

## CoCoALib - CoCoALib-1.0 (Oct 24)

| #    | Priority | Tracker | Subject   | Assignee           | Updated           | % Done | Estimated time |
|------|----------|---------|---|--------------------|-------------------|--------|----------------|
| 797  | Normal   | Feature | SmallFpImpl: make it faster   | John Abbott        | 24 Apr 2024 23:04 | 20     |                |
| 986  | Low      | Bug     | GFan: require version newer than 0.6  |                    | 22 Apr 2024 20:06 | 10     |                |
| 937  | Normal   | Feature | LinDepMill: Mill for linear dependencies  | Anna Maria Bigatti | 18 Apr 2024 16:38 | 10     |                |
| 828  | Normal   | Feature | MachineInt: function for checking that value is greater than some lower limit (and below MAXLONG) | John Abbott        | 15 Apr 2024 10:08 | 20     |                |
| 1799 | Normal   | Design  | Clean out OLD CODE?   |                    | 24 Mar 2024 10:52 | 0      |                |
| 302  | Normal   | Support | Compilation on M\$Windows: Visual Studio  |                    | 22 Mar 2024 23:13 | 60     |                |
| 832  | Low      | Design  | Generalize grading matrix   |                    | 14 Mar 2024 11:29 | 20     | 6.0            |
| 575  | Normal   | Feature | Investigate using cmake for configuration   | John Abbott        | 13 Mar 2024 21:19 | 10     |                |
| 1049 | Low      | Slug    | GroebnerFan: slow examples  |                    | 11 Mar 2024 11:12 | 10     |                |
| 839  | Low      | Feature | SparsePolyIter: make more compatible with STL   |                    | 07 Mar 2024 20:01 | 10     |                |
| 591  | Low      | Bug     | Problem with template instantiation and order of include directives                               |                    | 09 Feb 2024 10:18 | 50     | 5.0            |
| 539  | Low      | Feature | Functions to clean up a factorization   |                    | 22 Jan 2024 20:28 | 0      | 7.0            |
| 305  | Normal   | Design  | FreeModule: unique copy?  |                    | 10 Dec 2023 20:43 | 10     |                |
| 1378 | Normal   | Design  | Create two separate radical fns (for 0-dim ideals)  |                    | 03 Jul 2023 17:49 | 0      |                |
| 1491 | Normal   | Design  | Unified Gaussian reduction impl   |                    | 08 Mar 2023 19:55 | 0      |                |
| 59   | Low      | Support | List of all functions in CoCoALib   |                    | 08 Mar 2023 19:44 | 10     |                |
| 1584 | Normal   | Support | Benchmarks?   |                    | 08 Mar 2023 19:41 | 0      |                |
| 1706 | Normal   | Feature | slimgb: Brickenstein, singular  |                    | 30 Oct 2022 20:30 | 0      |                |
| 127  | Normal   | Feature | Convert DUPFF code to C++   | John Abbott        | 28 Sep 2022 15:04 | 50     | 25.0           |
| 1632 | Normal   | Design  | C++17: notes about updating   |                    | 12 Nov 2021 18:11 | 0      |                |
| 1103 | Normal   | Feature | Pseudo-zero-dim ideals  | Anna Maria Bigatti | 05 Nov 2021 16:09 | 30     |                |
| 974  | Normal   | Feature | QIR/RealRootRefine: improve behaviour if input interval has "nasty" endpoints                     |                    | 01 Mar 2021 21:25 | 10     |                |
| 1419 | Low      | Feature | DynamicBitset::lamAll1s   |                    | 03 Feb 2021 18:18 | 0      |                |
| 562  | Normal   | Feature | Subrings  |                    | 29 Sep 2020 13:19 | 0      | 40.0           |
| 1150 | Normal   | Feature | New fn: transform ideal with ring hom   |                    | 22 Jun 2020 10:34 | 0      |                |
| 769  | Normal   | Design  | CoCoALib cone   |                    | 27 Jan 2020 15:32 | 10     |                |
| 1369 | Low      | Slug    | RandomUnimodularMat is slow with many iters   |                    | 09 Jan 2020 12:19 | 10     |                |
| 1156 | Normal   | Design  | Printing for RingElem   |                    | 08 Jan 2020 23:02 | 0      |                |
| 1371 | Low      | Bug     | French students' example with GFan  |                    | 27 Nov 2019 15:53 | 10     |                |
