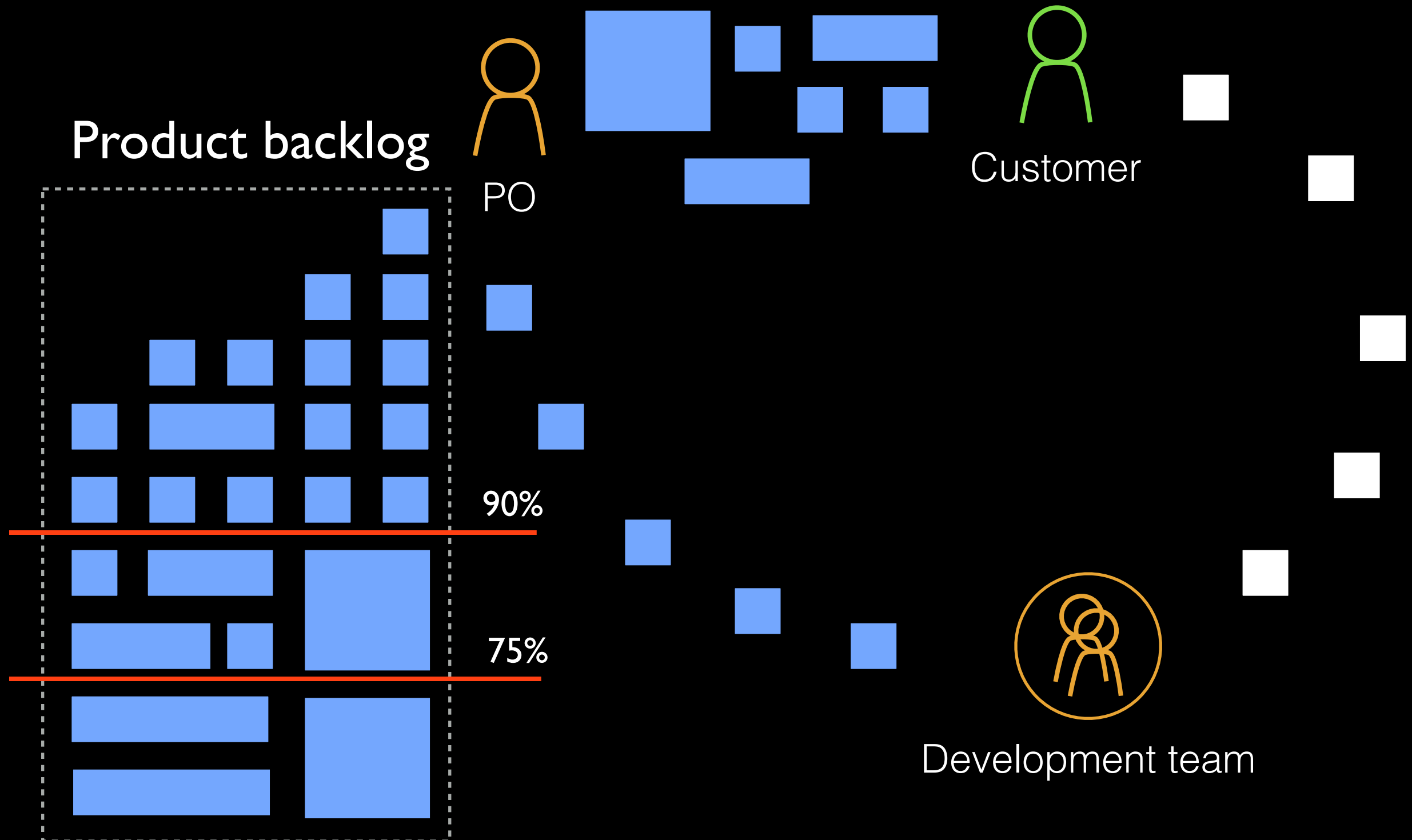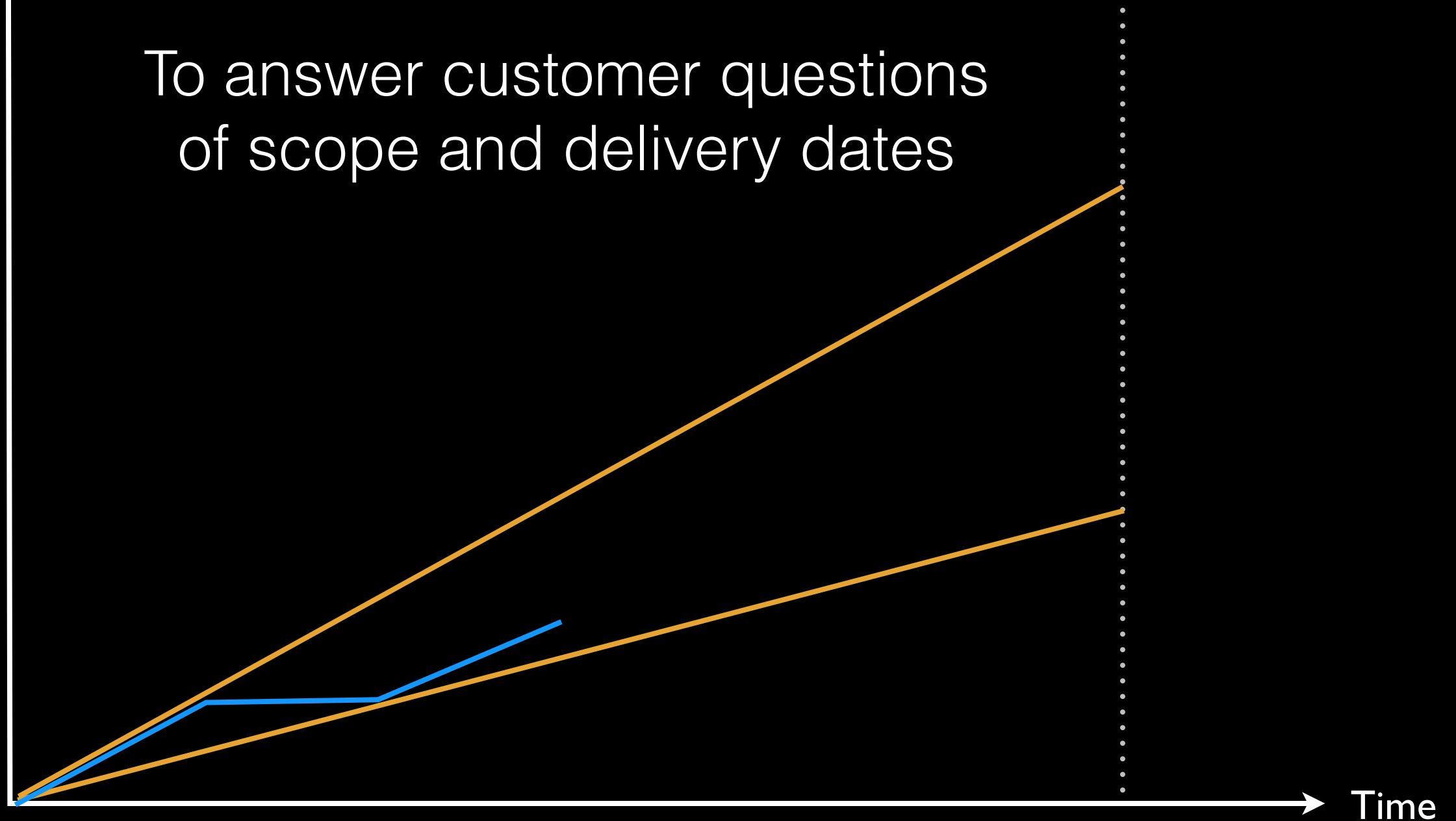
Risk management

