Logbook

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| --- | --- | --- |
| Date | Activity | Duration (hour) |
| 01/10/2008 | Info session about the master test | 3 |
| 08/10/2008 | Confirmation about idea for the master test | 1 |
| 15/10/2008 | Idea not confirmed | 1 |
| 22/10/2008 | Little talk about lessons about how to write a paper | 1 |
| 27/10/2008 | Searching on scholar.google for ideas for the master test | 1 |
| 30/10/2008 | Brainstorming with partner | 1 |
| 05/11/2008 | Linguapolis inputsession  + homework  Paper about TinyDB | 3  1  1 |
| 06/11/2008 | Talking with mister Doggen about master test idea: TinyDB  Researching other database applications | 2  1 |
| 12/11/2008 | Talking with mister Weyn about possible subjects for master test  VGV + master contract (introduction) | 1  1 |
| 13/11/2008 | Talking with mister Doggen and mister bracke about further ideas for the master test | 3 |
| 19/11/2008 | Inputsession researchmethology  Linguapolis inputsession2  Master contract opstellen & gannt diagram | 1  3  1 |
| 25/11/2008 | Huiswerk Linguapolis | 1 |
| 27/11/2008 | Reading papers | 5 |
| 03/12/2008 | Inputsession researchmethology  Linguapolis inputsession3  + Homework  Reading papers | 1  3  1  1 |
| 05/12/2008 | Research at the library + making contact with Geoffrey Ottoy  Reading papers | 2  1 |
| 07/12/2008 | Reading paper | 1 |
| 09/12/2008 | Making poster | 3 |
| 10/12/2008 | Meeting with promotor about master test | 2 |
| 11/12/2008 | Making presentation for Alumnia evening  Alumnia evening | 1  4 |
| 14/12/2008 | Reading papers | 2 |
| 15/12/2008 | Beginning survey paper | 4 |
| 16/12/2008 | Writing survey paper | 6 |
| 17/12/2008 | Finishing survey paper | 6 |
| 26/01/2009 | Linguapolis session: Correction survey paper | 2 |
| 27/01/2009 | Correction survey paper | 1 |
| 28/01/2009 | Griep |  |
| 29/01/2009 | Griep |  |
| 30/01/2009 | Griep |  |
| 31/01/2009 | Griep |  |
| 01/01/2009 | Griep |  |
| 02/02/2009 | Finalize correction with Peter and transform it into the latex format | 2 |
| 03/02/2009 | Investigation TOA | 2 |
| 04/02/2009 | Linguapolis session | 3 |
| 05/02/2009 | Reading papers | 3 |
| 06/02/2009 | Meeting with promoter | 1 |
| 09/02/2009 | Working with Netbeans, setting up work environment + parser | 3 |
| 10/02/2009 | Meeting with promoter (reading paper) + meeting with bachelor student | 4 |
| 11/02/2009 | Linguapolis homework  Netbeans on the Image of David/Bundy works with java 1.6 which is incompatible with the java version on Ubuntos. Tried updating Ubuntos to the new Java version 1.6. Vmware image required more packages and crashed. Following step was installing netbeans on Ubuntos, limited virtual hard disk space, needed to reset image and expand disk space. The installing crashed aswell, unable to install netbeans. Found the java version 1.5 with netbeans, so was able to compile the adapted parser with the right java version. | 1  3 |
| 12/02/2009 | Testing parser with the controller and database of peter 🡪 Failed:   |  | | --- | | java.net.BindException: Address already in use         at java.net.PlainSocketImpl.socketBind(Native Method)         at java.net.PlainSocketImpl.bind(PlainSocketImpl.java:359)         at java.net.ServerSocket.bind(ServerSocket.java:319)         at java.net.ServerSocket.<init>(ServerSocket.java:185)         at java.net.ServerSocket.<init>(ServerSocket.java:97)         at parserv4.Requesthandler.createListener(Requesthandler.java:28)         at parserv4.Requesthandler.run(Requesthandler.java:35)         at java.lang.Thread.run(Thread.java:595) Listening on 1801 Exception in thread "Thread-5" java.lang.NullPointerException         at parserv4.Requesthandler.readConnection(Requesthandler.java:52)         at parserv4.Requesthandler.run(Requesthandler.java:42)         at java.lang.Thread.run(Thread.java:595) |   I searched for a solution and saw that the problem could be that the port is assigned to another process. But it wasn’t. Maybe VMWare was blocking the port, opened it in the NAT. Finally checked de processes in ubuntos (ps ux) and concluded that the process was still running and was causing this problem. So, killed it (kill -9 ‘processnumber’) and the errors were gone.  