



Group Project

Lecture 3

dr inż. Krzysztof Kaczmarski
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Zadanie 10 pn. „Przygotowanie i uruchomienie nowego kierunku studiów na studiach II stopnia – Inżynieria i Analiza Danych (IAD)” realizowane jest w ramach projektu „NERW PW. Nauka — Edukacja — Rozwój — Współpraca” współfinansowanego ze środków Unii Europejskiej w ramach Europejskiego Funduszu Społecznego

Goals for today:

- ▶ Get familiar with industrial 'Request' document types
- ▶ Understand FURPS as requirements document
- ▶ Learn what is a good schedule
- ▶ Learn what deliverable is needed for each lab
- ▶ Written assignment done in groups

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Documents

Terms of Reference
Request For Proposal
FURPS method
Schedule

Laboratory Deliverables

Written assignment

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Terms of Reference

Documents

Introductory document, covering the following conditions:

- ▶ users needs
- ▶ deadline of realization
- ▶ approximate price

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Example

Terms of Reference¹

External document presentation.

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Request For Proposal

Documents

Consists of two parts:

- ▶ Terms of Reference (TOR) which outlines the technical scope of the project
- ▶ Commercial Terms which specify the content of the proposal submission and the contractor selection procedure

Request for . . .

Documents

	RFI (Information)	RFP (Proposal)	RFQ (Quotation)
Purpose	Develop strategy Learn more about supplier's capabilities	Determine feasibility of each potential supplier's bid	Compare costs between competing vendors
Effort	Client – Medium Vendor – Medium	Client – High Vendor – High	Client – Low Vendor – Medium
Format	Open-ended	Open-ended but with formal parameters	Closed-ended
Best for	Customized solutions	Customized solutions	Commoditized products

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FURPS method

Documents

Functionality Functional requirements (as given above)

Usability Ergonomics, GUI Requirements, Friendliness

Reliability Accessibility, Recovery, Stability, Resistance

Performance Efficiency, Resources, Speed, Latency

Supportability Maintenance, Support, Costs

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Schedule planning

Documents

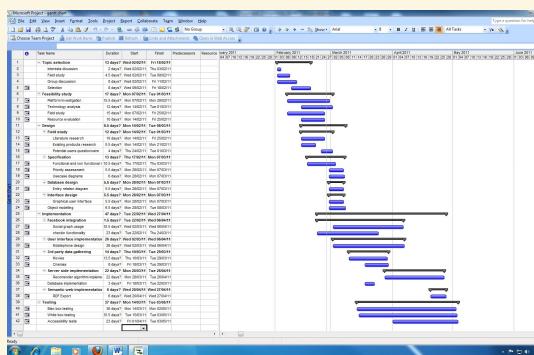
- ▶ The goal is to predict dates of important events and divide work into phases.
- ▶ Good schedule helps in progress control and success evaluation.
- ▶ Milestones: point on the road separating past and future
- ▶ Schedule planning, progress monitoring and updates are done constantly – hence safe time margin is needed.

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Gantt diagram

Documents



Good schedule

Documents

Predictive It shows how things fit together and how things may change.

Dynamic Make sure there is tracking plus space and possibility to change.

Reflective Shows progress in critical paths, milestones to predict dangers.

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<h2>Common mistakes forming a bad schedule</h2> <p>Documents</p> <ul style="list-style-type: none"> ▶ Hard to understand, using unclear terms and with no visualization. ▶ Not Flexible. Life changes. Period. ▶ Forced by managers, not accepted by the team. ▶ No connection between tasks, no way to rely on results from previous tasks. ▶ Uses only relative time measure (work days). No calendar time relationship. ▶ No margins before deadlines. ▶ No time for retrospection and revision after a review. ▶ Assumes that the team will have no additional (disturbing) activities. 	<h2>Lecture 3</h2> <p>Documents</p> <ul style="list-style-type: none"> Terms of Reference Request For Proposal FURPS method Schedule <p>Laboratory Deliverables</p> <p>Written assignment</p>
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<h2>Laboratory 1 Deliverable (CS)</h2> <p>Requirements Specification Document</p> <ul style="list-style-type: none"> ▶ Title page project title, document title, authors, supervisor, date, version ▶ Abstract short description of the document content and purpose ▶ History of changes tabular form with people and scope of modifications ▶ Table of contents 1. Executive summary description of goals from business's perspective 2. Vocabulary description of all used notions 3. Functional requirements Use cases + stories with system response – tests input, explanation 4. Non-functional requirements Given in a list or a table, numbered 5. Project schedule table, calendar, Gantt-diagram, dependencies between phases 6. Risk analysis for example SWOT 	<h2>Laboratory 2 Deliverable (CS)</h2> <p>General Design Document</p> <ul style="list-style-type: none"> ▶ Title page project title, document title, authors, supervisor, date, version ▶ Abstract short description of the document content and purpose ▶ History of changes tabular form with people and scope of modifications ▶ Table of contents ▶ References to deliverable 1 1. System architecture nodes, modules, responsibilities 2. Modules design interfaces, dependencies, layers 3. Communication protocols, libraries, network configuration 4. Main components descr. class, states, activity, events diagrams 5. User interface vision schedules, plots, drawings 6. External interfaces standards, file formats, norms 7. Technology selection languages, libraries, platforms, OS
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<h2>Laboratory 3 Deliverable (CS)</h2> <p>Implementation part 1: Code, Repository, Unit tests</p> <ul style="list-style-type: none"> ▶ Code review, tests review ▶ Not all modules must be integrated ▶ Some functionality working demonstration ▶ During meeting: progress report, problems outline, prediction on completion date <div style="text-align: center; margin-top: 10px;">      </div>	<h2>Laboratory 4 Deliverable (CS)</h2> <p>Implementation part 2: Increment in Code, Unit tests</p> <ul style="list-style-type: none"> ▶ Alpha tests phase ▶ Code review, tests review ▶ All modules must be integrated ▶ Added functionality working demonstration ▶ Working tests demonstration ▶ During meeting: progress report, problems outline, prediction on completion date <div style="text-align: center; margin-top: 10px;">      </div>
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<h2>Laboratory 5 – Final Deliverable</h2> <p>Working Application, Acceptance Tests, Documentation</p> <div style="background-color: #f0e68c; padding: 10px;"> <p>The application compiles</p> <p>It passes the acceptance tests</p> <p>We finished on time</p> <p>Installation instruction: one A4 page</p> </div>	<h2>Laboratory 5 – Final Document Content (CS)</h2> <p>Post-completion Documentation</p> <ul style="list-style-type: none"> ▶ Title page project title, document title, authors, etc. ▶ Abstract short description of the document content, etc ▶ History of changes tabular form with people, etc. ▶ Table of contents ▶ If needed: errata to Documents 1 and 2 1. Deployment Documentation Requirements, Libraries, Hardware Resources, Configuration 2. Installation Instruction What steps are needed to get it into production 3. Technical Documentation Contracts of public interfaces and modules, Protocols 4. User's Manual How to use the system
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Documents