Risks

- Lack of competence

- Technical difficulty

- Budget

- Time

Risks will be reduced by knowledge, backlog priority is based on story value/size and knowledge value

Project management triangle
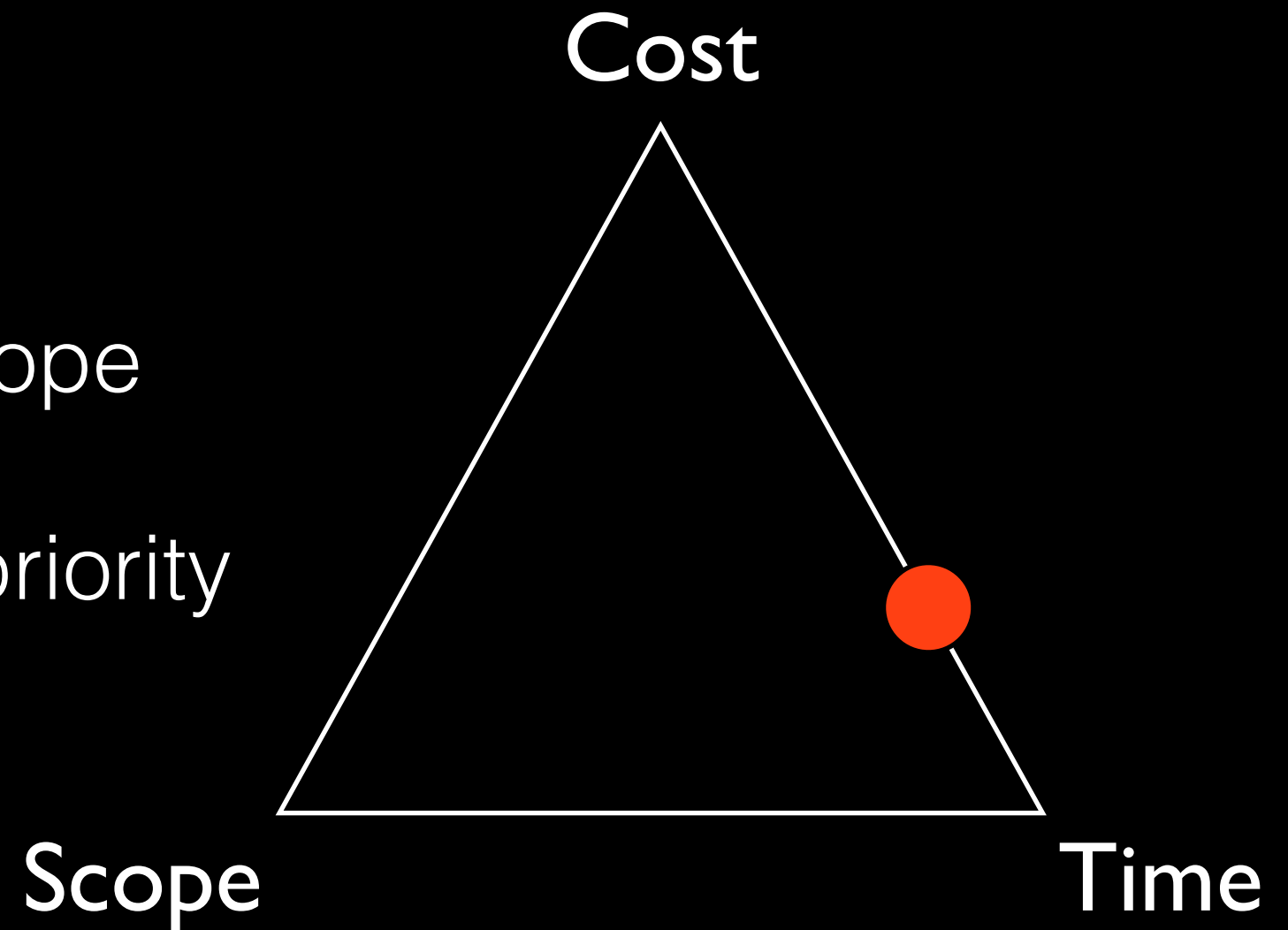
- Cost vs time vs scope