| 1359 | Normal   | Slug    | gcd: low degree but big coeffs can be slow  |                    | 30 Oct 2019 22:23 | 0      |                |

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| 1324 | Normal   | Slug    | Improve RootBound  |                    | 30 Oct 2019 21:44 | 10     |                |
| 1339 | Normal   | Feature | All PPs of given wdeg  |                    | 16 Oct 2019 14:04 | 0      |                |
| 1208 | Normal   | Bug     | New function: Threadsafe RandomLinearForm (CoCoALib)                                     |                    | 01 Oct 2019 11:28 | 0      | 10.0           |
| 1323 | Normal   | Feature | Improve RealRoots: compute sqfr decomp   |                    | 30 Sep 2019 16:14 | 0      |                |
| 1198 | Normal   | Feature | Non-standard DegRevLex (NonStdDegRevLex, WDegRevLex)                                     |                    | 23 Sep 2019 12:44 | 0      |                |
| 1117 | Normal   | Feature | Better printing of negative coeffs   |                    | 23 Sep 2019 11:52 | 10     |                |
| 765  | Normal   | Feature | ExternalLib-CDD: (needed by GFan)  | Anna Maria Bigatti | 11 Sep 2019 13:47 | 10     |                |
| 1227 | Normal   | Feature | exgcd; solve Bezout equation   |                    | 29 Aug 2019 14:55 | 0      |                |
| 1278 | Normal   | Feature | Port old "clever" code for matrix determinant over ZZ to CoCoALib                        |                    | 03 May 2019 11:42 | 0      |                |
| 885  | Normal   | Feature | IsIrred3: fast 3-way irred test (returning bool3)  |                    | 30 Apr 2019 17:19 | 10     |                |
| 1147 | Normal   | Design  | mySquare and myPowerSmallExp   |                    | 30 Apr 2019 17:18 | 0      |                |
| 1267 | Normal   | Feature | Ideal equality   |                    | 09 Apr 2019 17:48 | 10     | 10.0           |
| 1134 | Normal   | Support | Organize better the documentation for CoCoALib   |                    | 09 Apr 2019 10:50 | 0      |                |
| 1130 | Normal   | Bug     | SqFreeFactor: should it work over ZZ?  |                    | 05 Apr 2019 15:39 | 10     |                |
| 1269 | Normal   | Feature | Ideal Ops: sort-cuts for trivial args?   |                    | 04 Apr 2019 15:07 | 0      |                |
| 1266 | Normal   | Design  | Make a poly ring QQ[x,y,z] also contain a ZZ[x,y,z]                                      |                    | 28 Mar 2019 16:42 | 0      |                |
| 1160 | Normal   | Support | Clean up revised RatReconstructByContFrac code   | John Abbott        | 26 Feb 2019 16:33 | 0      |                |
| 846  | Normal   | Design  | IsIrred: correct design?   | John Abbott        | 26 Feb 2019 16:32 | 20     |                |
| 874  | Normal   | Slug    | factor: too slow on largish multivariate poly  | John Abbott        | 26 Feb 2019 16:29 | 20     |                |
| 1069 | Normal   | Bug     | GroebnerFan: ERROR: Matrix must be invertible  |                    | 17 Dec 2018 15:16 | 10     |                |
| 1187 | Normal   | Slug    | Matrix rank is slow (over QQ)  |                    | 26 Jun 2018 11:29 | 0      |                |
| 896  | Normal   | Feature | myIsEqual, myCmp: direct comparisons between RingElem and MachineInt, BigInt and BigRat? |                    | 25 Jun 2018 15:31 | 10     |                |
| 729  | Normal   | Feature | Betti numbers, betti diagram   |                    | 14 Jun 2018 15:54 | 10     |                |
| 665  | Normal   | Feature | Integrate Janet/Pommaret basis code  | John Abbott        | 12 Jun 2018 18:36 | 10     |                |
| 572  | Normal   | Design  | Split SparsePolyRing.H into two files? Problem with circular includes.                   |                    | 17 May 2018 16:36 | 0      |                |
| 1173 | Normal   | Feature | Upper bound for value of poly in an interval   |                    | 04 Apr 2018 11:55 | 0      |                |
| 803  | Normal   | Feature | PPOrdering: use it to compute WDeg?  |                    | 06 Nov 2017 14:00 | 10     |                |