Next problem, it seems that the parser is stuck and isn’t transmitting any data:   |  | | --- | | ubuntu@ubuntu:~/parser$ java -jar parserv4.jar -comm serial@/dev/ttyUSB4:telosb serial@/dev/ttyUSB4:115200: resynchronising Created socket on port 3801 Listening on 3801 |   Problem solved, a secondary node was missing, but old problem “bindexception” has returned, but the parser successfully transmits data to the controller.  Installed MySQL and controller on desktop pc, to run as server for home.  Noticed that the controller crashes after 30s,if parser is sending data.  TODO:   * Fix bug with listeningsocket * Expand xml sheme to the new format * Fix instability of controller. | 3  8 |
| 13/02/2009 | Testing the parser with Peter’s controller: problem of bindexception didn’t occur. So I concluded that the problem was locally to my computer. The controller also didn’t crash after 30s and was stable.  Expanding the XML scheme of the parser to make room for new data like RSSI, LQI and coordinates. We tested the new parser with the adjusted controller, but there is a problem with the controller if it receives a message from the parser. | 1  3 |
| 15/02/2009 | Making website and structure for portfolio  Creating WIP reports for the portfolio | 2  1 |
| 16/02/2009 | Meeting with Peter, phase 1 of the master test is finished, tested the adapted controller. Discussed adding new field to the xml scheme in the future. Discussed the next steps in our master test namely reading papers again  Reading papers | 3  2 |
| 17/02/2009 | Meeting with Peter about progress and interesting papers  Reading papers & making design for parser connection details | 1  5 |
| 18/02/2009 | Traveling + Linguapolis session  Searching the IEEE + Springerlink + databases and the library  Discussing the focus of our thesis with Maarten Weyn & Jerry Bracke + Traveling  Continuing with making panel for the parser 🡪 Error “getenv JNI library not found” | 4  2  3  1 |
| 19/02/2009 | Meeting with Peter and discussing the following steps of our master test + discussing the algorithms + Reading datasheet of cc2420 radio: there is a voltage regulator so checking the influence of battery level’s on the RSSI is out of the question | 4 |
| 20/02/2009 | Testing printf for Tinyos 2.0.2 + continuing with panel for parser | 2 |
| 22/02/2009 | Finished panel for parser testing in tinyos, ERROR 🡪   |  | | --- | | Exception in thread “main” java.lang.NoClassDefFoundError: org/jdesktop/layout/GroupLayout$Group | | 3 |
| 23/02/2009 | Meeting with peter about GUI and application for the telosb nodes + administration (WIP)  Problem solved by adding some code in build.xml of the project in netbeans:   |  | | --- | | <target name="-post-jar">  <jar update="true" destfile="${dist.jar}">  <zipfileset src="${libs.swing-layout.classpath}"/>  </jar>  </target> |   (<http://wiki.netbeans.org/FaqPackagingMatisseBasedProjects>)  Netbeans didn’t add the layout to the .jar file which caused the error. When I first entered this error in google they all said that the classpath wasn’t correct, even the FAQ off tinyos (<http://www.tinyos.net/faq.html#SEC-15>). So I extended the classpath so that it would contain my path of the jar file, but that didn’t do anything. Then I started to look into some existing java app’s in tinyos like AntiTheft. But they didn’t make us of a panel like I did in netbeans.  Finally I came across a website where someone had a similar problem en guided me to the correct solution.  