School of Informatics

Informatics Project Proposal
Whatever I Write About

123456789
April 2020

Abstract

The abstract is a short concise outline of your project proposal, **of no more than around 100 words**.

Date: Monday 6th April, 2020

Tutor: My IRR Tutor
Supervisor: My Project Supervisor

1 Motivation

Introduce the topic of research and explain its academic and industrial context.

- Establish the general subject area.
- Describe the broad foundations of your study – provide adequate background for readers.
- Indicate the general scope of your project.
- Provide an overview of the sections that will appear in your proposal (optional).
- Engage the readers.

1.1 Problem Statement

- Answer the question:"What is the gap that needs to be filled?" and/or "What is the problem that needs to be solved?"
- State the problem clearly early in a paragraph.
- Limit the variables you address in stating your problem.
- Consider bordering the problem as a question.

1.2 Research Hypothesis and Objectives

Identify the overall aims of the project and the individual measurable objectives against which you would wish the outcome of the work to be assessed. Clearly spell out any research hypothesis you are following.

Include a justification (rationale) for the study. Be clear about what your study will not address.

1.3 Timeliness and Novelty

Explain why the proposed research is of sufficient timeliness and novelty

1.4 Significance

The proposal should demonstrate the originality of your intended research. You should therefore explain why your research is important (for example, by explaining how your research builds on and adds to the current state of knowledge in the field or by setting out reasons why it is timely to research your proposed topic) and providing details of any immediate applications, including further research that might be done to build on your findings.

1.5 Feasibility

Comment on the feasibility of the research plans given its limited time frame and resources. Outline your plans for a feasibility study before starting e.g. major implementation work.

Features	Outlook	Google Calendar	my Calendar
Import&export calendar files	Yes	Yes	Yes
Create multiple calendars	Yes	Yes	Yes
Group calendar	No in Mac	Yes	Yes
Automatically schedule meetings	No in Mac	Yes	Yes
Style	Complexity in Desktop app	Simplicity in web	Succinctness

Table 1: Features among three calendar softwares.

1.6 Beneficiaries

Describe how the research will benefit other researchers in the field and in related disciplines. What will be done to ensure that they can benefit?

2 Background and Related Work

Many powerful technology companies have tried to solve this problem but inconvenience and other drawbacks still exist in all of their products.
As the most stalwart of calendar apps, Microsoft put a lot of effort into Outlook to make it not only a calendar but a personal information manager. The desktop app unifies user's calendar, email, note, tasks and contacts into one view. However, ever coin has two sides. Covering all bases brings complexity and sometimes it is really difficult for people to use. As for meeting scheduling features, Outlook lets users to share calendars with teammates. With Exchange server accounts, team members can review the free/busy time on the schedules of others, which enabling people to pick times that available for all attendees[1]. Although it is an useful feature, Outlook also fails to work on behalf of their users to schedule meetings automatically. If there occurs a conflict with the decided time slot, resolving the problem is still the responsibility of the user and direct contact is also the main method to do this[2]. What's more, the Mac and mobile version of Outlook isn't as robust as the Windows version and there is no function such as group calendar and AutoPick[3]. According to this, it is reasonable to see users leaving the comments like "Crashes a lot on the PC. Mobile version is very poor quality" or "The design of Outlook can be a little complex if you are not familiar with the program"[4].
Google Calendar is another famous calendar software that has a large group of users. It is a web-based app and the popularity comes from its simplicity. Users can easily create multiple calendars in a web using a Google account and import&export to or from other calendars. Users can import events from Microsoft Outlook, Apple iCal, Yahoo!, and any other online calendar that allows events to be converted into CSV or iCal format[5]. Google calendar also gives users access to check coworkers' schedules in group calendar and edit the sharing calendar. However, users can only check other schedules in Google Calendar and it is also their duty to find a time for meeting. Table1 shows the comparison among Outlook, Google Calendar and my calendar.

From the comparison between Outlook and Google Calendar software, it is clear to see meeting scheduling is difficult since current related software applications on market fail to handle the task to manage time slots for meetings automatically and autonomously. Many researchers have devoted themselves into the algorithm to develop new systems to schedule meetings on behalf of users.
In CMRadar project[6], researchers designed a system consisting of a scheduler, a manager and an extractor to select the best time slot for meetings. Three useful negotiation strategies had

been proposed which were greedy strategy, bumping strategy and NCost strategy and an initial prototype was completed for calendar management.
Elhadi Shakshuki proposed a distributed multi-agent meeting scheduler which consisted of several agents that acts as representatives for users to manage their calendar, negotiate and schedule meeting events. Based on CMRadar project, Elhadi proposed another three practical algorithms: First come first served strategy, High rank strategy and Voting strategy[2]. When host agent starts a meeting request with a time slot, if it is suitable to guest agent, First come first served strategy will be used to schedule this meeting. If this time slot is occupied by another meeting, High rank strategy will be used to decide which meeting has higher priority; If negotiation has not been completed during limited time, then Voting strategy will be applied by all guest agents to vote for a suitable time slot.

