How to Write Good Scientific Project Proposals: A Comprehensive Guide

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Outline

• Introduction
• Preliminary Work
• Structure of a Project Proposal
• About Collaborative Writing
• Further Information
• Submission
• Notification
• Dissemination of Results
Outline

• Conclusions and Future Work
• Acknowledgments
• About the Author
• Bibliography
Introduction

• Motivation and Scope
• Objectives and Approaches
• Main Contributions
• Overview: What makes a good project proposal?

Note: this section has some overlap with the introductory section on [Paiva, 2013] “How to Write Good Scientific Papers: A Comprehensive Guide”, for the sake of completeness and to make it sufficiently self-contained
Introduction

• Motivation and Scope
  – What is a scientific project proposal?
    • A request for financial assistance to implement a scientific project (inspired from [Belmain, 2012])

From http://www.cartoonstock.com/directory/r/research_funding.asp
Introduction

• Motivation and Scope
  – Why write proposals?
    • Write proposals so that you have money to do research and give your contribution to understanding the world (Scientific career: should be centered in the creation of knowledge)
      – Fund equipment and laboratory facilities
      – Fund students (both under- or post-graduate)
      – Gives you independence to attending meetings
        » E.g., collaborate with other scientists, go to conferences, etc.
Introduction

• Motivation and Scope
  – Why write proposals?
    • Important indicator of **external approval of your activities**
      – Raise your academic prestige
    • Increase the **number of scientific publications**
    • May **benefit your evaluation**
      – **Grant-getters** and people who **publish more** (always favoring quality over quantity) are ranked higher
    • May **benefit your university/research institution financially through overheads**
Proposal writing requires **considerable knowledge** in **many disciplines**

- As any skill, can be learned but **requires practice**
Introduction

• Motivation and Scope
  – What to investigate in a project?
    • A **new idea**, e.g., a first solution to an impacting problem
    • A **better solution** to a **known problem**
      – E.g., a better-performing algorithm (accuracy, speed, etc.)
    • **Multidisciplinary ideas**
    • **Knowledge gaps**
    • ...

Introduction

• Objectives and Approaches
  – The purpose of this document is to summarize a number of general guidelines for producing competitive scientific project proposals
    • These guidelines do not substitute the priceless value of experience
    • As always, these are general rules of thumb
      – Particular cases might require particular approaches
  – I resort to both a literature review on the theme and my personal experience
    • Other people might disagree with some of my perspectives
  – Illustrative examples are used extensively
Introduction

• Main Contributions
  – A clear, comprehensive and **integrated overview of the main issues** pertaining to the production of good scientific project proposals
    • Information about the topic is scattered across several sources
  – **Lessons learned** from my personal experience writing scientific proposals
    • Enriched with several rejected proposals 😊
Introduction

• Overview: What makes a good scientific project proposal?
  – An original, impacting idea
    • Demonstrating scientific, economic, and social impact of the proposed research
  – Its adequacy to funding agency requirements and program criteria
    • Idea is strategic for the donor
    • Funding may be target to specific fields, e.g., energy, or profiles, e.g., researchers under some age
Introduction

• Overview: What makes a good scientific project proposal?
  – The way you communicate it
    • Effectiveness of communication and clarity of presentation are key
  – A good critical coverage of related literature
  – A convincing methodology
  – Convincing team background and ability to succeed
    • The project coordinator and team’s curriculum must convince the evaluators that the project has a high probability of success
      – E.g., past work on related topics, preliminary research
Introduction

• Overview: What makes a good scientific project proposal?
  – Adequate **management, monitoring and evaluation plans**
    • Management structure, planned deliverables, milestones, etc.
  – Realistic **budget**
    • Demonstrate need for financial assistance (resources: equipment, student scholarships, conferences, etc.)
  – **Exit strategy**: demonstration of the **sustainability of the project’s outputs**
    • Which project’s outputs should live on after the project ends, who will want them, and why?
      – E.g., software commercialization plans, patents, new knowledge, better trained people
Introduction

• **Overview: What makes a good scientific project proposal?**
  
  – **Key questions** (adapted and extended from [Cardoso, 2012])
    
    • Is the research new?
    • Is the research significant to the field of research?
    • Does it clearly motivate and clearly formulate the research question?
    • Does it outline the current knowledge of the problem domain, as well as the state of existing solutions?
    • Does it present clearly any preliminary ideas, the proposed approach and the results achieved so far?
• **Overview: What makes a good scientific project proposal?**
  
  – **Key questions** (adapted and extended from [Cardoso, 2012])
    
    • Does it sketch the research methodology that will be applied?
    • Does it point out the contributions of the applicant to the problem solution?
    • Does it state in what aspects the suggested solution will be different, new or better as compared to existing approaches to the problem?
    • Does it state how the expected results will be evaluated or compared to existing approaches to the problem?
    • Does it state how and by whom the expected results can be applied?
Introduction

• **Overview: What makes a good scientific project proposal?**
  – **Key questions** (adapted and extended from [Cardoso, 2012])
    • Is the team’s background (and particularly, the project coordinator’s) adequate to convince the evaluators that the project will succeed?
    • Does it state how the project evolution will be monitored and evaluated?
    • Is the budget realistic? Is too low or too high? Are the planned equipment, scholarships, missions, consumables, etc. adequate?
    • Does it demonstrate the sustainability of the project’s outputs? Which project’s outputs should live on after the project ends, who will want them, and why?
Introduction

For beginners: find a role model

- Follow the model of a good scientific project proposal of the kind you are writing, in your research field

Start writing the day you decide to study the problem

- Even simple, short, unstructured notes will help you
  - Help you staying focused
  - Accelerate the production of the final manuscript
- Write down ideas that come to your mind
- Don’t wait for a month before the deadline to start writing
Think about **possible funding sources early**

Check **proposal calls and deadlines**

Contact **possible partners as early as possible**

Become a **proposal reviewer**
  * It will help you to both read and write better  
  * How?  
    – Approach funding sources  
    – Get funding! They may invite you later to become a reviewer
Introduction

Introduction

Further reading

Preliminary Work: What you should do before writing the proposal

- Good research ideas
- Funding sources
- Partners
- Call assessment
- Basic draft
- Task scheduling
Preliminary Work

• **Goal**
  – Plan your proposal before writing it

• **How?**

  Have an idea → Find about funding opportunities → Assess suitableness of research call

  Contact prospective partners → Write basic draft and share with partners → Schedule and assign tasks to partners

Adapted from [Belmain, 2012]
Preliminary Work – A Good Idea

• Goal
  – Good research idea key for a good proposal
    • Although not sufficient