| 644  | Normal   | Feature | Buchberger-Moeller: add option to stop as soon as 1 poly has been found                  | John Abbott        | 06 Nov 2017 13:58 | 0      |                |
| 624  | Normal   | Support | Wikipedia  | Anna Maria Bigatti | 06 Nov 2017 13:40 | 0      |                |
| 703  | Normal   | Design  | Add more operations between modules (CoCoALib)   | Anna Maria Bigatti | 27 Oct 2017 11:53 | 10     | 20.0           |

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| 1098 | Normal   | Design  | Ctors for exceptions/errors                             |                    | 06 Sep 2017 15:27 | 0      |                |
| 841  | Normal   | Design  | NewPolyRing: tidy up the many different versions        |                    | 01 Sep 2017 11:30 | 10     |                |
| 1096 | Low      | Support | WEB SITE: HTML is not clean!                            | Anna Maria Bigatti | 31 Aug 2017 10:05 | 0      |                |
| 1089 | Normal   | Bug     | invalid pointer in "free"                               | John Abbott        | 20 Jul 2017 13:06 | 10     |                |
| 921  | Normal   | Design  | Design GBMill   |                    | 22 May 2017 14:11 | 0      |                |
| 919  | Normal   | Feature | Hilbert Driven GBasis                                   |                    | 22 May 2017 14:11 | 0      |                |
| 1070 | Normal   | Slug    | Slug: MakeTermOrd (rk calls in RemoveRedundantRows)     | Anna Maria Bigatti | 17 May 2017 13:47 | 10     |                |
| 427  | Normal   | Design  | Error names and error messages (current design)         |                    | 11 May 2017 10:57 | 10     | 20.0           |
| 1059 | Normal   | Design  | Printing ring for ideals (or just for ideals 0 and 1)   |                    | 05 May 2017 16:58 | 10     | 3.0            |
| 752  | Normal   | Design  | Investigate using Boost.build instead of make           | John Abbott        | 28 Apr 2017 11:23 | 0      |                |
| 360  | Normal   | Design  | CoCoAServer: what future, what issues?                  |                    | 28 Apr 2017 11:19 | 0      |                |
| 676  | Normal   | Support | Credits to CoCoALib contributors                        | Anna Maria Bigatti | 28 Apr 2017 11:06 | 10     |                |
| 780  | Normal   | Feature | GroebnerFan/ExternalLib-GFan: improve package           | Anna Maria Bigatti | 21 Apr 2017 11:06 | 20     | 20.0           |
| 92   | Normal   | Feature | Error Codes   |                    | 19 Apr 2017 08:31 | 0      | 40.0           |
| 1026 | Normal   | Bug     | JanetBasis gives error indet index out of range         |                    | 08 Mar 2017 15:26 | 0      |                |
| 1022 | Normal   | Feature | New "LF" function which is based on StdDeg              |                    | 06 Mar 2017 19:37 | 20     | 3.0            |
| 1013 | Normal   | Support | GlobalManager: name of object in examples (and tests)   |                    | 25 Feb 2017 11:11 | 10     |                |
| 1014 | Low      | Bug     | RowMat, ColMat with arg an empty list/vector            |                    | 24 Feb 2017 17:54 | 10     |                |
| 1010 | Urgent   | Feature | C++11: Mario's Hilbert scheme code                      |                    | 20 Feb 2017 13:19 | 0      |                |
| 992  | Normal   | Feature | Poly ring homomorphism to change ordering               |                    | 13 Dec 2016 18:04 | 0      |                |
| 987  | Normal   | Feature | GCD: add special case if args are monomials             |                    | 28 Nov 2016 22:04 | 0      |                |
| 154  | Normal   | Bug     | GCD normalization (e.g. monic)                          |                    | 24 Nov 2016 13:56 | 20     |                |
| 678  | Normal   | Feature | Accumulator (like a geobucket)                          |                    | 17 Nov 2016 19:03 | 20     |                |
| 817  | High     | Feature | GenRepr in CoCoALib?                                    |                    | 17 Nov 2016 14:12 | 0      |                |