3 Programme and Methodology

- Detail the methodology to be used in pursuit of the research and justify this choice.
- Describe your contributions and novelty and where you will go beyond the state-of-the-art (new methods, new tools, new data, new insights, new proofs,...)
- Describe the programme of work, indicating the research to be undertaken and the milestones that can be used to measure its progress.
- Where suitable define work packages and define the dependences between these work packages. WPs and their dependences should be shown in the Gantt chart in the research plan.
- Explain how the project will be managed.
- State the limitations of your research.

3.1 Risk Assessment

3.2 Ethics

4 Evaluation

- Describe the specific methods of data collection.
- Explain how you intent to analyse and interpret the results.

5 Expected Outcomes

Conclude your research proposal by addressing your predicted outcomes. What are you hoping to prove/disprove? Indicate how you envisage your research will contribute to debates and discussions in your particular subject area:

- How will your research make an original contribution to knowledge?
- How might it fill gaps in existing work?
- How might it extend understanding of particular topics?

6 Research Plan, Milestones and Deliverables

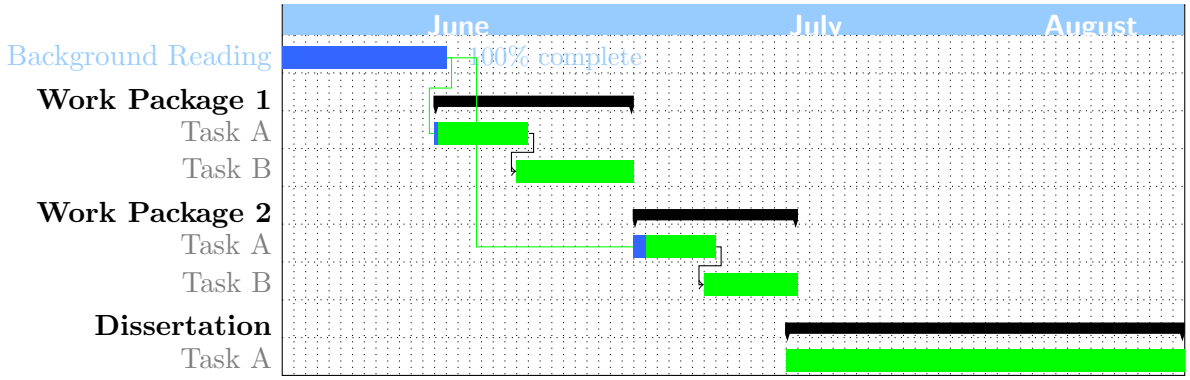

Figure 1: Gantt Chart of the activities defined for this project.

Milestone	Week	Description
M_1	2	Feasibility study completed
M_2	5	First prototype implementation completed
M_3	7	Evaluation completed
M_4	10	Submission of dissertation

Table 2: Milestones defined in this project.

Deliverable	Week	Description
D_1	6	Software tool for ...
D_2	8	Evaluation report on ...
D_3	10	Dissertation

Table 3: List of deliverables defined in this project.

References

[1] Jim Boyce. *Microsoft Outlook 2010 Inside Out.* Microsoft Press, 2010.

[2] Elhadi Shakshuki, Hsiang-Hwa Koo, Darcy Benoit, and Daniel Silver. A distributed multi-agent meeting scheduler. *Journal of Computer and System Sciences*, 74(2):279–296, 2008.

[3] Microsoft community. `https://answers.microsoft.com/en-us/msoffice/forum/msoffice_outlook-mso_mac-mso_mac2016/how-can-i-add-a-group-calendar-to-outlook-for-mac/70e01348-ad66-4e4a-b6fd-8f1a339082a8`.

[4] Microsoft outlook reviews product details. `https://www.g2.com/products/microsoft-outlook/reviews?utf8=œ&filters%5Bnps_score%5D%5B%5D=2&filters%5Bnps_score%5D%5B%5D=1&order=g2_default&filters%5Bcomment_answer_values%5D=#survey-response-699936`.

[5] Tanya Feddern-Bekcan. Google calendar. *Journal of the Medical Library Association: JMLA*, 96(4):394, 2008.

[6] Pragnesh Jay Modi, Manuela Veloso, Stephen F Smith, and Jean Oh. Cmradar: A personal assistant agent for calendar management. In *International Bi-Conference Workshop on Agent-Oriented Information Systems*, pages 169–181. Springer, 2004.