Research ideas and scope
  - Pure research (= basic research = fundamental research)
    - Increase understanding of fundamental principles: explain how the world works, refute existing theories
    - Generate principles and theories
      - Typically not intended to generate commercial benefits in the sort-term
  - Examples
    - Physics: find the Hibbs boson
    - Economy: explain the world economic crisis
    - Sociology: understand social changes
    - Computer science: analyze algorithm complexity
Preliminary Work – A Good Idea

• **Research ideas and scope**
  – **Applied research**
    • **Practical application of science**: use of accumulated knowledge to address complex real-world problems, with possible commercial benefits
    • Examples
      – Economy: use machine learning and economic theories to predict economic behavior
      – Computer science: create new programming languages suited for specific goals and tasks
      – Business: apply data mining to enterprise data to discover relations among customers, products, etc.
Research ideas and scope

- Hybrid research
  - Usually, a mix of the two
  - Examples
    - Computer science: understand how music signals encode emotions and use machine learning techniques to build emotion-based retrieval tools
    - Medicine: understand the human sense of touch and apply cutting-edge knowledge about robotics and communication technologies to perform tele-surgery with user sensory feedback
Preliminary Work – A Good Idea

• What makes a good research idea?
  – Originality
    • The idea should be “original”
      – Relevant and previously unaddressed problem
      – Better methodology to a previously addressed but unsolved topic (current results with room for improvement)
      – Better methodology to a problem with known solution
        » E.g., much more efficient solution
      – ...

Preliminary Work – A Good Idea

• What makes a good research idea?
  – Impact
    • The idea should have a significant impact to science and/or to society
      – Scientific, social, economic, cultural impact
  – Riskiness
    • Topic should be complex, with some associated risk and ambition
Preliminary Work – A Good Idea

• How?

<table>
<thead>
<tr>
<th>Field</th>
<th>Research Front Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural Sciences</td>
<td>FOODBORNE ILLNESS; FOODBORNE OUTBREAK DATA REPORTED INTERNATIONALLY; UNITED STATES-MAJOR PATHOGENS; SOURCE ATTRIBUTION; FOODBORNE INFECTIONS</td>
</tr>
<tr>
<td>Biology &amp; Biochemistry</td>
<td>VASCULAR ENDOTHELIAL GROWTH FACTOR B ENDOTHELIAL FATTY ACID UPTAKE CONTROL; VASCULAR ENDOTHELIAL GROWTH FACTOR-D RECEPTOR BINDING; VASCULAR ENDOTHELIAL CELLS; GLIOBLASTOMA STEM-LIKE CELLS; HRG INHIBITS TUMOR GROWTH</td>
</tr>
</tbody>
</table>


Technology timeline

• Computer enhanced dreaming .................. 2020
• Emotion control devices ...................... 2025
• Dream link technology ....................... 2030

From BTexact Technologies - a division of British Telecommunications plc

Research Issues in Operating Systems for Reconfigurable Computing

Grant B. Wigley and David A. Kearney
Preliminary Work – A Good Idea

• How?
  – Your **own background**, experience and intuition
    • Open issues from your past projects and papers, …
  – Your **colleagues** (in your institution or network)
    • Collaboration is inspiring
  – Research agendas from **reference research labs**
  – **Strategic research agendas** (e.g., Garnter, Forrester, etc.)
  – Research reports from **science “watchdogs”**
    • E.g., Essential Science Indicators (Thomson Reuters), Science Watch
Preliminary Work – A Good Idea

- **How?**
  - Visions by leading researchers
  - Topics in world-class conferences
  - “Inventing the Future”-type papers
    - Revisions and trends, knowledge gaps, etc. in
  - “Conclusions and Future Work” sections of recent good papers
    - Suggestions for future work
  - **Information events**
    - Some funding agencies organize programs dedicated to the exchange of ideas
      - E.g., FP7 Info Day
Preliminary Work – A Good Idea

Maverick* Research explores high-impact future scenarios that help our clients think differently to uncover opportunity and enable innovation. Our collection of research is intentionally disruptive and edgy to help you get ahead of the mainstream and take advantage of trends and insights that could impact your IT strategy and your organization.

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From http://www.gartner.com/technology/research/maverick/
Preliminary Work – A Good Idea

• Structure your idea
  – Divide-and-conquer approach
    • Define hierarchy of tasks and sub-tasks to tackle the problem
    • Useful to identify areas where you need to look for expertise somewhere else (i.e., find partners)
Get out of the box! Explore other fields

- Many great ideas are **multidisciplinary**
- **Exchange ideas** with colleagues from other fields
- **Read journals outside of your usual themes**
- Engineering: journals and magazines like IEEE Spectrum might be a good source of inspiration

Ask the question: Are there **any studies** that **already answer** the question you are asking?

- One of the purposes of the literature review (see later)
Preliminary Work – A Good Idea

Remember, you need **time to reflect!!!**

Besides a good idea, have preliminary results

- Most **successful proposals** are based on preliminary results (prospective experiments, your and your partners’ past work, etc.)
- They **strengthen** your proposal: useful for demonstrating **feasibility and capabilities**
The purpose of science is to get paid for doing fun stuff. Nominally, science involves discovering something new about the Universe, but this isn't really necessary. What **is** really necessary is a grant. [Schulman, 1996]
Preliminary Work – Funding Sources

• Goal
  – Find out about **funding opportunities** (programs, areas, funding amounts, etc.)

• How?
  – Look in the **typical sources**
    • Government funding agencies
    • Charitable foundations
    • Businesses
    • Individuals
    • …
Preliminary Work – Funding Sources

- How?
  - Have a **database of funding sources**, programs and deadlines
    - About general topics
    - Close to your research idea
  - Check typical **funding amount** per project
  - Check **evaluation time**
    - Mean time between submission and notification
      - Prompt and helpful revision? 3 months, 1 year?
      - Might be relevant depending on your needs
Preliminary Work – Funding Sources

• Examples
  – European Union Framework Programs 1-7
  – International Foundation for Science, Sweden
  – Science Foundations from individual countries
      • E.g., Portugal
        – Government agencies: Fundação para a Ciência e Tecnologia
        – Government cooperation programs: MIT-Portugal
        – Charitable foundations: Fundação Calouste Gulbenkian
        – Business: PT Inovação

It is good when your institution has administrative staff dedicated to this task.
How is FP 7 structured?
What are the "Specific Programmes"?

