

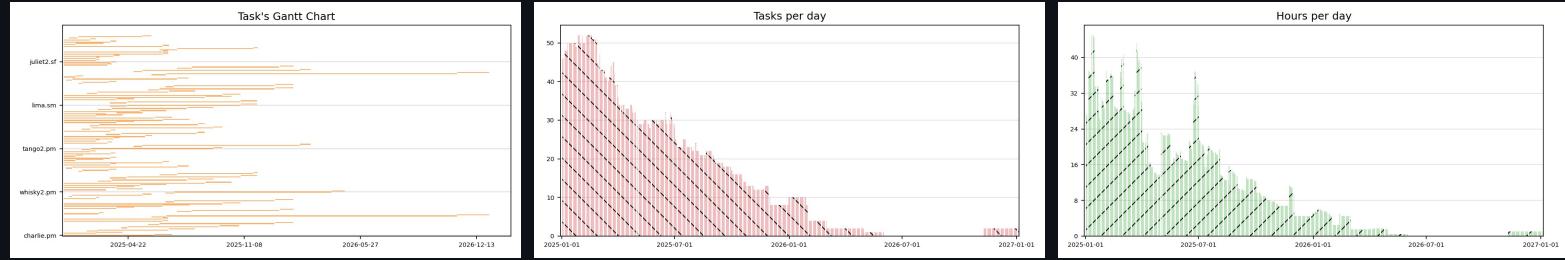
Yumbo. Scheduling, Planning and Resource Allocation

Zbigniew Romanowski, Paweł Koczyk

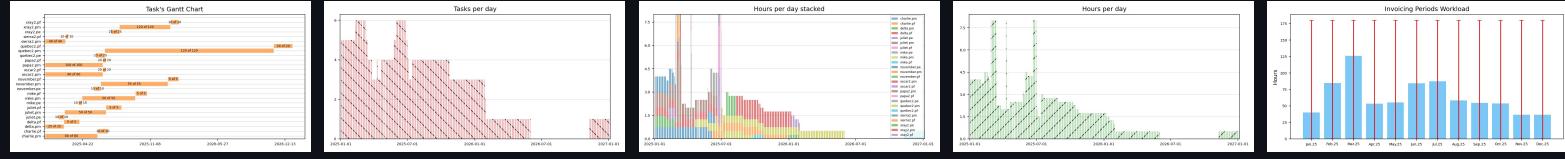
Source code, documentation and sample Excel input files can be found on [Yumbo's GitHub repository](#).