- First and second priority

Team

- In agile everybody is responsible for

  - Group dynamics

  - Leadership

  - Motivation

  - Conflict handling

Team basics

- Optimal team size is 5 persons (The 2013 Scrum Guide recommend team size of 3-9 persons). Size in crucial as too large teams will divide into sub-teams, and too small teams can not finish a whole feature.

- A team must be collaborative, i.e. "succeed together, fail together".

- A team must have a shared goal in order for collaboration to work.

Group development stages

- Tuckman's group development stages

  - Forming

  - Storming

  - Norming

  - Performing

Team member selection

- Diversity

- Hunger

- Attitude

- Complementing roles

Team leadership basics

- Be yourself: Do not try or pretend to be someone else. Leadership is about leading, and leading can be done in many different ways.

- Listen to a team members and give support: you will then be supported in turn.

- Conflicts: Solve conflicts while they are small, as soon as possible, before they have time to ballon into major problems.

- Celebrate: When work is done, the team deserves a celebration.

How to lead a team

- Leadership styles (Kurt Lewin)

  - Authoritative: communicates clearly what team members should do, is very involved in most aspects of work and is very knowledgable, does not listen to other's ideas, takes all decisions alone. *Fast decisions, effective when the leader is right - real problem when leader is not right.*

  - Democratic: always takes the final decision, but involves team members in all discussions leading up to the decision. *Best team output, leads to motivated team members.*

  - Delegate: does not take decisions. Paints a vision and expect the team to realize the vision. *Lowest output, leads to team conflicts and low motivation.*

How to lead a team (cont.)

- Situational leadership (Paul Hersey)

  - Telling: one-way communication in which the leader tells the team what to do.

  - Selling: two-way communication in which the leader tries to convince the team what to do.

  - Participating: shared decision making in which the leader is more involved in supporting the team than telling the team what to do.

  - Delegating: all responsibility is passed to the team, but the leader is still available to support.

- As a team develops, different leadership styles will be necessary.

Motivate people

1. "Stretch" team members to move outside their "comfort zone" in order to learn more and find their flow, by supporting them to take on new tasks and exploring new areas outside their expertise. But do no stretch too far into the "panic" zone.

2. Use for example the BOOST model to increase the amount of feedback that is given within the team. (Balanced, Observed, Objective, Specific, Timely)

3. Use for example the GROW model to coach team members to succeed reaching their goals. (Goal, Reality, Opportunities, Willingness)

Motivate people (cont.)

People are motivated by many different reasons, one model that an be used to create motivation is the self-determination theory (SDT).

- SDT states that in order for a person to become motivated, it is necessary that that person's need for

  - Competence: mastery, to continuously learn and become better

  - Autonomy: independence, to be in control of work and problem solving

  - Relatedness: to belong to a team. And that the team collaborates well and has great team spirit.

More information: Ryan & Deci

Handle conflicts

Mature teams solve conflicts without the team leader's involvement, but on occasion it is necessary for the team leader to act.

- One-on-one informal meetings with those involved in the conflict. To talk about the conflict may put it into perspective and solve it.

- Discuss in team meetings if the conflict is technical. Keep the focus on the technical aspects and not on those arguing. Be sure the keep the discussion civil.

- Mediate if necessary. A mediation would start with one-on-one discussions with those involved, and afterwards a common meeting to discuss and solve the conflict.

- Confrontational approach. Confront the person/persons who are wrong, but make sure you are right!

More information, e.g. Mike Clayton.