| 972  | Normal   | Support | ex-PolyIterator   |                    | 17 Nov 2016 13:21 | 0      |                |
| 970  | Normal   | Design  | Weights in ElimMat?                                     |                    | 11 Nov 2016 15:49 | 10     |                |
| 968  | Normal   | Slug    | Slow NF example   |                    | 10 Nov 2016 21:33 | 10     | 16.0           |
| 838  | Normal   | Feature | Differential algebra                                    |                    | 24 Oct 2016 15:32 | 10     |                |
| 440  | High     | Feature | Port RealRoots to C++                                   | John Abbott        | 19 Oct 2016 10:26 | 0      |                |
| 930  | Low      | Bug     | Printing TwinFloat as (rational) coeff without brackets |                    | 24 Sep 2016 21:43 | 0      |                |

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| 505 | Normal   | Support | Documentation: write doc for RingDenseUPolyClean   | Anna Maria Bigatti | 21 Sep 2016 17:15 | 0      | 1.5            |
| 926 | Low      | Support | Documentation: check layout of history at end of generated HTML files (from the txt files) |                    | 21 Sep 2016 13:29 | 0      |                |
| 923 | Normal   | Feature | Fn to read symbol range (SymbolRange)  |                    | 16 Sep 2016 15:04 | 0      |                |
| 914 | Normal   | Feature | New function: quorem for univariate polynomials?   |                    | 22 Aug 2016 16:45 | 0      |                |
| 913 | Normal   | Feature | Read input from SymbolicData database  | Anna Maria Bigatti | 02 Aug 2016 10:55 | 0      |                |
| 565 | Normal   | Feature | FloatApprox for TwinFloat values?  | John Abbott        | 19 Jul 2016 22:44 | 20     | 20.0           |
| 906 | Normal   | Design  | External libraries: keep copy of compatible versions?                                      |                    | 13 Jul 2016 11:19 | 0      |                |
| 904 | Normal   | Feature | SmallFpDouble: which impl of InvMod to use?  |                    | 04 Jul 2016 13:45 | 0      |                |
| 873 | Normal   | Feature | bool3: add some logical operations?  |                    | 21 Jun 2016 14:37 | 10     |                |
| 740 | Normal   | Feature | Addition of sparse (multivariate) polynomials  |                    | 17 Jun 2016 14:35 | 0      |                |
| 547 | Normal   | Bug     | elim using RingTwinFloat triggers error "SERIOUS"  |                    | 15 Jun 2016 14:35 | 0      | 20.0           |
| 884 | Normal   | Slug    | DistrMPolyInIPP::myPushFront and DistrMPolyInIPP::myPushBack inefficient if arg is a PP    |                    | 24 May 2016 15:25 | 0      |                |
| 882 | Normal   | Slug    | Impl faster multiplication for DUP (dense univariate polys)                                |                    | 09 May 2016 22:10 | 0      |                |
| 869 | Normal   | Feature | SmallFpImpl: different repr for computation and for storage?                               |                    | 22 Apr 2016 15:14 | 0      |                |
| 840 | Normal   | Feature | GINV: alex basis   |                    | 31 Mar 2016 13:05 | 10     |                |
| 763 | Normal   | Design  | GlobalManager: initialization compatible with initialization of external libs              |                    | 21 Mar 2016 16:55 | 10     |                |
| 778 | Normal   | Design  | CRTMill::myAddInfo accept modulus 1 or not?  |                    | 21 Mar 2016 15:16 | 0      |                |
| 620 | Normal   | Design  | Redesign CRTMill   | John Abbott        | 21 Mar 2016 14:30 | 20     | 40.0           |
| 746 | Normal   | Bug     | Problem with GBasis in tower of alg extns  |                    | 21 Mar 2016 14:29 | 0      |                |
| 842 | Normal   | Slug    | PPMonoidSparse: comparisons are VERY SLOW  |                    | 15 Feb 2016 13:57 | 0      |                |
| 685 | High     | Feature | Use DivMask inside QBGenerator   |                    | 02 Feb 2016 14:16 | 0      |                |
