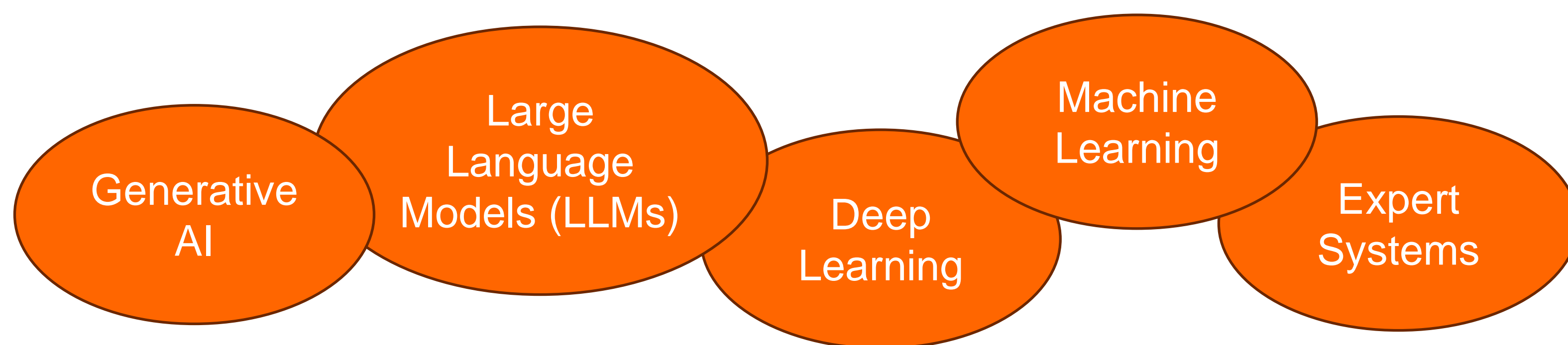


ARTIFICIAL INTELLIGENCE IN SOFTWARE QUALITY ASSURANCE

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Introduction

Artificial intelligence (AI) based systems are becoming more and more common in software development. In recent years there has been a drastic increase in AI based tools that assists software developers in coding. In quality assurance there have been many individual efforts for utilizing AI, but seems that no industry-wide standards, tools, and best practices yet exist.



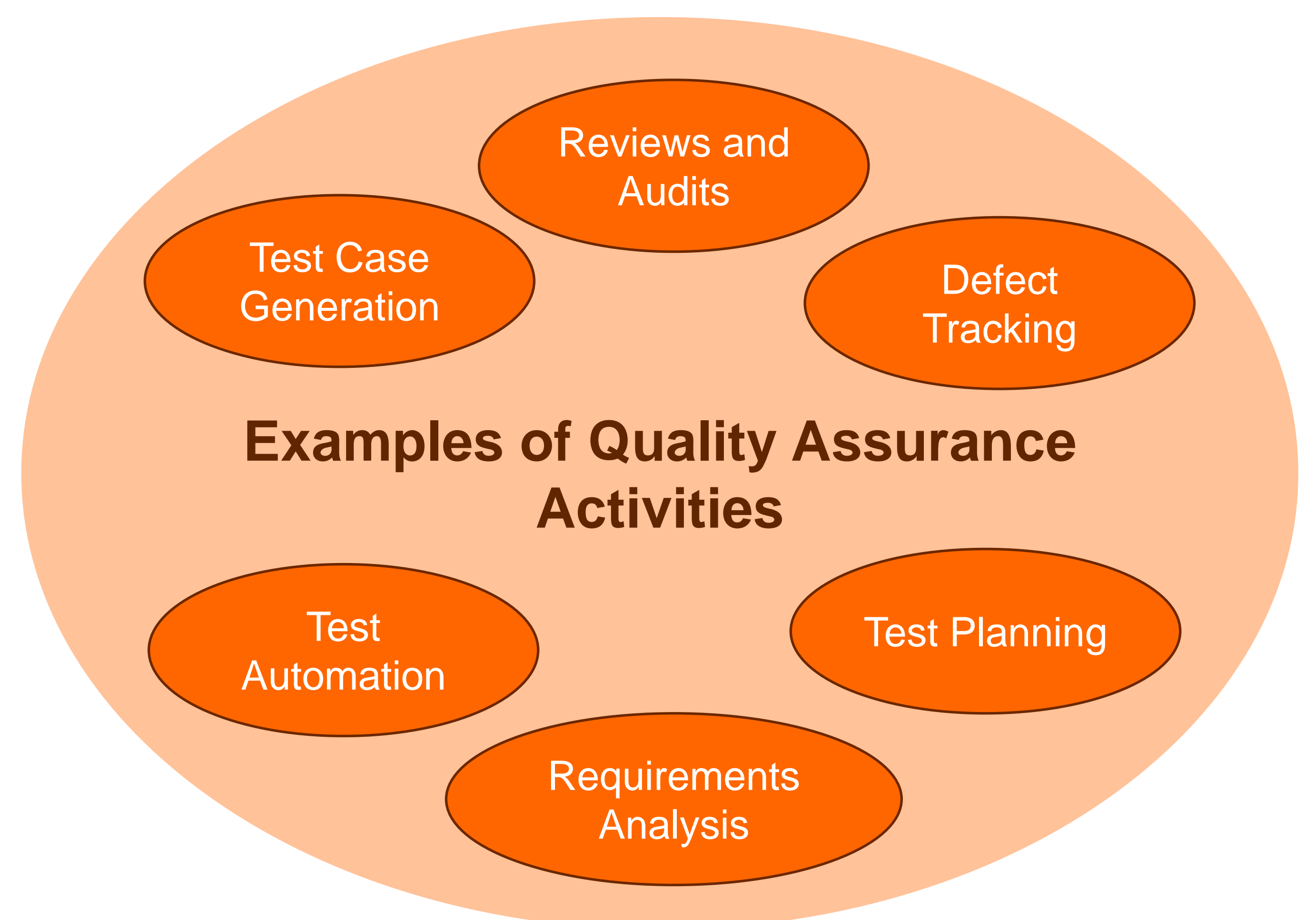
An AI performing quality assurance on a system.
Source: ChatGPT

Known Challenges

- Challenges in adopting AI: missing knowledge and experience in AI systems in companies.
- The “oracle problem”: it is hard for an AI to determine what is correct and incorrect behavior in the system under evaluation.

Points of Interest

- How are Finnish companies currently using AI in their software testing/quality assurance?
- What are the plans and expectations for utilizing AI in the future?
- How will the adoption of AI change the work of testers/QA specialists?
- How could AI improve knowledge transfer between testing and other software engineering activities?
- How can we develop new AI best practices and processes for quality assurance?



Next Steps

1. Comprehensive literature review: identifying novel research topics in the context of AI and quality assurance
2. Defining the scope of research
3. Qualitative study regarding use of AI in quality assurance
4. Artifact creation: best practices/processes for the industry

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