Problem with parser for string to int   |  | | --- | | Exception in thread "AWT-EventQueue-0" java.lang.NullPointerException  at parserxmlnew.Serial.<init>(Serial.java:29)  at parserxmlnew.connectiondetails.startrunning(connectiondetails.java:135)  at parserxmlnew.connectiondetails.jButton1ActionPerformed(connectiondetails.java:120)  at parserxmlnew.connectiondetails.access$000(connectiondetails.java:20)  at parserxmlnew.connectiondetails$1.actionPerformed(connectiondetails.java:50)  at javax.swing.AbstractButton.fireActionPerformed(AbstractButton.java:1849)  at javax.swing.AbstractButton$Handler.actionPerformed(AbstractButton.java:2169)  at javax.swing.DefaultButtonModel.fireActionPerformed(DefaultButtonModel.java:420)  at javax.swing.DefaultButtonModel.setPressed(DefaultButtonModel.java:258)  at javax.swing.plaf.basic.BasicButtonListener.mouseReleased(BasicButtonListener.java:236)  at java.awt.Component.processMouseEvent(Component.java:5501)  at javax.swing.JComponent.processMouseEvent(JComponent.java:3135)  at java.awt.Component.processEvent(Component.java:5266)  at java.awt.Container.processEvent(Container.java:1966)  at java.awt.Component.dispatchEventImpl(Component.java:3968)  at java.awt.Container.dispatchEventImpl(Container.java:2024)  at java.awt.Component.dispatchEvent(Component.java:3803)  at java.awt.LightweightDispatcher.retargetMouseEvent(Container.java:4212)  at java.awt.LightweightDispatcher.processMouseEvent(Container.java:3892)  at java.awt.LightweightDispatcher.dispatchEvent(Container.java:3822)  at java.awt.Container.dispatchEventImpl(Container.java:2010)  at java.awt.Window.dispatchEventImpl(Window.java:1778)  at java.awt.Component.dispatchEvent(Component.java:3803)  at java.awt.EventQueue.dispatchEvent(EventQueue.java:463)  at java.awt.EventDispatchThread.pumpOneEventForHierarchy(EventDispatchThread.java:242)  at java.awt.EventDispatchThread.pumpEventsForHierarchy(EventDispatchThread.java:163)  at java.awt.EventDispatchThread.pumpEvents(EventDispatchThread.java:157)  at java.awt.EventDispatchThread.pumpEvents(EventDispatchThread.java:149)  at java.awt.EventDispatchThread.run(EventDispatchThread.java:110)  [1] Killed java -jar panel.jar -comm serial@/dev/ttyUSB0:telosb |   Problem solved  Linguapolis homework | 4  3  3  1 |
| 24/02/2009 | Meeting with peter about progress  Adapting parser to handle different messages between the controller and WSN (with dummy data)  Looking into user&development manual of the GUI + looking into MIG, MIG is a tool that automatically generates message objects from packet description. | 1  3  1 |
| 25/02/2009 | Meeting with peter: testing and correcting controller/parser to the new xml scheme and messages with dummy data.  Generating java files for the different messages with mig  Further expansion of the parser to handle live data in the new messages | 4  1  3 |
| 26/02/2009 | Meeting with Peter: testing the parser with the build application for the telosb (not so successful). Adapting the parser to the new generated message formats of the telosb application. Everything seems to work.  Investigating possibilities of netbeans with Tinyos (requires cygwin) | 4  2 |
| 27/02/2009 | Installing cygwin for windows ( <http://www.tinyos.net/tinyos-2.x/doc/html/install-tinyos.html>). Failed to a stupid error: “Couldn’t locate cygwin1.dll”  Going over with some nesc code with peter and testing some app’s  Checking parser with a simple apps on the telosb to check if it is capable of handling the new message formats. Noticed error in different version of parsers:   |  | | --- | | Exception in thread "Thread-2" java.lang.NullPointerException  at parserxmlnew.Serial.run(Serial.java:36)  at java.lang.Thread.run(Thread.java:595) |   All the parsers transmit correct data to the controller, except the parser with new messages. Investigating… | 1  1  3 |