The Specific Programmes constitute the five major building blocks of FP7:

- Cooperation
- Ideas
- People
- Capacities
- Nuclear Research

From http://ec.europa.eu/research/fp7/understanding/fp7inbrief/structure_en.html
Preliminary Work – Funding Sources

Cooperation

The core of FP7, representing two thirds of the overall budget, is the Cooperation programme. It fosters collaborative research across Europe and other partner countries through projects by transnational consortia of industry and academia. Research will be carried out in ten key thematic areas:

- Health
- Food, agriculture and fisheries, and biotechnology
- Information and communication technologies
- Nanosciences, nanotechnologies, materials and new production technologies
- Energy
- Environment (including climate change)
- Transport (including aeronautics)
- Socio-economic sciences and the humanities
- Space

From http://ec.europa.eu/research/fp7/understanding/fp7inbrief/structure_en.html
Preliminary Work – Funding Sources

Collaborative projects

Collaborative projects are focused research projects with clearly defined scientific and technological objectives and specific expected results (such as developing new knowledge or technology to improve European competitiveness). They are carried out by consortia made up of participants from different countries, and from industry and academia.

IP
Large-scale Integration Project
- Minimum of 3 partners from 3 different countries
- 3 to 5 years
- Budget: tens of M€

STREP
Specific Target Research Project
- Minimum of 3 partners from 3 different countries
- 2 to 3 years
- Budget: around 2 M€

Adapted from http://ec.europa.eu/research/fp7/understanding/fp7inbrief/funding-schemes_en.html
Preliminary Work – Funding Sources

- Idea!
- Form consortium
- Write proposal
- Submit to Brussels
- Pass evaluation?
- Contract negotiations
- Project start
- Add partners

~ 4-6 months

~ 6-9 months

From www.efpconsulting.com/tools (Mr. M. Morron’s FP7 Book)
The Good News

- Investment in science is **growing globally**
  - Nearly doubled since the beginning of the 21st century

---

### Table 1.1. Global science by numbers.

<table>
<thead>
<tr>
<th>Year</th>
<th>Spend on research and development</th>
<th>% GDP</th>
<th>Numbers of researchers</th>
<th>Number of publications</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>1145.7bn</td>
<td>1.7</td>
<td>7.1m</td>
<td>1.58m</td>
</tr>
<tr>
<td>2002</td>
<td>790.3bn</td>
<td>1.7</td>
<td>5.7m</td>
<td>1.09m</td>
</tr>
</tbody>
</table>

From [Royal Society, 2011, p. 16]
Preliminary Work – Funding Sources

Figure 1.5. R&D spending, selected countries 2000–2015; the dotted lines indicate projections, based on announced targets.\textsuperscript{151}

From [Royal Society, 2011, p. 42]
Preliminary Work – Funding Sources

• The Bad News
  – World crisis affects research budgets in several countries
  – Low proposal acceptance rates
    • Many funding sources around 10-15%
      – or less, depending on the topic
Preliminary Work – Call Assessment

• Goal
  – Get to **know in detail** the nature of the **research calls**
    • A donor might have several programs, each with its own rules (e.g., European Commission FP7)
  – **Evaluate** whether your **research ideas fit**
  – **Select one call**
Preliminary Work – Call Assessment

• How?
  – Suitableness
    • Does the research call match your research ideas and research scope?
    • If not, you can be
      – Reactive
        » Adapt your ideas to fit an existing program
      – Proactive
        » Propose your own ideas to a program
        » Sometimes only in specific moments, e.g., public calls for ideas
Preliminary Work – Call Assessment

• **How?**
  – **Eligibility**
    • Are you eligible to apply?
      – Age
        » Young researchers, experienced researchers
      – Theme
        » Starting grants, excellence grants, team formation grants, grants to return to your original country, ...
Preliminary Work – Call Assessment

• **How?**
  – **Deadline**
    • What is the submission deadline?
    • Do you have enough time to write a winning proposal?
  – **Acceptance rate**
    • For programs with low acceptance rate, how confident are you?
    • What trade-offs are there between provided funding and acceptance rate?
Preliminary Work – Call Assessment

Read the call document in detail

Avoid running against the clock

- Many potentially good proposals fail because of insufficient preparation time: bad writing, deficient state of the art review, bad planning, no time to review, etc.
<table>
<thead>
<tr>
<th>Call Fiche</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooperation Work Programme 2013 - General Introduction</td>
<td>English</td>
</tr>
<tr>
<td>Guide for applicants (Collaborative projects: Large-scale integrating projects - IP)</td>
<td>English</td>
</tr>
<tr>
<td>Work Programme 2013 - Information and Communication Technologies</td>
<td>English</td>
</tr>
<tr>
<td>Guide for applicants (Collaborative projects - Small and Medium-scale focused Research Projects - STREP)</td>
<td>English</td>
</tr>
<tr>
<td>Cooperation Work Programme 2013 - General Annexes</td>
<td>English</td>
</tr>
<tr>
<td>Guide for applicants (Coordination and Support Action Coordinating - CSACA)</td>
<td>English</td>
</tr>
<tr>
<td>FP7 Factsheets</td>
<td>English</td>
</tr>
<tr>
<td>Guide for applicants (Coordination and Support Action Supporting - CSASA)</td>
<td>English</td>
</tr>
<tr>
<td>Guide for applicants (Combination of Collaborative project and Coordination and support action - CP-CSA)</td>
<td>English</td>
</tr>
<tr>
<td>Guide for applicants FET Proactive only (Collaborative projects: large scale integrating projects - IP)</td>
<td>English</td>
</tr>
<tr>
<td>Guide for applicants FET Proactive only (Collaborative projects: small and medium scale focused research projects - STREP)</td>
<td>English</td>
</tr>
<tr>
<td>Guide for applicants FET Proactive only (Coordination actions - CA)</td>
<td>English</td>
</tr>
<tr>
<td>Guide for applicants FET Proactive only (Support actions - SA)</td>
<td>English</td>
</tr>
</tbody>
</table>
Preliminary Work – Partners

• Goal
  – Find research synergies

Excellence demands collaboration
  • The whole is more than the sum of the parts
Preliminary Work – Partners

• How?
  – Identify external needs
    • Based on the previous structuration of your research idea
  – Contact prospective partners
    • State your research idea and visions
    • Clarify what contributions your partners can give
      – Often more than what you expected initially
  – Attend collaboration events
    • Some programs have events dedicated to finding partners for their calls
Preliminary Work – Partners

Have a database of possible partners
  • From past projects or papers, scientific contacts, authors you’ve read about, ...

Have Industry partners
  • Depending on the nature of your project, they might be key for later exploitation of project results

Contact people you’ve never worked with before
  • It is usually rewarding
Preliminary Work – Partners

Use **partner search tools**
- E.g., FP7 CORDIS partner search tool

Form the **consortium earlier then the call**
- At least the core team

Optimize the **consortium size**
- Not too large, not too small
- Depends on the project size
  - IP: around 15
  - STREP: around 5
Preliminary Work – Partners

Looking for research partners?

