

Department of Computer Sciences  
University of Salzburg

PS Natural Computation  
SS 10

## **Nurse Rostering Competition with evAlloc**

April 21, 2010

Project Members:

Gintner Peter, [pgintner@cosy.sbg.ac.at](mailto:pgintner@cosy.sbg.ac.at)  
Grünwald Szabolcz, [szaby.gruenwald@web.de](mailto:szaby.gruenwald@web.de)  
Herzog Thomas, [therzog@cosy.sbg.ac.at](mailto:therzog@cosy.sbg.ac.at)  
Schwab Erwin, [erwin.schwab@inode.at](mailto:erwin.schwab@inode.at)

Academic Supervisor:

Helmut MAYER  
[helmut@cosy.sbg.ac.at](mailto:helmut@cosy.sbg.ac.at)

Correspondence to:

Universität Salzburg  
Fachbereich Computerwissenschaften  
Jakob-Haringer-Straße 2  
A-5020 Salzburg  
Austria

# Contents

<b>1</b>	<b>Introduction</b>	<b>1</b>
<b>2</b>	<b>Milestones</b>	<b>2</b>
<b>3</b>	<b>Progress of Work</b>	<b>3</b>
3.1	Week 16, Wednesday, 21.04.2010 . . . . .	3
3.2	Week 17, Wednesday, 28.04.2010 . . . . .	3
3.3	Week 18, Wednesday, 06.05.2010 . . . . .	3
3.4	Week 19, Wednesday, 13.05.2010 . . . . .	3
3.5	Week 20, Wednesday, 20.05.2010 . . . . .	3
3.6	Week 21, Wednesday, 27.05.2010 . . . . .	3
3.7	Week 22, Wednesday, 03.06.2010 . . . . .	3
3.8	Week 23, Wednesday, 10.06.2010 . . . . .	3
3.9	Week 24, Wednesday, 17.06.2010 . . . . .	3
3.10	Week 25, Wednesday, 24.06.2010 . . . . .	3
<b>4</b>	<b>Subproject Responsibilities</b>	<b>4</b>
<b>5</b>	<b>Links</b>	<b>5</b>

### Abstract

The purpose of our project is to create a valid nurse roster for the nurse rostering competition. We will use the evAlloc framework to build such a solution. Therefore we have to incorporate some project specific implementations into the evAlloc framework. There are also some minimum requirements from the competition organisers, so that we will be allowed to send in our solution.

Furthermore there are 3 different kinds of competitions:

- sprint (few seconds)
- middle distance (few minutes)
- long distance (few hours)

## 1 Introduction

## 2 Milestones

- 23.04.2010: defining all needed implementations and changes (system design)
- 05.05.2010: implementation of command line starting, xml input parser
- 12.05.2010: basic implementation of negotiator, xml output creator
- 20.05.2010: full implementation of required specifications
- 26.05.2010: Testing / Evaluation
- 01.06.2010: delivery of the solution to the organizer
- 24.06.2010: finishing the report

## **3 Progress of Work**

### **3.1 Week 16, Wednesday, 21.04.2010**

- defining changes of the evAlloc framework
- discussing task sharing
- defining milestones

### **3.2 Week 17, Wednesday, 28.04.2010**

### **3.3 Week 18, Wednesday, 06.05.2010**

### **3.4 Week 19, Wednesday, 13.05.2010**

### **3.5 Week 20, Wednesday, 20.05.2010**

### **3.6 Week 21, Wednesday, 27.05.2010**

### **3.7 Week 22, Wednesday, 03.06.2010**

### **3.8 Week 23, Wednesday, 10.06.2010**

### **3.9 Week 24, Wednesday, 17.06.2010**

### **3.10 Week 25, Wednesday, 24.06.2010**

## 4 Subproject Responsibilities

Gintner Peter:

- organizational
- main development

Grünwald Szabolcz:

- documentation
- keeping webpage up-to-date
- testing
- implementation of GUI

Herzog Thomas:

- development of negotiator
- keeping webpage up-to-date
- develops new tasks

Schwab Erwin:

- implementation of given fitness function
- implementation of XML input/output
- develops new tasks

## 5 Links

- Project Page: [http://student.cosy.sbg.ac.at/~therzog/nc\\_ss10/](http://student.cosy.sbg.ac.at/~therzog/nc_ss10/)
- PS Page: <http://www.cosy.sbg.ac.at/~helmut/Teaching/NaturalComputation/proseminar.html>
- Competition Page: <http://www.kuleuven-kortrijk.be/nrpcompetition>