| 784 | Normal   | Bug     | threadsafety: Scott Meyers's advice about cached values                                    |                    | 18 Jan 2016 18:12 | 10     |                |
| 837 | Normal   | Slug    | factor is very slow on some simple input polynomials                                       |                    | 06 Jan 2016 14:40 | 0      |                |
| 835 | Normal   | Feature | Make Mario's new code threadsafe   |                    | 09 Dec 2015 16:48 | 0      |                |
| 833 | Low      | Bug     | UIBC: need include file in RingWeyl.C  |                    | 08 Dec 2015 15:06 | 0      |                |
| 826 | Normal   | Feature | Sparse matrices  |                    | 02 Dec 2015 18:24 | 0      |                |
| 809 | Normal   | Design  | FastCmp for degree -- useful?  | Anna Maria Bigatti | 27 Nov 2015 16:06 | 0      |                |
| 812 | Normal   | Feature | PPMonoid pseudo-ctor without explicit ordering   |                    | 24 Nov 2015 18:16 | 0      |                |
| 818 | Normal   | Bug     | F5 with 3 args?  | John Abbott        | 24 Nov 2015 10:11 | 10     |                |
| 808 | Normal   | Bug     | Alg Extn by non-zero dim ideal   |                    | 18 Nov 2015 23:29 | 0      |                |

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| 799 | Low      | Slug    | vector of "indets" in each PPMonoid?                                       | John Abbott        | 11 Nov 2015 13:47 | 20     |                |
| 791 | Normal   | Support | Clean code for DistrMPolyClean   | Anna Maria Bigatti | 02 Nov 2015 22:13 | 0      |                |
| 788 | Normal   | Support | No doc for DistrMPolyInIFpPP   |                    | 22 Oct 2015 13:49 | 0      |                |
| 482 | Normal   | Feature | Unique copies of rings -- smart ctor                                       |                    | 20 Oct 2015 14:33 | 10     |                |
| 787 | Normal   | Design  | Remove refcounts from RingElem?  |                    | 19 Oct 2015 17:08 | 0      |                |
| 785 | Normal   | Design  | finite fields: global register of fields already created?                  |                    | 15 Oct 2015 17:27 | 0      |                |
| 779 | Low      | Bug     | Makefile: problem not seeing when files in TmpFactorDir need to be rebuilt |                    | 17 Sep 2015 22:10 | 0      |                |
| 775 | Low      | Feature | PPMonoid with 1 extra "exponent"?  |                    | 15 Sep 2015 20:18 | 0      |                |
| 758 | Normal   | Feature | configure: have option to say to look for external libs                    |                    | 03 Sep 2015 11:41 | 10     |                |
| 742 | Normal   | Slug    | View PP exponent vector (and order vector?) as an array of long?           |                    | 01 Sep 2015 12:08 | 10     |                |
| 728 | Normal   | Feature | Noncommutative algebra "of solvable type"                                  |                    | 09 Jul 2015 08:39 | 10     |                |
| 738 | Normal   | Feature | Extend homomorphism to polynomial ring                                     |                    | 25 Jun 2015 17:23 | 10     | 3.0            |
| 386 | High     | Feature | add resolution data type   | Anna Maria Bigatti | 11 Jun 2015 14:58 | 10     |                |
| 725 | Normal   | Slug    | Example database: Slow ideal equality test                                 |                    | 10 Jun 2015 14:24 | 0      |                |
| 675 | Normal   | Slug    | Matrix determinant over multivariate poly ring                             |                    | 22 May 2015 13:45 | 10     |                |
| 151 | Normal   | Feature | Iterated CanonicalHom  |                    | 13 May 2015 09:58 | 0      | 20.0           |
| 396 | Normal   | Design  | PPMonoidElemAlias: redesign PPMonoidElem the same way as RingElem?         | John Abbott        | 13 May 2015 09:57 | 0      |                |
| 550 | Normal   | Design  | add myResolution member field to ideal and (sub)module                     |                    | 13 May 2015 09:57 | 0      |                |
| 130 | Normal   | Bug     | Design problem in ideals   |                    | 13 May 2015 09:56 | 0      |                |
