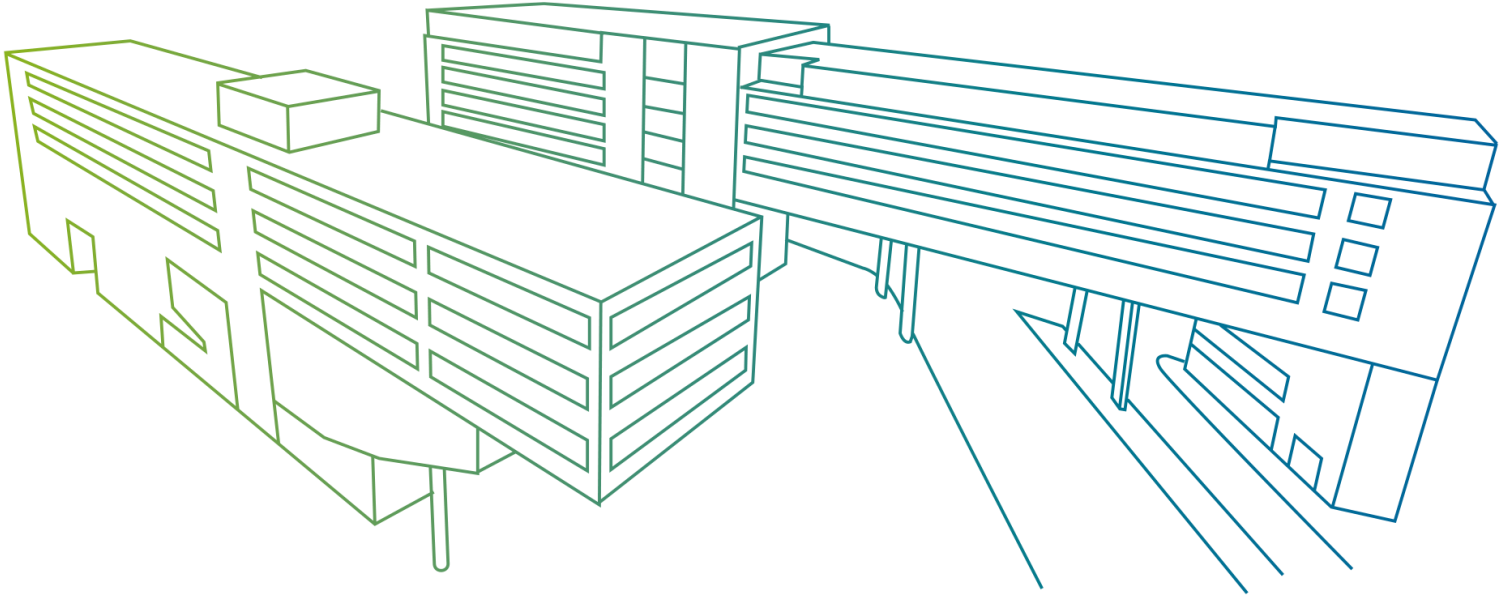

FH University of Applied Sciences TECHNIKUM WIEN

Solutions, Decisions and Risks

Software Architecture

Solution Strategy

Goal/Requirements	Architectural Approach
Authenticate and authorize users	Dedicated server (LDAP)
Course and curriculum management	Multi-tier system (Clients, REST, API, DB)
Dashboard with relevant information and alerts	Web-app (React framework)

These decisions form the cornerstones for your architecture. They are the basis for many other detailed decisions or implementation rules.

Define three goals/requirements and their architectural approach. The first approach must be the decision between a Monolith, Service-Oriented Architecture or Microservice approach.

Help: https://docs.arc42.org/section-4/ & https://biking.michael-simons.eu/docs/index.html#section-solution-strategy

Architecture Decisions

Problem	Considered Alternatives	Decision
Persistent storage of data	OracleSQL, PostgreSQL, MongoDB	MongoDB
Maximizing uptime / reliability	Own infrastructure, AWS, Azure	AWS
Compatibility with existing systems	Rebuild existing systems, integrate application	Integration

Stakeholders of your system should be able to comprehend and retrace your decisions.

Define three important, expensive, large scale or risky architecture decisions including rationales. With “decisions” we mean selecting one alternative based on given criteria.

Help: https://docs.arc42.org/section-9/ & https://biking.michael-simons.eu/docs/index.html#section-design-decisions

Risks and Technical Debt

Risk/Technical Debt	Description
Existing billing system is not compatible	The application is required to integrate with the existing financial management system
Chosen framework performs poorly in the future	React (or other frameworks) might lose support in the future
Changing cloud vendor will be expensive	The application will be dependent on a singular provider (AWS)

This should be your motto for systematic detection and evaluation of risks and technical debts in the architecture, which will be needed by management stakeholders (e.g. project managers, product owners) as part of the overall risk analysis and measurement planning.

Define three risks and/or technical debts, probably including suggested measures to minimize, mitigate or avoid risks or reduce technical debts.

Help: https://docs.arc42.org/section-11/ & https://docs.arc42.org/examples/risk-htmlsc-1/