These profiles and collaboration requests are currently active to build your network:

- 13206 Partner profiles
- 25 Open FP7 Calls for Proposals
- 243 Partnership requests
  - 163 Proposing project
  - 80 Offering collaboration
- 238 Groups

From https://cordis.europa.eu/partners/web/guest/home
Preliminary Work – Partners

• Collaboration is a growing trend

<table>
<thead>
<tr>
<th>SCI Volume</th>
<th>Share of single-authors papers</th>
<th>Co-author mean</th>
<th>Reciprocal of harmonic mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980</td>
<td>24.8%</td>
<td>2.64</td>
<td>0.52</td>
</tr>
<tr>
<td>1990</td>
<td>15.7%</td>
<td>3.34</td>
<td>0.43</td>
</tr>
<tr>
<td>2000</td>
<td>10.7%</td>
<td>4.16</td>
<td>0.37</td>
</tr>
</tbody>
</table>

From [Glänzel and Schubert, 2004]
Preliminary Work – Partners

• **Why collaborate?**
  – To **share knowledge, experience and skills**
    • → **Promote excellence**
  – To take advantage of **specialization** you don’t have
    • Delegate tasks
  – To **sustain motivation** via interaction
  – To have/provide **access to costly equipment, data**, etc.
    • E.g., clinical partner: costly hospital equipment and data, enterprise partner: customer data
  – To **strengthen connections** (and foster future collaboration → virtuous circle)
  – To promote **increased number of publications** and **citations**
Preliminary Work – Partners

• **Levels of collaboration**
  – **Intra-institutional**
    • Among researchers inside the same research institution
    • Why?
      – Close partnership, *daily discussions, seed of good ideas*
        » Typically, happens naturally → people with similar interests tend to group together
      – Access to **intra-institutional funding** to exploit synergies inside the institution

Exchange ideas with colleagues **far from your field**
• Remember **good ideas** are often **multidisciplinary**
Preliminary Work – Partners

An example of a small coauthorship network depicting collaborations among scientists at a private research institution.

Nodes in the network represent scientists, and a line between two of them indicates they coauthored a paper during the period of study. This particular network appears to divide into a number of subcommunities, as indicated by the shapes of the nodes, and these subcommunities correspond roughly to topics of research.

From [Newman, 2004]
Preliminary Work – Partners

• Levels of collaboration
  – National/Regional
    • Among researchers from different research institutions in the same country/region or neighbor countries
    • Why?
      – Access to national/regional funding to stimulate national networks, address specific country/region needs
      – Cultural, environmental and geographic proximity
        » E.g., Ibero-American networks, European Union FP7, etc.
Preliminary Work – Partners

• **Levels of collaboration**
  – **International**
    • Among researchers from diverse countries
    • Why?
      – **Access to International funded projects** to stimulate international networks
        » E.g., IBSA initiative (India, Brazil and South Africa), European Union FP7 (non-EU partners allowed, with specific conditions)
      – **Highest potential**: the world is the limit
        » Highest level of **available specialization**
        » Highest **reward possibilities**: number of papers, citations, budget, etc.
    • **Growing faster** than domestic collaborations
Preliminary Work – Partners

“In March 2010, Physics Letters B published the most multi-authored research paper to date, when 3,222 researchers from 32 different countries contributed to a study of ‘charged-particle multiplicities’ measured with the ATLAS detector at the Large Hadron Collider in Geneva.”

From [Royal Society, 2011, p. 46]
Preliminary Work – Partners

Figure 2.7. Citations per article versus number of collaborating countries.¹⁹⁵

From [Royal Society, 2011, p. 59]
Preliminary Work – Basic Draft

• Goal
  – Write a **draft (preliminary version)**
  – **Share it among partners** for discussion

From http://www.ehow.com/how_7804861_write-grant-proposal-project.html
Preliminary Work – Basic Draft

• How?
  – Employ the same template used for the final submission
    • Title and acronym, motivation, objectives, research plan, management strategy, etc.
    • See section “Structure of a project proposal”
  – Or write a short, say, 3-page, document
  – Discuss it with partners and negotiate scope and goals
Preliminary Work – Task Scheduling

• Goal
  – Schedule tasks
    • Define deadlines
  – Assign tasks to partners
  – Schedule preparation meetings
    • Video-conference, face-to-face (F2F), etc.
Preliminary Work – Task Scheduling

• How?
  – **Estimate time needed** for each task
    • The **total time** depends on the **size and complexity** of the proposal, number of partners, etc.
      – From **several weeks** to **several months**!
    • Define and apply **deadlines**
      – Deadline for the main writing tasks
      – Deadline for budget and justification
      – Deadline for short CVs
      – Deadline for first “almost-ready” version
      – ...
    • → **Gantt chart** with tasks until submission
Preliminary Work – Task Scheduling

• How?
  – Assign tasks to partners, according to their background specialization and the previous initial contact
    • Writing tasks (literature review, problems to address, objectives, proposed approaches, activities), budget and justification, timeline, ...
Preliminary Work – Task Scheduling

• **Who writes what?**

<table>
<thead>
<tr>
<th>Administrative part (administrative partner)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical part</td>
</tr>
<tr>
<td>• Contribution (each partner)</td>
</tr>
<tr>
<td>• Beyond state of the art for each challenge</td>
</tr>
<tr>
<td>• Work package content, including WP tables</td>
</tr>
<tr>
<td>• Project management structure (coordinator)</td>
</tr>
<tr>
<td>• Impact (dissemination partner)</td>
</tr>
<tr>
<td>• Partner data (each partner)</td>
</tr>
<tr>
<td>• Partners profiles</td>
</tr>
<tr>
<td>• CV’s</td>
</tr>
<tr>
<td>• competencies</td>
</tr>
<tr>
<td>• Individual Exploitation /Dissemination plan</td>
</tr>
</tbody>
</table>

Adapted from [TURBO, 2010]
Preliminary Work – Task Scheduling

Bear in mind delays happen → have a cushion of time

Send reminders

Plan to have an “almost-ready” version around 2 or 3 weeks before the deadline
  • Depends on the size and complexity of the proposal
Negotiation is very import both in the preparation phase and in the proposal writing

- Ideas may need to be adapted according to partner suggestion
- Budgets may have to be negotiated

The project coordinator plays a key role in guaranteeing that all parts are satisfied and the project keeps coherence

- Positive working atmosphere is essential
Preliminary Work

Further reading

• Main

• Additional
  – TURBO (2010). “How to start a successful proposal under FP7?”, Presentation, Turkish Research and Business Organizations, URL: http://www.turboppp.org/home.do;jsessionid=298565811203FFEA0FB0326BE9D8598F?ot=5&rt=10&sid=0&pid=0&cid=9429
Structure of a Project Proposal
Structure of a Project Proposal