| 01/03/2009 | Further investigation of the exception + found solution the MoteIf(gateway) wasn’t successfully created. | 2 |
| 02/03/2009 | Refreshing Modules and the TinyOS Exxcecution Model | 1 |
| 03/03/2009 | Planning trip for international project  Helping bachelor student with setting environment and programming Telosb  Setting up Tinyos 2.1 with vmware tools for experiment with threads | 1  4  1 |
| 04/03/2009 | Looking into TOSThreads (tutorial and example applications) 🡪 Cancelled should work with tasks  Examining application for Telosb + expanding: different tasks, add demosensor, correcting errors…  Stuck at a weird error because there is nothing there that is wrong…   |  | | --- | | In component `BasicNetworkingC':  BasicNetworkingC.nc: In function `BroadcastTask.runTask':  BasicNetworkingC.nc:853: syntax error before `{'  BasicNetworkingC.nc: At top level:  BasicNetworkingC.nc:866: syntax error before `}' | | 1  10 |
| 05/03/2009 | Attending demo of SCALE + working a bit on the telosb app  Solved problem of the above error  Testing and debugging of my created application for telosb | 4  6 |
| 06/03/2009 | Meeting with peter   |  | | --- | | receive error for parserxmlnew.CollMsg (AM type 147): invalid length message received (too short) | | 3  4 |
| 08/03/2009 | Further testing of parser & application for telosb, found that the error was with the application for the telosB (CollectReceive.receive). Fixed the error and found that the sensormessage were successfully received by the parser, but the locationmessages didn’t arrive (new problem) | 3 |
| 09/03/2009 | Meeting with peter about the paper  Writing paper | 2  2 |
| 10/03/2009 | Writing paper  Meeting with Jeroen Doggen about our progress | 2  2 |
| 11/03/2009 | Writing paper | 13 |
| 14/03/2009 | Reading paper | 1 |
| 15/03/2009 | Fixing telosb app with different messages | 5 |
| 16/03/2009 | Meeting with peter, found problem with serial receive -> problem fixed  Expanding telosB app and parser to handle the dissemination | 3  7 |
| 17/03/2009 | WIP meeting with Jeroen + giving demo  Meeting with Olivier, Roel & Peter about trip to hannover + planning route | 3  3 |
| 18/03/2009 | Traveling to Hannover + going to social event | 14 |
| 19/03/2009 | WPNC conference | 19 |
| 20/03/2009 | Traveling home | 10 |
| 21/03/2009 | Open campus day (giving presentations)  Updating parser to handle all the dissemination request | 4  1 |
| 22/03/2009 | Adding code for checking the amount of nodes active in the network  Writing 2 wips and report on international project | 1 |
| 23/03/2009 | Meeting with peter and testing parser with the new GUI: exception in the parser:   |  | | --- | | Exception in thread "Thread-6" java.lang.NumberFormatException: For input string: ">"  at java.lang.NumberFormatException.forInputString(NumberFormatException.java:48)  at java.lang.Integer.parseInt(Integer.java:447)  at java.lang.Integer.parseInt(Integer.java:497)  at parserxmlnew.dexml.decode(dexml.java:223)  at parserxmlnew.Requesthandler.handle(Requesthandler.java:89)  at parserxmlnew.Requesthandler.run(Requesthandler.java:51)  at java.lang.Thread.run(Thread.java |   Discussing future map | 5  1 |
| 24/03/2009 | Research how to add power and frequency control to the telosb app, Mailing list:  <http://mail.millennium.berkeley.edu/pipermail/tinyos-help/2008-April/032494.html>  Meeting with Peter: Making a draft of our workplan + testing and setting up controller+GUI at desktop pc.  Debugging parser: Dissemination works like a charm | 2  3  2 |
| 25/03/2009 | Installing doxygen + reading HOWTO + starting documenting + updating changelog on wiki  Expanding telosb app with power and frequency control  CC2420Packet.getPower remains 0 and not the default level 31:  https://www.millennium.berkeley.edu/pipermail/tinyos-help/2007-May/025148.html | 3  3 |