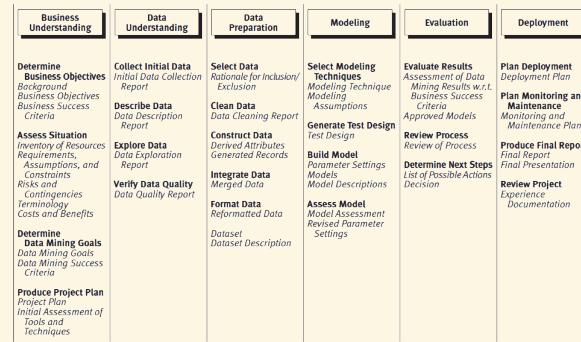
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Cross-industry standard process for data mining

CRISP-DM



What is CRISP-DM? Trisit Kumar Chatterjee, 2020

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Laboratory 1 Deliverable (DS)

Business Understanding Document

- ▶ **Title page**
project title, document title, authors, supervisor, date, version
 - ▶ **Abstract**
short description of the document content and purpose
 - ▶ **History of changes**
tabular form with people and scope of modifications
 - ▶ **Table of contents**
- Obligatory:
1. **Executive summary**
background, data mining goals from business's perspective
 2. **Vocabulary (Terminology)**
description of all used notions
 3. **Requirements**
assumptions and constraints, inventory of resources
 4. **Project schedule**
milestones calendar, Gantt-diagram
 5. **Risk analysis** for example SWOT
- Optional:
- ▶ Use cases, Success criteria

Laboratory 2 Deliverable (DS)

Data Understanding and Preparation Document

- ▶ **Title page**
project title, document title, authors, supervisor, date, version
 - ▶ **Abstract**
short description of the document content and purpose
 - ▶ **History of changes**
tabular form with people and scope of modifications
 - ▶ **References to deliverable 1**
- Obligatory:
1. **Solution proposal**
assessment of tools and techniques, modeling technique assumptions
 2. **Data Reports**
initial exploration and quality
- Optional:
- ▶ Modules description
 - ▶ GUI design
 - ▶ Initial data preparation

Laboratory 3 Deliverable (DS)

Modeling Document

- ▶ **Title page**
project title, document title, authors, supervisor, date, version
 - ▶ **Abstract**
short description of the document content and purpose
 - ▶ **History of changes**
tabular form with people and scope of modifications
 - ▶ **References to deliverable 1, 2**
- Obligatory:
1. **Modules implementation**
working code, automation procedures
 2. **Build Model**
parameter settings, model descriptions
- Optional:
- ▶ Testing environment

Laboratory 4 Deliverable (DS)

Evaluation Document

- ▶ **Title page**
project title, document title, authors, supervisor, date, version
 - ▶ **Abstract**
short description of the document content and purpose
 - ▶ **History of changes**
tabular form with people and scope of modifications
 - ▶ **References to deliverable 1, 2**
- Obligatory:
1. **Unit tests**
testing customized code, input-output operations
 2. **Model tests**
assessment, revised parameter setting, major results review
 3. **Usability analysis**
human-driven tests
- Optional:

Laboratory 5 – Final Document Content (DS)

Post-completion Documentation

- ▶ **Title page**
project title, document title, authors, etc.
 - ▶ **Abstract**
short description of the document content, etc
 - ▶ **History of changes**
tabular form with people, etc.
 - ▶ **Table of contents**
 - ▶ **If needed: errata to Documents 1 and 2**
1. **Deployment Documentation**
Configuration, Environment, Installation, etc
2. **Installation Instruction**
What steps are needed to get it into production
3. **Acceptance Tests**
According to initial requirements
4. **User's Manual**
How to use the system
5. **Project Experience Documentation**
What did you learn?

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Focus groups

Written assignment

Team work

- ▶ Complete your schedule
- ▶ Finish your functional and non-functional requirements

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