• Goals
  – Adequately *organize your proposal*, promoting *clarity and objectivity*
    • Communicate exactly
      – The problem to be addressed
      – What you want to accomplish
      – The resources required
      – When the activities will be performed
  – More about this
Structure of a Project Proposal

• How?
  – Typical structure
    • Summary
      – Title, acronym
      – Project summary
      – List of participants
    • Description of Work
      – Problem statement
      – Objectives and justification
      – Relevance to the call
      – Evaluation plan
      – Progress beyond the state of the art
      – Research plan
Structure of a Project Proposal

• **How?**
  – Typical structure
    • Outputs
      – Publications, patents, prototypes, tools, ...
    • Exit strategy
      – Demonstration of the sustainability of the project’s outputs
    • Budget
      – Numbers, justification of resources, value for money
  • Project management, monitoring and evaluation
    – Management structure, etc.
  • Team background
    – Projects, publications, CVs
  • Dissemination plan
    – Channels and the actions to publicly disseminate the project results
Structure – Title

• **Goals**
  – Define a *project acronym* and a longer (not long!) *title*
    • An appealing *project identifier*

• **How?**
  – Should brief and rigorously summarize the *essence of the project*
    • Attractive, objective, precise, fully descriptive, concise and clear title
  – Should be *specific* (not too general)
Structure – Title

Project acronym: **HeartCycle**
Project full title: **Compliance and effectiveness in HF and CHD closed-loop management**

**Título do projecto (em inglês)**
Project title (in english)
**MOODetector – A System for Mood-based Classification and Retrieval of Audio Music**
Structure – Project Summary

• Goals
  – Like the title, should be brief and rigorously summarize the essence of the project, now with a few more words (typically, between 200 and 400 words)
    • Like the title, may be the only thing evaluators read
      – If it is not catchy, the proposal may be excluded without further reading
Structure – Project Summary

• How?
  – Describe concise, clear and objectively:
    • What research problem the consortium will address
      – Blunt, right-to-the-point approach
        » 1 or 2 sentences
    • Why it is important
      – 1 or 2 sentences
    • How they will do it
      – 3 or 4 sentences
    • The main contributions that the project will offer
      – 3 or 4 sentences
    • The importance and impact of the contributions
      – 1 or 2 sentences
    • The nature of the consortium
Each year Cardiovascular Disease (CVD) causes over 1.9 million deaths in the EU, causing direct health costs of €105 billion. Coronary Heart Disease (CHD), half of all CVD deaths, is the single most cause of death in Europe. Heart Failure (HF) – a CHD being the most frequent cause of hospitalization for people over 65 – has 10 million patients in the EU.

Current treatment of HF entails recommendations from clinicians on medication, diet and lifestyle. Patients only receive feedback at doctors’ visits, or when facing symptoms. Daily monitoring, close follow up, and help on treatment routine is lacking. Non-adherence to the treatment regime is a major cause of suboptimal clinical benefit.

HeartCycle will provide a closed-loop disease management solution to serve both HF and CHD patients, including hypertension, diabetes and arrhythmias as possible comorbidities. This will be achieved by multi-parametric monitoring of vital signs, analysing the data and providing automated decision support, to derive therapy recommendations.

The system will contain a patient loop interacting directly with the patient to support the daily treatment. It will show the health development, including treatment adherence and effectiveness. Being motivated, compliance will increase, and health will improve. The system will also contain a professional loop involving medical professionals, e.g. alerting to revisit the care plan. The patient loop is connected with hospital information systems, to ensure optimal and personalised care.

Europe’s health system is undergoing radical changes due to an aging population. It’s moving from reactive towards preventative care, and from hospital care to care at home. Tomorrow’s patients will become more empowered to take their health into their own hands. New ICT is required to enable this paradigm shift.

HeartCycle, coordinated by Philips – leading in electronics and health care –, includes experts on textiles, ICT, decision support and user interaction.
Structure – List of Participants

• Goals
  – List the **project partners** and their **affiliations**

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<tr>
<th>Beneficiary no.</th>
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<th>Beneficiary short name</th>
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</table>
Structure – Problem Statement

• **Goals**
  – Describe the **problem** you will address in the proposal

• **How?**
  – **Right to the point**
  – Synthesis **diagram**
HeartCycle will provide a **closed-loop disease management solution** being able to serve both HF patients and CHD patients, including possible co-morbidities hypertension, diabetes and arrhythmias. This will be achieved by multi-parametric monitoring and analysis of vital signs and other measurements.

Adverse event alarms will be generated for immediate professional attention and an automated decision support system will derive therapy recommendations from the information acquired. Vital body signs will be used to track health status and the impact of the current treatment, showing the patient the importance of adherence to the treatment, motivating improved treatment adherence, and a more active role in his care. The regular measurement of vital signs will enable early diagnosis and warning of developing problems. Furthermore, it will allow closer monitoring of the effects of medication and lifestyle, making more personalised treatment plans possible. The first three years of the project are dedicated to researching and realizing the technical system solution, whereas year four is preserved for the clinical validation of the achieved results.
Structure – Objectives

• **Goals**
  – Clearly state the **objectives** of the proposal, their **context** and **justification**
    • Scientific (more generic)
    • Technological (lower-level)

• **How?**
  – Right to the point
  – In accordance with the **call document**
  – Use a **list, diagram**
Structure – Objectives

From HeartCycle project
Structure – Objectives

• How?
  – Justification
    • Why is the objective relevant to the field?
    • What applications do this research problem have?
    • What’s the socio, economic, cultural, etc. impact of addressing this problem?
      – Use (inter)national statistical studies, e.g., OECD, WHO, United Nations, etc., → prove problems, identify trend

SO1: Improve Disease Management in Cardiovascular Disease
The population of the EU, and indeed in the western world, is aging. According to Charlie McCreevy, European Commissioner for Internal Market and Services, “over the coming decade, Europe will change from having four people of working-age for every elderly citizen to a ratio of two to one” [1]
Structure – Relevance to the Call

• **Goal**
  – Prove *adequacy of the proposal to the call*

• **How**
  – **Matching** between *call objectives* and *proposal objectives*
    • E.g., table
## Structure – Relevance to the Call

<table>
<thead>
<tr>
<th>Overall Challenge 5 Objectives</th>
<th>HeartCycle Objectives</th>
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<tbody>
<tr>
<td>Challenge 5: ... support will go to highly interdisciplinary research aiming at...</td>
<td>The aim of the project is a multidisciplinary approach where researchers, health professionals and health planners are cooperating. Multi-national companies covering electronics, Healthcare and telecommunication, will collaborate with universities, clinics and SMEs.</td>
</tr>
</tbody>
</table>

- **Improved productivity of healthcare systems by facilitating patient care at the point of need, health information processing and quicker transfer of knowledge to clinical practice.**
- **Continuous and more personalized care solutions, addressing the informed and responsible participation of patients and their informal carers (family and friends) in care processes, and responding to the needs of elderly people.**

Our disease management approach consists of two loops. An inner home-based loop that directly interacts with patients in their daily life and an outer loop involving in addition the medical professionals for optimal therapy. The aim of this approach is to provide personalized care solutions to the patients informal carers and care givers. The elderly patients should play an active role in the management of their health.

