Appendix F: Time Spent on Project

Dates	Aleksandar Trifunovic	Michelle Osmond	Raphael Goldberg	Peter Howarth	Daniel Justice	Zhu Tan
Winter holiday 2001/2 and Week 1	15h Read mw400's report (subnets), read "Stochastic Petri Nets" (Bause & Kritzinger)	30h Read njd200's report, looked at PNML, using Java with XML (JDOM), read "Stochastic Petri Nets" (Bause & Kritzinger)	15h? read "Stochastic Petri Nets" (Bause & Kritzinger)	15h read "Stochastic Petri Nets" (Bause & Kritzinger)	15h read "Stochastic Petri Nets" (Bause & Kritzinger), Looked at Renew in some detail	25h read "Stochastic Petri Nets" (Bause & Kritzinger)
14th Jan - 20th Jan (Week 2)	14h Researched Dnamaca, Threads, Reflection and Runtime.exec(), Invariant analysis	18h Researched subnets (PNML and last year's report), written summary of XML/PNML, coded simple JDOM-testing program.	5h Read last year's MSc reports, researched invariance analysis, Markov and graph theory	8h Basic Java, researched java reflection package, read previous years reports concentrating on module interfaces	9h Researched XML, PNML, SAX, DOM, JDOM and written summary.	10h Researched Java, Renew's GUI implementation of subnets.
21st Jan - 27th Jan (Week 3)	15h Found methods of coding solutions to linear equations, found useful paper and have been coding algorithm.	27h Coded a petri nets demo program, worked on start of proper program.	15h First draft of Report I. Found helpful book on algorithms for searches of trees, and read relevant chapters	12h Worked on first and second draft of Report I and OMT diagram	24h Looked at Renew source, coded GUI prototype (Swing, doing icons, custom components), worked on start of proper program, JDOM writeup.	20h Researched UML, Java, Swing, JDOM, patterns in Java. Did OMT/UML diagrams for pure object oriented approach.
28th Jan - 3rd Feb (Week 4)	15h Coding and testing invariant analysis algorithm.	7h modified UML diagram, rewrote parts of demo code to conform to the final design. PNML, JDOM summary for Report I.	12h Coded up algorithms for constuction of the coverablity tree.	12h Reasearched subnet representation in PNML. Created a test subnet.xml. Started analysis and design for subnet interface	12h Re-designed GUI to conform to final design, implemented file methods, designed and coded tool bar elements.	10h Implemented a simple GUI and put different person's programes together by using Jbuilder,

4th Feb - 10th Feb (Week 5)	15h Coding and testing invariant analysis algorithm.	9h Designed method for dynamic (extensible) creation of PetriLabel-related objects, did public code for interfacing them with rest of program. Webpages.	20h Modified algorithms and developed methodology for testing for liveness	13hr Continued design of subnet interface. Reviewed classes/ code already written and started to updating classes to display subnets.	19h Designed and implemented insert place, transition etc. - use of hash tables, mouse listeners etc. Icons re-drawn for selected/not selected view.	9h researched Java reflection implementation of dynamic loding modules
11 Feb - 17th Feb (Week 6)	15h Coding and testing invariant analysis algorithm. Produced display of analysis. Summary of work for progress report.	11h Researched ways of defining/supporting multiple net types. Animator code to interconnect and highlight labels and fire transitions. Refined arc-drawing code.	15h Updated functions testing for liveness and deadlock. Also changed other functions for improved efficiency	14hr Added reference export and import place classes. Discussed flattening algorithm with Tan	11h Implemented insertion of new elements into JDOM using reflective methods. Add and remove token methods written, arc insertion method debugged.	18h designed method to add modules dynamiclly while program is running, so they appear as new menu options.
18th Feb - 24th Feb (Week 7)	15h Coding and testing invariant analysis algorithm. Implementing the module with main application (with Tan).	11h Animation timing and management code and toolbar interface. Rewrote much of arc-drawing code.	10h Coding and testing state space analysis module. wrote progress report of work done so far.	10hr Continued work on subnet editor functions. Added class for reference links.	25h Methods for simple editing - cut, copy, paste written. Selection box designed and implemented. Simple editing extended to multiple cuts, pastes etc.	7h made a module to flat the net when the net has subnet. finished the flatModule, but need to change
25th Feb - 3rd Mar (Week 8)	10h Coding and testing invariant analysis algorithm. Implementing the module with main application(with Tan). Implementing JDOM reader.	11h Program design, decisions and extensibility for Report II. Token drawing, animation extended. Wrote ModuleBridge class. Arc code extended to store snapping state.	10h Built output table to tabulate results of module analysis.	12h Added template for new subnet and updated file menu to allow creation of new subnet. Subnet part of Report II	12h Refinement of tools for editing. Smooth dragging of elements and selection box fixed. Started work on subnets.	12h added automatical flating function when needed. and connected the module with main programe by using the ModuleBridge. solved the problem of rafi's module cann't be loaded correct.

4th Mar - 10th Mar (Week 9)	8h Implementing the module with main application (with Tan). Writing report. Finished implementing JDOM reader. Helped with graph theory module.	15h Adding support for different net types - net type hierarchy and implementation of Label/Animator subclasses. Element-specific code - right-click menus. Adding Javadoc comments.	15h Developed new method of testing for liveness and coded it up. Also set up function to pass back string of transitions to animate for deadlock.	14hr Selection of subnet instance(from saved subnet directory)to add to main net. Added arrows to ref links. Function to allow opening/ display of subnet instance (in progress).	18h Subnet internal elements and reference links dealt with. Issues included graphical representation, connection of elements, removal of elements.	16h Helped Alex and rafi for dynamic loading module, amost done. some tiny problems needed to correct. researched how the interface works for dnamaca module loading and runtime.exec().
11th Mar - 17th Mar (Week 10)	25h Finishing touches to Invariant Analysis Module Helped Tan with DNAmaca module Project report write up	20h Continued work on Properties boxes. Added GSPN support, and New Net/Subnet chooser. Enabling/disabling buttons when animating. Scrollbars. Bug fixing. Final Report.	20h Made new version of module which builds a smaller tree but takes longer to analyse. Uses up less memory. Wrote function to find shortest deadlock, and catch memory overflow.	20h Continued work on subnets - RefLink arrows fixed, subnet selection finished and opening of a subnet instance in progress. Worked on creating JavaDoc. Final report.	28h Editing tools adapted to work with subnets. Help menu - about and user guide (HTML format) designed and implemented. Report - work on overview of editor architecture, user-guide, appendix etc.	28h Producing a module that interfaces with the DNAMACA analysis tool, revised flattening module, helped with subnets and wrote JavaDoc. Final report.