Roles

Systems Analysis

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Lecturer
Computer Engineer
School of Engineering
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2024-III

Outline

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Business Analyst

- **Skills**:
  - Strong analytical and problem-solving skills.
  - Excellent communication and interpersonal skills.
  - Business process modeling and documentation.
  - Data analysis and interpretation.
  - Requirements gathering and management.
  - Stakeholder management.
- **Responsibilities**:
  - Analyzing business processes and identifying areas for improvement.
  - Gathering and documenting business requirements.
  - Collaborating with stakeholders to define project scope and objectives.
  - Creating and maintaining project documentation, such as functional specifications and use cases.
  - Facilitating communication between business users and technical teams.
  - Participating in system testing and user acceptance testing.
  - Providing support and training to end users.

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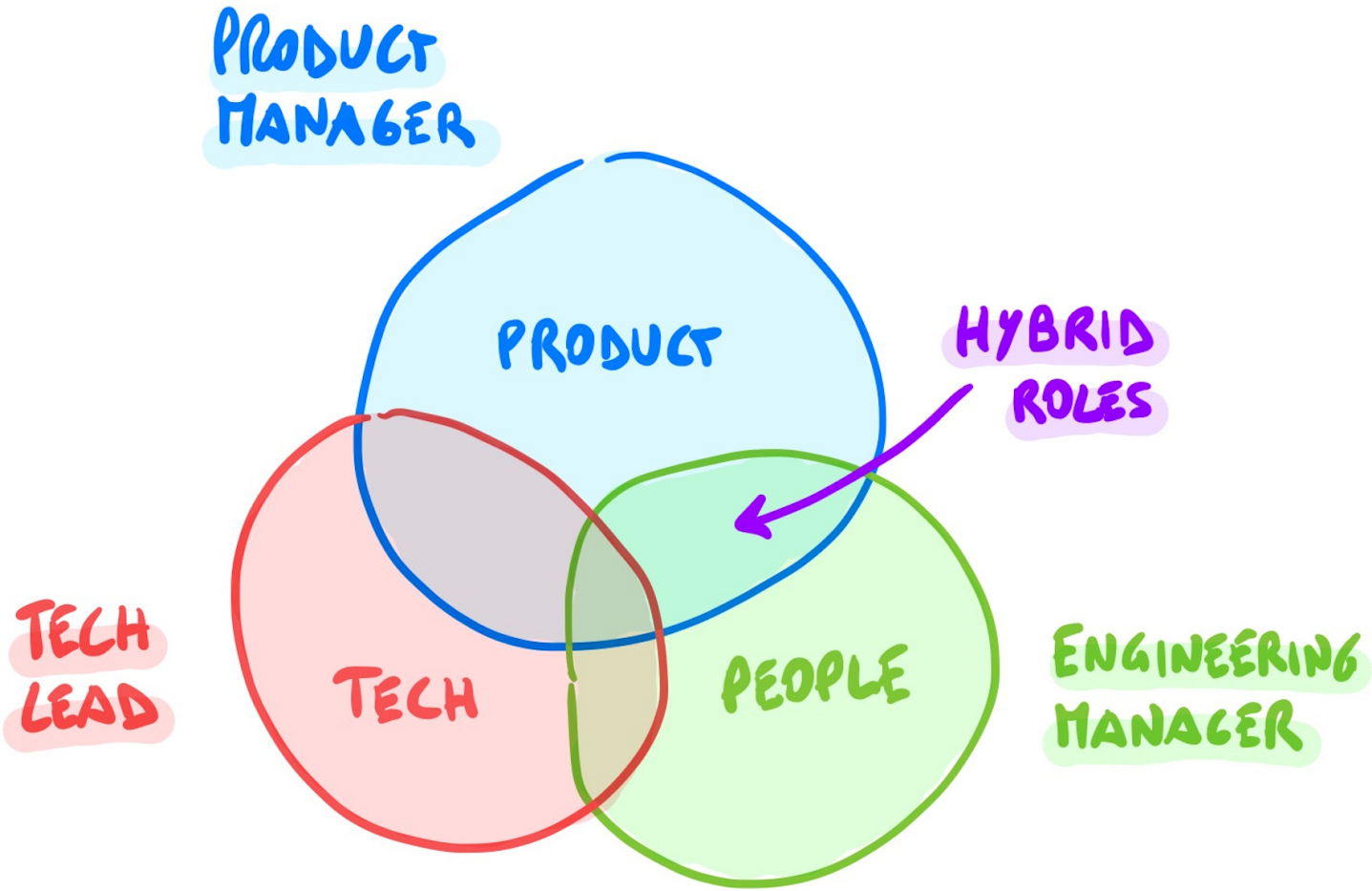
Tech Company Typical Structure