*From HeartCycle project*
Structure – Evaluation Plan

• Goals
  – Describe how the results of the project will be evaluated

• How
  – Validation of algorithms
  – Efficiency evaluation
  – Real-world validation
    • Usability tests
    • Clinical validation
    • ...
  – Business validation
    • Cost benefit analysis
Structure – Progress beyond SOTA

• Goals
  – Summarize the contributions the project will offer to extend the state of the art

• How?
  – Summary table
    • Current approaches
    • New approaches resulting from the project
  – For each objective
    • Literature review
    • Innovation
# Structure – Progress beyond SOTA

<table>
<thead>
<tr>
<th>TO</th>
<th>State-of-the-Art</th>
<th>On-going research</th>
<th>HeartCycle goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>TO1: Promote Compliance in CV Disease Management Using ICT</td>
<td>Mainly patient-related single focus</td>
<td>TOPCARE has confirmed the acceptance of telehealth solutions for promoting adherence. WHO recommends further research</td>
<td>Multidisciplinary, holistic approach ICT objective indicator of treatment adherence</td>
</tr>
<tr>
<td>TO2: Enable Vital Body Sign Sensing</td>
<td>mainly weight measurement and blood pressure measurement</td>
<td>SFit cluster provides important advances in textile integration. MyHeart and SENSATION includes measurements of bioimpedance, ECG, and nightly monitoring in bed</td>
<td>Contactless ECG, arrays of electret foils, inductive impedance, non invasive blood pressure, novel SpO2, motion compensation in ECG</td>
</tr>
</tbody>
</table>

From HeartCycle project
Structure – Progress beyond SOTA

**TO2: Enable Vital Body Sign Sensing**

This technological objective is aimed at enabling measurements **medically relevant** for the HeartCycle application using methods that are **easy-to-use** by the target group of CVD patients. The following technologies will be investigated, and those found to be medically relevant for the application, and realisable in an easy-to-use way, will be selected for further development.

**ECG**

**State-of-the-Art**
The electrocardiogram is a key signal from which many heart parameters can be extracted. A good ECG requires gel-sticky electrodes, which are uncomfortable, their placement requires medical knowledge and they may cause skin irritation on the long term. MyHeart proposed textiles with embedded electrodes. Despite several precautions, the developed technology turned to be still sensitive to motion artefacts.

**Innovation**
The motion artefacts originate from the reorganisation of the charges at the interface junction of the electrode with the electrolyte. It is proposed in HeartCycle to enhance the ECG signal not only by means of signal processing on the ECG signal, but also by taking into account *additional information* provided by other sensors, such as accelerometer located on the electrode and/or direct measurement of contact impedance. This requires developing specific electronics at the location of the electrode. The electrodes become ‘smart sensors’ that can sense extra information from their use conditions so as to deliver a fully corrected and de-noised signal. If demonstrated as effective, such smart electrodes would make a significant step forward in the textile dry-electrode technology.

From HeartCycle project
Structure – Research Plan

• Goal
  – Describe in the detail the proposed work and methodologies

• How?
  – Divide-and conquer approach
    • Organize activities according to work-packages, tasks, sub-tasks
      – Particularly important in large, multi-disciplinary projects
  – Describe proposed methodologies in detail
  – Describe risks and contingency plans
  – Define the project timeline
    • Gantt chart
Structure – Research Plan

• How?
  – For each activity describe
    • Partner involvement, objectives, tasks, outputs, milestones, deliverables, timeline, labor input
  – Relate activities
  – Describe risks and contingency plans
  – Prove feasibility of work plan
    • Adequate human resources, preliminary results, equipment (available and required), etc.

Longest and most important part of the proposal
Structure – Research Plan

From HeartCycle project
## WP1 – Application Concept Design and Business Development
WP1 defines and manages the two target applications, heart failure and coronary heart disease and guarantees that all application aspects are based on clinical excellence and the medical expert knowledge.

## WP6 – Validation
This Work Package aims to prove the effectiveness of the solution offered by HeartCycle in improving the adherence of patients to lifestyle and medication recommendations and the benefit that the improved adherence has on the course of the disease, exemplarily for CHF and/or CHD.

## WP7 – Knowledge Management
WP7 will account for the management of all knowledge related to the project in all aspects, including providing visibility of the project to the public.

## WP8 – Project Management
The WP on Project Management deals with the coordination and management of the project and the consortium as a whole in all aspects and comprises the implementation of the management processes.

## WP9 – Socio-economic monitoring and concertation activities
WP9 will support the business development process through analyses of the clinical and organisational outcomes from an economic perspective, i.e. assessment of the socio-economic impact of the application to individual stakeholders and to society at large. WP9 will be closely related to WP1 and WP6.

From HeartCycle project
## Structure – Research Plan

<table>
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<th>Potential Risk</th>
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<th>Effect/Impact</th>
<th>Minimisation and Contingency</th>
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<tr>
<td>The final requirements for CHF and CHD management are too different to be fulfilled by one system approach</td>
<td>M</td>
<td>Identification of common user needs difficult</td>
<td>Early evaluation of specific concepts in interaction with users/stakeholders. Redistribution of task efforts, stressing work in application adaptations.</td>
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<tr>
<td>Data from MyHeart study missing</td>
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<td>Statistical analysis delayed</td>
<td>Very early provision of data from new studies e.g. pre-studies in HeartCycle will be intensified or results from external studies will be integrated</td>
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<td>Compliance not completely measurable with the system</td>
<td>M</td>
<td>Limited diagnostic capacities and therapeutic impact. Low acceptance</td>
<td>Use additional information for improving the model performance</td>
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<tr>
<td>System is too complicated for target groups</td>
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<td>Low user acceptance</td>
<td>Development of an easy-to-use system. Simplicity is evaluated by early user involvement and iterative development.</td>
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</table>

From HeartCycle project
Structure – Research Plan

From HeartCycle project
## Structure – Research Plan

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<th>Work Package no.¹</th>
<th>Work Package title</th>
<th>Type of activity²</th>
<th>Lead beneficiary no³</th>
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From HeartCycle project
### Structure – Research Plan