| 126 | Normal   | Feature | New datastructures directory   |                    | 13 May 2015 09:56 | 0      |                |
| 420 | Normal   | Feature | Allow user to give a name to a ring  |                    | 13 May 2015 09:55 | 0      |                |
| 329 | Normal   | Slug    | Why is DMPI slower than DMPClean?  |                    | 13 May 2015 09:54 | 0      |                |
| 695 | Normal   | Support | Remove cruft from test files   |                    | 08 May 2015 11:37 | 0      |                |
| 690 | Normal   | Feature | Fault tolerant rational reconstruction: implement simultaneous version     |                    | 23 Apr 2015 19:12 | 0      |                |
| 688 | Normal   | Slug    | PolyAlgebraHom (PolyRingHom) evaluate multivariate polynomials             |                    | 22 Apr 2015 14:38 | 10     |                |
| 686 | Normal   | Design  | myAddMul in poly rings   | Anna Maria Bigatti | 20 Apr 2015 13:22 | 20     |                |
| 232 | Normal   | Bug     | No test for QBGenerator  |                    | 15 Apr 2015 20:15 | 0      | 5.0            |
| 682 | Low      | Feature | PPMonoid: add fn to check for overflow in products                         |                    | 14 Apr 2015 11:23 | 0      | 3.0            |
| 437 | Normal   | Feature | MemPool: order free blocks?  |                    | 13 Apr 2015 23:31 | 10     | 15.0           |
| 681 | Low      | Feature | MemPool: make it easier to get just stats                                  |                    | 13 Apr 2015 23:25 | 0      |                |

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| 667 | Normal   | Feature | factor: multivariate + finite characteristic                                     |                    | 04 Mar 2015 20:08 | 0      |                |
| 651 | Normal   | Feature | Optimized algorithms for implicitization (slicing algorithm, elim, subalgebra..) |                    | 12 Feb 2015 10:33 | 10     | 100.0          |
| 661 | Normal   | Feature | Laurent polynomials  |                    | 23 Jan 2015 13:50 | 0      |                |
| 647 | Normal   | Design  | Unique copies of free modules?   |                    | 10 Nov 2014 16:55 | 0      |                |
| 640 | Normal   | Bug     | What is test-Dynamic1.C  |                    | 29 Oct 2014 11:30 | 0      |                |
| 639 | Low      | Feature | Shadow CoCoA namespace to help guarantee portability (without ambiguity)         |                    | 28 Oct 2014 15:34 | 0      |                |
| 627 | Normal   | Feature | Gaussian integer and rationals ZZi, QQi  |                    | 23 Sep 2014 16:30 | 0      |                |
| 628 | Normal   | Feature | Complex twin-floats  |                    | 22 Sep 2014 18:16 | 0      |                |
| 400 | Normal   | Feature | add myJBMill member field to ideal   |                    | 15 Sep 2014 12:04 | 0      |                |
| 617 | Normal   | Feature | configure: check all libraries for compatibility                                 |                    | 09 Sep 2014 12:21 | 0      |                |
| 263 | High     | Design  | Move the various <matrix>::mySetEntry procedures into MatrixBase                 |                    | 01 Aug 2014 16:29 | 0      |                |
| 289 | Normal   | Feature | PrimeField -- new fn?  |                    | 01 Aug 2014 08:59 | 0      |                |
| 436 | Normal   | Feature | Improve UPoly eval at BigRat for binary rational                                 |                    | 01 Aug 2014 08:59 | 0      |                |
| 149 | Normal   | Bug     | Makefile dependencies  |                    | 01 Aug 2014 08:59 | 0      |                |
| 174 | Normal   | Feature | IsStdGraded: add for PPOrdering, PPMonoid, (Sparse)PolyRing..                    |                    | 01 Aug 2014 08:59 | 0      |                |
| 229 | Normal   | Feature | Generator for random ring elements   |                    | 01 Aug 2014 08:59 | 0      |                |
| 257 | Normal   | Feature | Transcribe C4 code for GCD in QQ[x]  |                    | 01 Aug 2014 08:59 | 0      |                |