Roles in a Tech Team I

- **Software Developer (Engineer)** has the responsibility to design, code, and test software applications.
- **Software Architect** has the responsibility to design and implement software solutions.
- **Backend Engineer** has the responsibility to develop server-side applications and databases.
- **Frontend Engineer** has the responsibility to develop client-side applications and user interfaces.
- **Full Stack Engineer** has the responsibility to develop both server-side and client-side applications.
- **Software Tester** has the responsibility to develop test plans, test cases, and test scripts.

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Roles in a Tech Team II

- **Data Engineer** has the responsibility to design, build, and maintain `data pipelines`.
- **Machine Learning Engineer** has the responsibility to develop `machine learning models` and algorithms.
- **Data Scientist** has the responsibility to collect, clean, and preprocess `data`.
- **DevOps / Site Reliability Engineer** has the responsibility to automate software `development` and `deployment` processes.

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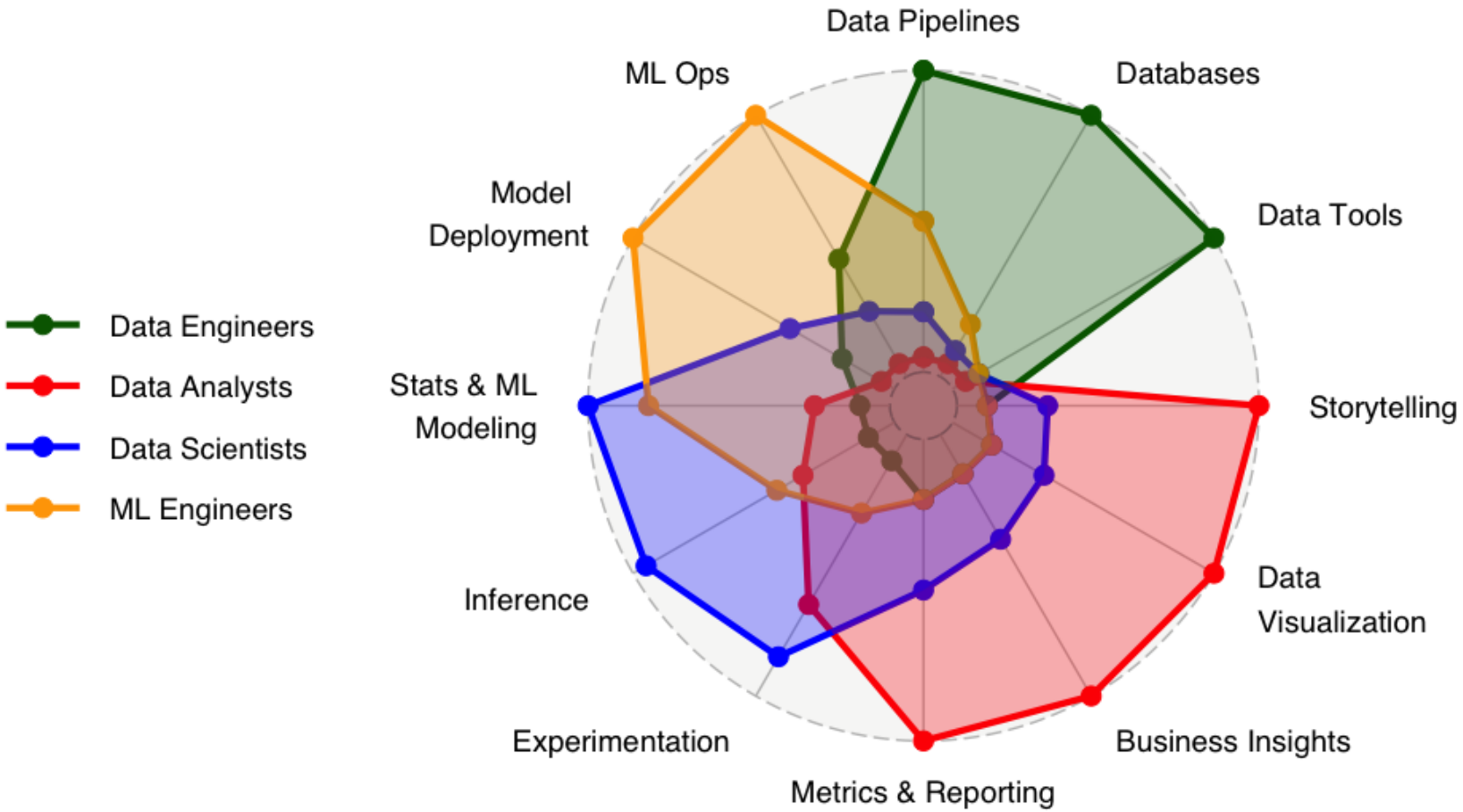
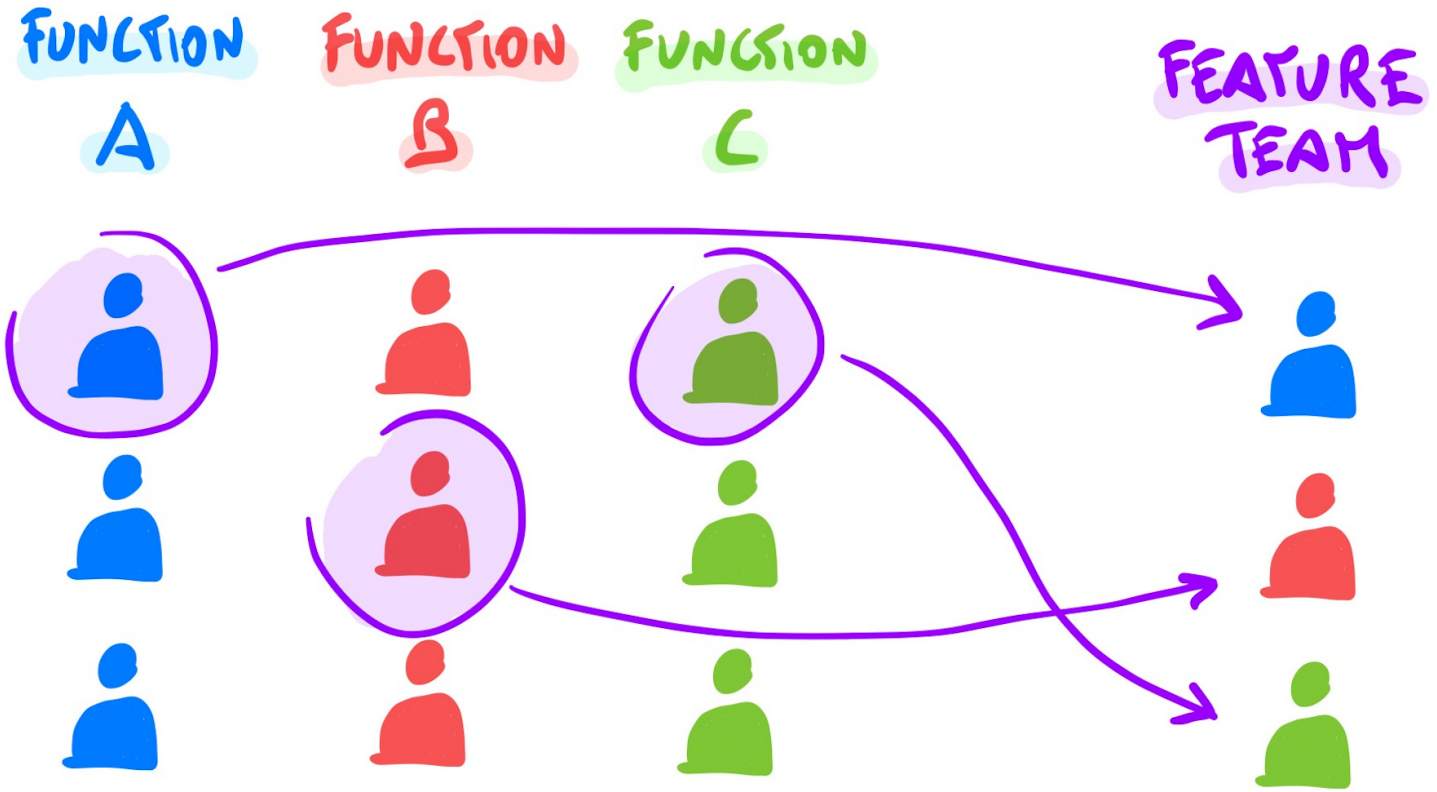
Data Related Roles