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# Structure – Research Plan

From HeartCycle project

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<td>Medical and technical requirements</td>
<td>WP1</td>
<td>21</td>
<td>R</td>
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<td>WP3</td>
<td>13</td>
<td>R</td>
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<td>3</td>
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<td></td>
<td>D2.6</td>
<td>Templates and guidelines for small tests</td>
<td>WP6</td>
<td>7</td>
<td>R</td>
<td>CO</td>
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<td>D3.7</td>
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<td>WP7</td>
<td>1</td>
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<td>CO</td>
<td>3</td>
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</tbody>
</table>
Structure – Outputs

• **Goal**
  – List *concrete results* of the activity

• **How?**
  – List planned *scientific publications, databases, reports, tools, prototypes, patents, methodologies, organized meetings, workshops, conferences*
## Structure – Outputs

<table>
<thead>
<tr>
<th>Publications</th>
<th>Authors</th>
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<tbody>
<tr>
<td>IEEE Trans Biomed Eng</td>
<td>RWTH, POLIMI, AUTH</td>
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<tr>
<td>IEEE T Signal Proces.</td>
<td>RWTH, FCTUC, POLIMI, CSEM</td>
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</table>

From HeartCycle project
Structure – Exit Strategy

• **Goal**
  – Demonstrate the **sustainability of the project’s outputs**
    • Show you have planned what happens when the project finishes

• **How?**
  – Describe **what concrete results will last** after the project ends
    • Better facilities and equipment?
    • Better trained, more capable staff?
    • Better/new technology, knowledge?
    • Changes in the common practices in the field?
    • Scientific network?
  – Describe **commercialization plans**
The university partners have common exploitation goals in the areas of scientific knowledge dissemination. In particular, this includes:

- the production of new measurable knowledge evidenced as publications in high impact peer review journals in the general area of biomedical technology, cardiovascular physiology and clinical cardiology
- the creation of new reference knowledge / information entities on HF and CHD in the form of www applications, annotated databases, and tutorials aimed at researchers, medical personnel and citizens
- international networking through the collaboration with the high level partnership of the project with the aim to set-up maintainable European structures such as for example centres of excellence in the area of pHealth and cardiology.
- connecting with leading European clinical and medical institutions in the specific fields of cardiology, cardiovascular rehabilitation, clinical medicine, sleep and stress

From HeartCycle project
Once you get the grant, your university, company, or government agency will immediately take 30 to 70% of it so that they can heat the building, pay for Internet connections, and purchase large yachts. [Schulman, 1996]
Structure – Budget

• **Goal**
  – **Plan all costs** and justify the **need for funding**

• **How?**
  – Define need of **human resources**
    • Scholarships, number, salary per month
  – **Missions**
    • Conferences, meetings, visits to labs
  – **Equipment**
    • Computers, experimentation materials,
  – **Stationery**
  – Institution **overhead**
Structure – Budget

• **Funding sources do not give 100% of the required funding!**
  – From 50% to 95%
  – “creative accounting” is often a common practice

• **Check what you can include**
  – Overheads can be limited to less than what your institution charges
  – Existing staff salary complements may be limited or inexistient
  – Equipment purchases may be limited to a certain amount and kind

• **Budget must be realistic**
  – And should demonstrate need for financial assistance
Structure – Project Management

• Goal
  – Describe project management, monitoring and evaluation mechanisms
    • How project costs, quality, schedule, and scope will be monitored, controlled, and corrected if necessary?
Structure – Project Management

• How?
  – Define the management structure
  – Define communication mechanisms
    • F2F meetings, telcos, video-conference
      – Work-package, whole project, etc.
  – Plan accounting reports
  – Progress monitoring
    • Reports, milestones, etc.
  – Define measurable goals
Structure – Project Management

• Accounting
  – Recording of financial information
    • Very important to funding agencies
    • Must be transparent and accurate

• Quality control and evaluation
  – Specify project deliverables, milestones, etc. as a means to evaluate the project stays on track
    • Quarterly, bi-annual or annual reports
  – Milestones
    • Significant events (check points)
      – Typically decision/evaluation points in the process: completion of certain phases of the project, evaluation of project progress
      – Should be significant and attainable
The **General Assembly** (GA) is the body consisting of representatives of all beneficiaries, with the task to supervise the project and will be chaired by the Project Coordinator.

The **Project Coordinator** is responsible for the management of the entire project. The Coordinator of the project is the official link between the consortium and the European Commission. The Coordinator has appointed a Project Manager and has installed a Project Office, which together run the project HeartCycle.

The **Project Manager** deals with the overall scientific and technological management of the project. The Project Manager will supervise the Work Package Leaders and makes sure that communication between the various WPs proceeds as smoothly as possible for a successful integration of the various components of the Project.

The **Project Office** will in general be involved in non-technical matters related to project management, i.e. all managerial, organisational, administrative and financial matters of the project.

A **Work Package Leader** (WPL) will coordinate the work carried out in a specific Work Package and is responsible for the planning, monitoring and technical reporting of the progress in the WP.
Structure – Partners

• **Goal**
  – Demonstrate the consortium’s quality and ability to conduct the proposed research plan

• **How?**
  – Present the short CV of all partners
    • Significant *projects, publications, awards*
      – In the light of the project, to help demonstrate the feasibility of the work plan
    • The principal investigator’s CV is particularly significant
  – Describe the profile of each institution
    • How their mission and vision fit the call
    • Their reputation is crucial
The University of Coimbra, Portugal, founded in the year 1290 comprises eight Faculties, more than 2000 teachers and 22000 students. The participation in the proposed project is carried out through the Adaptive Computation Group of the Department of Informatics Engineering (DEI), which is one of the 14 departments of the Faculty of Sciences and Technology (FCT-UC) and integrates one of its 42 research units. FCT-UC offers a large array of different undergraduate and post-graduate degrees (MSc and PhD) in Engineering, Life Sciences, Exact Sciences, Architecture and Anthropology. The Department of Informatics Engineering of the FCT-UC comprises more than 100 researchers, of which 40 hold Ph.D. degrees. Inside DEI, the group involved in the current project is the Adaptive Computation Group (ACG). The main core expertise of the Adaptive Computation Group concerns R&D for intelligent data analysis, modelling and complex systems integrating data driven as well as knowledge driven approaches. The group has a vast experience in fundamental and applied research on on-line system identification and control, non-linear modelling and prediction, biosignal processing, image processing, pattern recognition and Medical Informatics. In the last few years the group has published more than 200 papers in international conferences and magazines, and has been involved in several R&D projects at national and European levels, such as MyHeart (IST-2002-507816), COSY-Control of Complex System, Eunite - EUropean Network on Intelligent Technologies for Smart Adaptive Systems.
Prove that **partners are perfect** to accomplish the defined tasks

- Expertise, background, reputation

Prove the **need for collaboration**

- E.g., complex, multidisciplinary work
- Lack of in-house expertise
Structure – Dissemination Plan

• **Goal**
  – Channels and the actions to **publicly disseminate the project results**

• **How?**
  – **Project identity**
    • For all public communication
  – **Internet**
    • Project homepage
  – **Scientific publications and events**
  – **Press releases**
    • Attained results
  – **Demo installations**
HeartCycle will provide a closed-loop disease management solution being able to serve both Heart Failure (HF) patients and Coronary Heart Disease (CHD) patients, including possible co morbidities hypertension, diabetes and arrhythmias. This will be achieved by multi-parametric monitoring and analysis of vital signs and other measurements.