| 258 | Normal   | Feature | Multivariate lifting   |                    | 01 Aug 2014 08:59 | 0      |                |
| 277 | Normal   | Bug     | Eliminate class RefPPMonoidElem?   |                    | 01 Aug 2014 08:59 | 0      | 8.0            |
| 282 | Normal   | Feature | Global setting: to use IsProbPrime in place of IsPrime                           |                    | 01 Aug 2014 08:59 | 0      |                |
| 6   | High     | Bug     | Sort out RingElem, RefRingElem, ConstRefRingElem mess                            | John Abbott        | 01 Aug 2014 08:59 | 0      | 20.0           |
| 383 | Normal   | Feature | Resolution/morse: integrate Mario Albert's code into CoCoALib                    | John Abbott        | 31 Jul 2014 14:57 | 60     |                |
| 297 | Normal   | Design  | Modules design: brainstorming  |                    | 31 Jul 2014 14:55 | 30     |                |
| 401 | Normal   | Bug     | NewFreeModule of dimension 0   |                    | 31 Jul 2014 14:13 | 0      |                |
| 337 | Normal   | Feature | Module homs  |                    | 31 Jul 2014 12:40 | 0      |                |
| 227 | Normal   | Feature | HilbertBasis from Normaliz: full-lattice or not?                                 |                    | 31 Jul 2014 12:39 | 0      |                |
| 409 | High     | Feature | Minimal syzygies (optimized implementation)                                      | Anna Maria Bigatti | 31 Jul 2014 12:36 | 0      | 10.0           |
| 150 | Normal   | Feature | RingOf rather than owner? (and than AmbientRing, ...)                            |                    | 30 Jul 2014 17:59 | 10     | 8.0            |
| 387 | High     | Feature | implement algorithm(s) for resolutions   | Anna Maria Bigatti | 30 Jul 2014 17:04 | 0      |                |
| 399 | High     | Feature | add myHilbertSeries member field to ideal and (sub)module                        | Anna Maria Bigatti | 30 Jul 2014 17:04 | 0      |                |

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| 570 | Normal   | Feature | Allow use of RingElem instead of ring in some functions (e.g. PPM, CoeffRing) |                    | 16 Jul 2014 14:43 | 0      |                |
| 564 | Normal   | Feature | Temporary file for experimentation  |                    | 16 Jul 2014 14:38 | 0      | 2.0            |
| 589 | Normal   | Feature | Implement gin (generic initial ideal) in cocoalib                             | Anna Maria Bigatti | 15 Jul 2014 18:17 | 0      | 3.0            |
| 432 | Normal   | Design  | Semantics of IsPrintedWithMinus   |                    | 14 Jul 2014 18:13 | 10     |                |
| 455 | Normal   | Design  | Which sets of generators in an ideal?   |                    | 14 Jul 2014 15:17 | 0      | 16.0           |
| 353 | Normal   | Support | Missing documentation and tests for myRecvTwinFloat                           | John Abbott        | 14 Jul 2014 14:40 | 0      |                |
| 205 | Normal   | Support | Example for change of coordinates with coeffs in a matrix                     | Anna Maria Bigatti | 14 Jul 2014 14:39 | 0      | 1.0            |
| 74  | Normal   | Bug     | printing polynomials  |                    | 14 Jul 2014 11:07 | 10     | 5.0            |
| 134 | Normal   | Feature | Convenience ring ctors and homs   |                    | 11 Jul 2014 12:06 | 0      |                |
| 513 | High     | Design  | Quick/correct flag for bool3 fns  |                    | 10 Jul 2014 16:30 | 10     | 20.0           |
| 438 | Normal   | Support | Polynomial multiplication (product of RingElem)                               |                    | 10 Jul 2014 16:28 | 10     |                |
| 87  | Normal   | Support | Cleanup header for ring classes (so that they are e-diff-able)                | Anna Maria Bigatti | 10 Jul 2014 16:26 | 10     | 5.0            |
| 120 | Normal   | Slug    | LT over QQ: surprisingly slow   |                    | 10 Jul 2014 16:26 | 0      | 4.0            |
| 315 | Normal   | Feature | Add doc for ApproxPts2  |                    | 10 Jul 2014 16:23 | 0      | 10.0           |