| 26/03/2009 | Something wrong with frequency error, hasn’t been implemented yet  Meeting with peter and testing the GUI. Framework needs to be added with something that can detect failure of a node and reply on a request. Discovered that the reply message wasn’t send properly to the controller (wrong socket).  Solution is to distinguish the status message where it is coming from the type parameter of the statmsg struct. Strangest thing ever: if you send request to node 2 then type will be 4, then node 1 will have type 3, if you make request to node 1 then type will be 4 and the type of node 2 will be 3… | 1  6  3 |
| 27/03/2009 | Trying different ways to make the boot.booted execute correctly  Trying to share data between different threads | 1  3 |
| 29/03/2009 | Fixed the sharing between threads | 3 |
| 30/03/2009 | Meeting with peter and fixing the status message.  Trying to make the socket work of the parser to be able to send to the controller  Debugging the dissemination process together with the parser | 5  5 |
| 31/03/2009 | Meeting with Peter: further debugging of parser (dissemination) and the GUI. Found solution to distinguish status messages from reboot of a mote and the reply to a request.  Implementing “setting frequency” | 6 |
| 01/04/2009 | Linguapolis: correction paper  Meeting with Jerry about SCALA (interface & engine)  Meeting with peter to fix the parser and dissemination of the GUI: Finished  Implementing setchannel for frequency:  Problems (there is no communication):  <http://www.mail-archive.com/tinyos-help@millennium.berkeley.edu/msg08768.html>: the frequency of the receiving node can’t be changed, the one of the transmitting can  <https://www.millennium.berkeley.edu/pipermail/tinyos-help/2008-March/031815.html>: suggest to update the tinyos 2.x version:  cvs -z3 -d:pserver:anonymous@tinyos.cvs.sourceforge.net:/cvsroot/tinyos co -dP -r tinyos-2\_0\_devel-BRANCH tinyos-2.x  Doesn’t change anything | 1  1  4 |
| 02/04/2009 | Tried again update my tinyos 2 to check if something went wrong.  <http://www.mail-archive.com/tinyos-help@millennium.berkeley.edu/msg05371.html>: suggested to turn of the radio before you apply change to the frequency this works. Then I noticed that the button of the root wasn’t enabled and the root doesn’t apply to the broadcast address so the root was never set to the new frequency + helping peter set up the parser in vmware.  Reading paper about self calibration protocol for WSN localization  Fixing set power: not so stable | 8  1  1 |
| 03/04/2009 | Going to school for an update about SCALA + start writing comments with my code (parser) | 4 |
| 07/04/2009 | Further commenting code (parser) | 2 |
| 08/04/2009 | Further commenting code (parser & telosb app) | 3 |
| 09/04/2009 | Further commenting code (telosb app)  Starting document documentation | 1  3 |
| 14/04/2009 | Reading papers about WPNC | 4 |
| 15/04/2009 | Continuing with writing documentation about the telosb app  Meeting with peter about progress engine adapter | 3  1 |
| 16/04/2009 | Continuing with documentation | 3 |
| 19/04/2009 | Documentating | 1 |
| 21/04/2009 | Finishing documentation of the telosb application  Fixing bug in parser and telosb app  WIP | 5  1  1 |
| 22/04/2009 | Writing international project report  WIP with jeroen doggen.  Meeting with peter | 5  2  1 |
| 23/04/2009 | Updating wiki + sourceforge + research fields + writing wip  Reading papers about RSSI | 2  5 |
| 24/04/2009 | Propagation models | 7 |
| 26/04/2009 | Different propagation models + statistical | 3 |
| 27/04/2009 | Meeting with peter: planning schedule + going over controller and the positioning classes + testing framework  Statistical localization | 5  3 |
| 28/04/2009 | Reading about an algorithm with hop count + reading papers with statistical based localization  calibration | 6  2 |