The system will contain:

- A patient loop interacting directly with the patient to support the daily treatment. It will show the health development, including treatment adherence and effectiveness. Being motivated, compliance will increase, and health will improve.

- A professional loop involving medical professionals, alerting them of the need to revisit the patient’s care plan, and of possible adverse events.

The professional loop supports the patient loop system.
Structure of a Project Proposal

Further reading

• Main

• Additional
About Collaborative Writing
Your proposal will be more appealing if you allow each partner to freely express his/her creativity.
About Collaborative Writing

• **Goal**
  – Promote **uniform** and **consistent** writing style
  – Guarantee **sufficient** and **balanced depth**

• **How?**
  – Agree on **terminology** and **style**
  – Make sure **all partners follow the proposal’s template**
  – Eliminate redundancies
  – Make sure the **proposal doesn’t diverge to a different direction** than the one agreed
  – Make sure different tasks have **adequate (maybe balanced) depth**
About Collaborative Writing

Project coordinator ➔ warrant of quality in collaborative writing

• Responsible for resolving all the mentioned issues
About Collaborative Writing

Further reading

Submission
If you can’t submit on time, the responsible is obviously... the system

• The submission site can’t even handle a “few thousands” of simultaneous submissions! What a poor scalability!
• Your electricity company always fails when you most need it
• Your hard disk Mean Time Between Failure decided to prove it is an urban myth
Submission

• Goal
  – Prepare your submission in advance
  – Submit your proposal on time

Don’t overlook this task!
- Often, it is not as simple as it seems
Submission

• **How?**
  
  – *Collect* all needed **information in advance**
    
    • Data about partners institutions, etc.
    
    • PIC: Participant Information Code
    
    • CVs
  
  – Sometimes, it is necessary to **manually copy** from your document **to online form fields**
    
    • Surprises may happen
      
      – You have too many characters in a specific field
      
      – Form field doesn’t accepted quotation marks
Submission

• How?

  – **Don’t wait** until the **last minute**!
    • Not even the last day
    • Remember human nature 😊
      – Submission peaks by the deadline

Submission dates and **times** are usually strict

  – If the systems closes, it doesn’t matter if you missed it for just one minute...
Submission

Illustration of daily sealed submissions in a call by the Science and Technology Foundation (FCT, Portugal).
Notification
Notification

• Goals
  – To inform the authors about the decision resulting from the proposal review process
    • Acceptance
    • Rejection

• How?
  – External reviewers send their comments about the paper
  – Funding agency sends the decision according to the reviews
Notification

• Notification results
  – Acceptance
    • The proposal is accepted
    • However, maybe not as you proposed
      – Budget may (is often) cut a bit
      – Human resources, equipment, number of missions may be cut a bit
    • In addition, reviewers may add suggestions
      – Literature references, problems to address
  – Rejection
    • The proposal is rejected
Recommended for Funding
Overall Rating: Outstanding
Comments:
This is a well motivated proposal involving important innovation in eHealth.
This is a highly rated team with strong papers in relevant areas.
[...]

Recommended for Funding
Overall Rating: 86
Comments:
Overall it is an interesting proposal.
The Panel would recommend to look at the following papers:
[...]
One PhD student suffices to conduct the proposed work. Thus the budget has been reduced.
Notification

**Not Recommended for Funding**
In face of high competition for funding, this proposal did not reach a position to be funded.
**Overall Rating:** Good
**Overall Comments:** The main value of the project is that it has some practical implications. The weakness is perhaps that it does not offer anything significantly new.
**Comments:**
The proposal lacks detail about how [...] are going to be implemented and how the different. Only *Participant X* has a strong background. The team lacks common publications in the past. The expected publications are too few. Only # journals from # researchers in 2 years are quite few.

**Overall Rating:** Excellent
**Overall Comments:** Strengths: The team has high quality research results, the novelty of the theme of the proposal, the multidisciplinary point of view
Weakness: There is no clear definition of the development, the proposal does not clarify the improvements in the research field
Notification

- **Typical rejection causes**
  - Irrelevant topic
  - Work not sufficiently original or with insufficient social, economic, scientific impact
  - Low acceptance rate
  - Theme doesn’t fit the funding program
  - Proposed methodology is not convincing
    - Lack of detail, only list of general ideas
  - Unconvincing output
    - Does not significantly advance the state of the art
    - Unrealistic number of publications, lack of relevance of selected publications, etc.
  - Shallow, uncritical literature review
Notification

• Typical rejection causes
  – Unconvincing collaboration strategy
    • Inadequate team background
      – Lack of past related publications, “weak” team members
    • Failure to prove need for collaboration
      – E.g., you have all need skills in-house
  – Inadequate management, monitoring and evaluation plans
  – Unrealistic budget
    • Either to high or too low
  – Lack or deficient demonstration of the sustainability of the project’s outputs
    • Unclear market, poor commercialization plans
  – Bad writing quality and presentation
Now it's time for the actual research. You will quickly find out that (a) your project is not as simple as you thought it would be and (b) you can't actually solve the problem. However -- and this is very important -- you must publish anyway. [Schulman, 1996]
Further Information
Further Information

• Further information on
  – Structure
  – Writing Sequence
  – Writing Style
  – Reviewing your document

Conclusions and Future Work
Conclusions and Future Work

• Conclusions
  – This document summarized a number of general guidelines for producing good scientific project proposals
    • These guidelines are general rules of thumb based on literature review on the theme and my personal experience
Conclusions and Future Work

• Future Work
  – Improvements to the current document
  – How to evaluate scientific papers
  – How to evaluate scientific proposals
Acknowledgements
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About the Author
About the Author

- More info at http://rppaiva.dei.uc.pt/
Bibliography
Bibliography

• **Main**
  

• Additional
  
  
  
  
  
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• Additional


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