| 316 | Normal   | Design  | submodule constructor different from ideal                                    | Anna Maria Bigatti | 10 Jul 2014 16:21 | 0      |                |
| 114 | Normal   | Bug     | Ideals of polynomials   |                    | 10 Jul 2014 14:26 | 10     | 4.0            |
| 515 | Normal   | Feature | Fn to "flatten" multiple polynomial extns                                     |                    | 10 Jul 2014 14:22 | 0      |                |
| 516 | Normal   | Feature | Make squarefreefactor work in multiple polynomial extns                       |                    | 10 Jul 2014 14:21 | 0      |                |
| 147 | Urgent   | Feature | Buchberger-Moeller: impl via modular reduction                                | John Abbott        | 10 Jul 2014 14:18 | 20     | 25.0           |
| 146 | Normal   | Feature | Buchberger-Moeller: input conversions   |                    | 10 Jul 2014 14:17 | 0      | 7.5            |
| 145 | Urgent   | Feature | Buchberger-Moeller: fast modular impl   | John Abbott        | 10 Jul 2014 14:17 | 0      | 20.0           |
| 143 | Urgent   | Feature | Buchberger-Moeller (parent task)  | John Abbott        | 10 Jul 2014 14:16 | 38     |                |
| 123 | Normal   | Feature | IdealOfPoints with generic coeffs   |                    | 09 Jul 2014 18:15 | 0      |                |
| 129 | Normal   | Slug    | Better GCD  |                    | 09 Jul 2014 18:08 | 0      | 15.0           |
| 231 | Normal   | Support | Documentation for QBGenerator needs to be improved.                           |                    | 09 Jul 2014 18:06 | 0      |                |
| 442 | Normal   | Feature | Eigenvectors  |                    | 09 Jul 2014 18:05 | 0      |                |
| 113 | Normal   | Feature | Introduce PartialHom  | John Abbott        | 09 Jul 2014 18:04 | 10     | 15.0           |
| 551 | Normal   | Design  | Reconsider overloaded virtual mem fns   |                    | 09 Jul 2014 18:00 | 0      | 15.0           |
| 583 | Normal   | Feature | New function for printing with extra information                              |                    | 07 Jul 2014 11:48 | 0      |                |
| 569 | Normal   | Support | Documentation for ReductionCog  |                    | 11 Jun 2014 16:04 | 0      |                |

| #   | Priority | Tracker | Subject                                       | Assignee           | Updated           | % Done | Estimated time |
|-----|----------|---------|---|--------------------|-------------------|--------|----------------|
| 459 | Low      | Feature | LinearSimplify: port to CoCoALib              |                    | 20 May 2014 09:47 | 0      |                |
| 537 | Low      | Slug    | FloatStr uses too much memory                 |                    | 16 Apr 2014 12:01 | 0      |                |
| 272 | Normal   | Design  | Forward declarations                          |                    | 07 Apr 2014 18:14 | 0      |                |
| 326 | Normal   | Bug     | C++ nasty surprises                           |                    | 07 Apr 2014 18:13 | 10     |                |
| 161 | Normal   | Support | Convert old "task table" into redmine         |                    | 07 Apr 2014 14:35 | 0      | 8.0            |
| 112 | Normal   | Support | automatic creation of all function signatures |                    | 07 Apr 2014 14:34 | 0      |                |
| 76  | Low      | Support | keywords in documentation                     |                    | 04 Apr 2014 17:51 | 0      | 10.0           |
| 196 | Normal   | Bug     | PPWithMask needs checking                     | Anna Maria Bigatti | 04 Apr 2014 17:50 | 0      |                |
| 497 | Normal   | Support | Clang: automatic bug finding                  |                    | 04 Apr 2014 17:20 | 0      |                |
| 246 | Normal   | Feature | Approx QIR                                    |                    | 04 Apr 2014 17:16 | 0      |                |
| 281 | Normal   | Feature | Store unique copy of FF(p) in GlobalManager   |                    | 04 Apr 2014 17:10 | 0      |                |