| 29/04/2009 | Reading papers: RSS self-calibration protocol for wsn localization… + deterministic methods | 8 |
| 30/04/2009 | Test phase of scale with wsn engine (was cancelled); meeting with jerry about problem: what if point is outside the map  Meeting with Fre & Jeroen about buying antenna’s for the telosb nodes  Discussing algorithm of the paper automated calibration and RSS-Based Reading about maximum likelihood + Location Estimation with unknow pathloss model. Thought of a good idea that combines proximity and ranging  Meeting with jeroen about our idea | 1  1  6  1 |
| 01/05/2009 | Small meeting with peter about planning | 1 |
| 03/05/2009 | Planning adjustments to the framework to implement calibration and dv-hop algorithm  Ranging (distributed) |  |
| 04/05/2009 | Going over calibration and algorithms with peter: going to use centralized + start implementing + planning adaption framework | 8 |
| 05/05/2009 | Writing telosb app  WIP with jeroen about research topics | 8 |
| 06/05/2009 | Meeting with peter about adapting database to include calculated coordinates | 8 |
| 07/05/2009 | Refreshing pointer knowledge + Adding linked list, problem only one element is stored + starting on trilateration | 8 |
| 08/05/2009 | Writing trilateration + fixing linked list: nesc didn’t apply a new value to a variable in the receive event, very strange… But fixed. + debugging algorithms with peter | 8 |
| 10/05/2009 | Finishing telosb app with linked list + checking math for trilateration | 4 |
| 11/05/2009 | Debugging trilateration, found the algoritm to be uncorrect: writing new one | 8 |
| 12/05/2009 | Debugging and implementing trilateration + POCA introduction + ordering new antenna connectors + Updating parser to new xml scheme  Adding support for odd situations to trilateration + writing wip | 9  2 |
| 13/05/2009 | Researching trilateration rare conditions | 8 |
| 14/05/2009 | Implementing solution for rare situations | 8 |
| 15/05/2009 | Problem telos instable | 8 |
| 16/05/2009 | Testing dissemination with new xml message (network problems) | 2 |
| 17/05/2009 | Fixing network problem and bugs in telosb app | 5 |
| 18/05/2009 | Writing algorithm expanded minmax and trilateration  Debugging | 2  6 |
| 19/05/2009 | Trilateration debugging | 7 |
| 20/05/2009 | Minmax debugging | 8 |
| 21/05/2009 | Expanding parser with timer and status message | 8 |
| 22/05/2009 | Stabilizing program | 8 |
| 23/05/2009 | Testing orientation influence | 4 |
| 24/05/2009 | Getting outdoor & indoor positioning information | 24 |
| 25/05/2009 | Writing paper | 12 |
| 26/05/2009 | Fixing bugs that made the program not to store the data | 8 |
| 27/05/2009 | Preparation WTCI + fixing some bugs out off our application + adding WCL algorithm | 18 |
| 28/05/2009 | Beurs metropolis | 13 |
| 29/05/2009 | Testing outdoor: failed | 4 |
| 01/06/2009 | Adding functionality to telosb: removing old nodes from list  Adding new component for calibration  Testing indoor | 1  2  4 |
| 02/06/2009 | Reading about least squares and looking for library | 8 |
| 03/06/2009 | Going through the controller and adding functions for calibration | 8 |
| 04/06/2009 | Improving ranging with least squares | 8 |
| 05/06/2009 | Improving trilateration with least squares | 8 |
| 06/06/2009 | Fixing latex | 3 |
| 07/06/2009 | Correcting paper | 6 |
| 08/06/2009 | Correction paper | 6 |
| 09/06/2009 | Making portfolio | 8 |
| 10/06/2009 | Fixing bug with least square solution for the calibrarion and trilateration | 10 |
| 11/06/2009 | Meeting with peter about planning: testing outside rain… | 5 |
| 12/06/2009 | Testing outdoor: accuracy of algorithms | 8 |
| 13/06/2009 | Evaluating data from tests | 8 |
| 14/06/2009 | Presentation and fixing couple of bugs and further evaluating data | 20 |
| 15/06/2009 | Presentation and preparations | 8 |
| 16/06/2009 | Making portfolio | 12 |