Feature Teams



Soft Skills

- **Soft skills** are personal attributes that enable someone to interact effectively and harmoniously with other people.
- Typical Soft Skills:
  - Communication skills (verbal and written).
  - Teamwork and collaboration.
  - Problem-solving and critical thinking.
  - Adaptability and flexibility.
  - Time management and organization.
  - Leadership and management.
  - Emotional intelligence.
  - Creativity and innovation.
  - Conflict resolution.
  - Networking and relationship building.
  - Customer service and client management.

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Technical Leader

- **Skills**:
  - Strong technical skills and expertise.
  - Excellent communication and interpersonal skills.
  - Ability to mentor and coach team members.
  - Knowledge of software development methodologies.
  - Ability to work independently and in a team environment.
- **Responsibilities**:
  - Providing technical guidance and support to team members.
  - Setting technical direction and standards for the team.
  - Reviewing code and providing feedback to team members.
  - Resolving technical issues and challenges.
  - Collaborating with stakeholders and senior management.
  - Ensuring technical quality and best practices are followed.

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Team Leader

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  - Ability to motivate and inspire team members.
  - Knowledge of software development methodologies.
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- **Responsibilities**:
  - Leading and managing a team of software developers.
  - Setting project goals and objectives.
  - Assigning tasks and monitoring progress.
  - Providing guidance and support to team members.
  - Resolving conflicts and issues within the team.
  - Communicating with stakeholders and senior management.
  - Ensuring project deadlines and quality standards are met.

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What is to be a leader? I

- **Leading** a team is not a role. It is a decision, you could be a **leader** anytime and anywhere.
- **Teamwork culture** is pretty important. It creates habits, open communication, safety spaces for inclusion.
- **Psychological safety** is a key point to have an effective team. You could develop *technical skills*, but it is not enough.
- **Hierarchy** is very important. Anarchism tends to fail. Hierarchy exists by **status** and **power**.
- In a hierarchy **experts lead** to make **better decisions**. However, anyone must be careful to not leave people behind.

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What is to be a leader? II

- With **crystal communications** and clarity on business goals, achievements, the people feel more comfortable to pursuit same goals as a **team**.
- A **good leader** must think in outcomes more than in outputs. It helps to always bring **business value** over complete tasks.
- **Failure** is always an option. Learn how to **deal** with bad moments, not punish, just fix and learn.
- Someones think you born as a leader. Another ones think a leader could be created with the time. Either way, **context** and **self-desire** to growth are vital.
- Make **ethical decisions** is a key, it leads to take right and **better decisions**.

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What is to be a leader? III

- It is important to always be **psychological well-being**. You will be stronger, could help people, and have a better points of view of everything.
- A **good leader** built trust relationships, also have emotional intelligence to comunicate and read the others.
- To develop as a leader some good guides are the **three C's**: Curiosity, Courage, and Commitment.

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What is to be a leader? III

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Questions?

Repo: *https://github.com/EngAndres/ud-public/tree/main/courses/systems-analysis*

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