28 January 2025, 17:29:34 PM

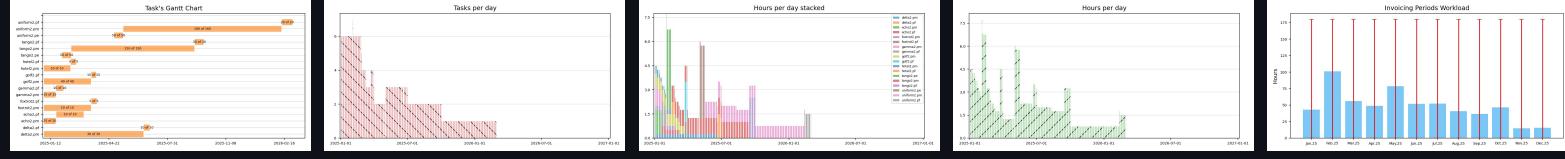
Experts overview



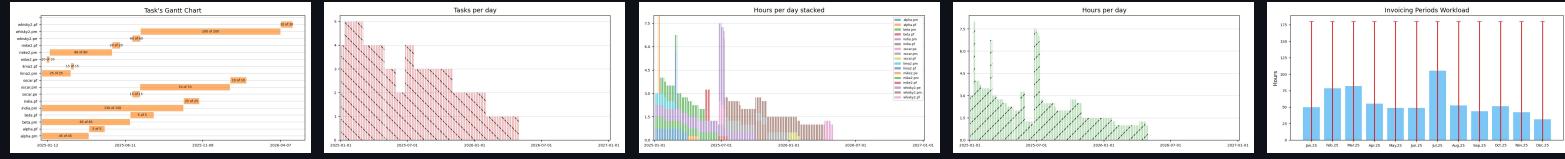
PM.Angel the 1st unit



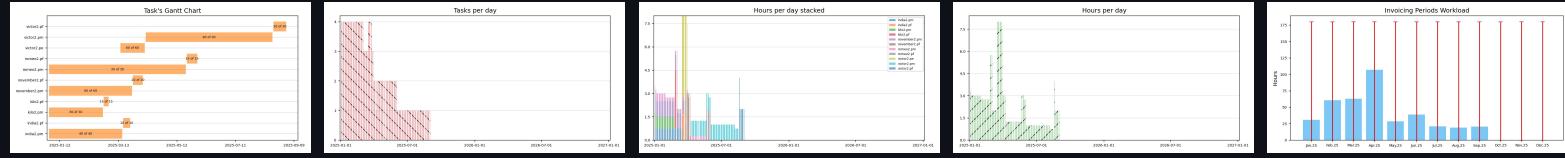
PM.Anthony the 2nd unit



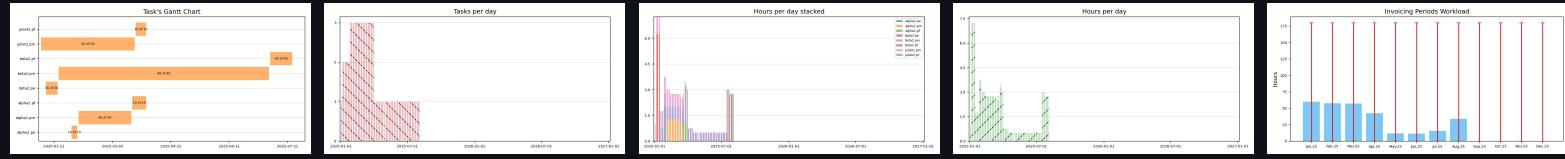
PM.Daniel the 2nd unit



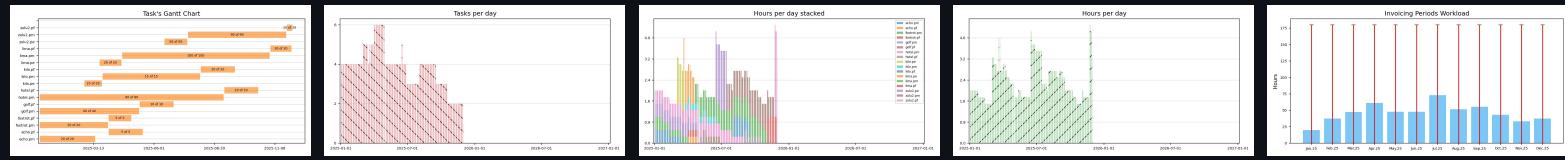
PM.Fabian the 2nd unit



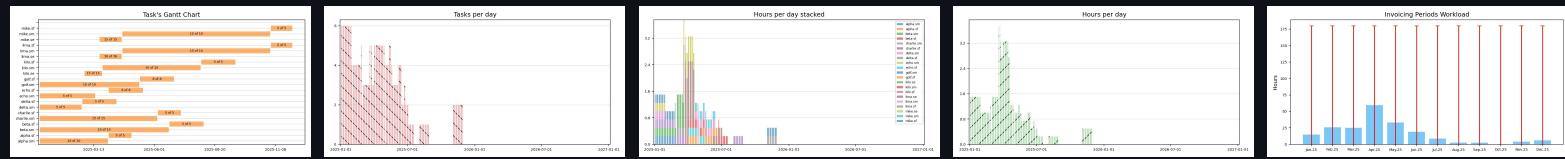
PM.Henry the 2nd unit



PM.Lisa the 1st unit



SA.Adrian the 1st unit

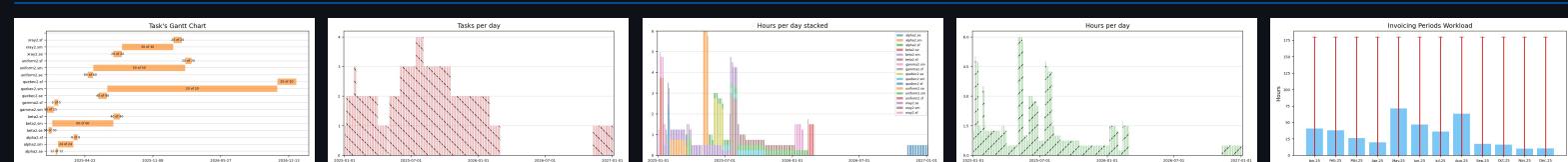


SA.Justin the 2nd unit

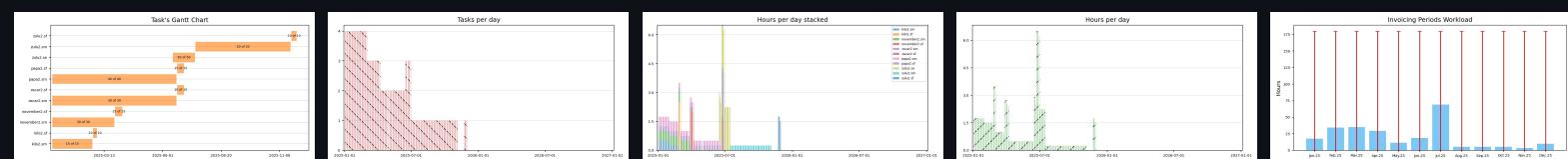




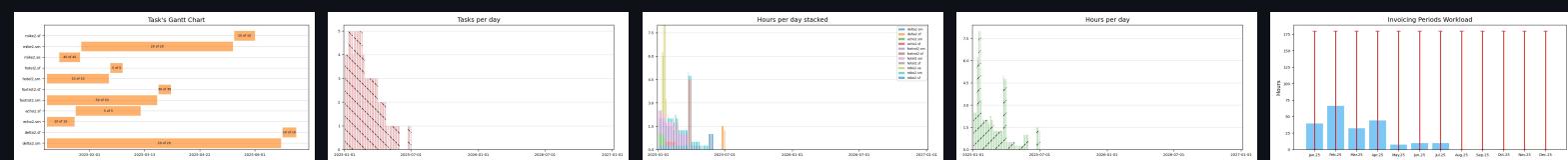
SA.Kevin the 2nd unit



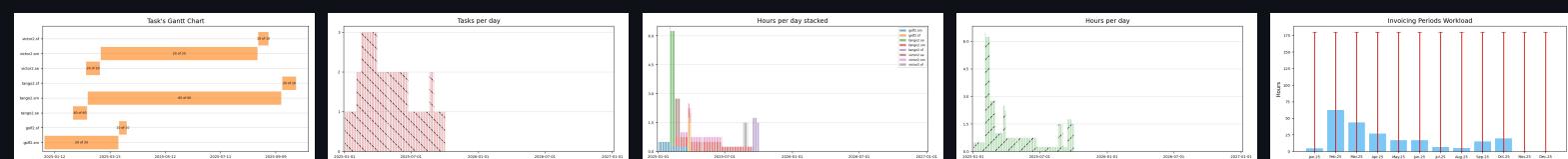
SA.Martha the 2nd unit



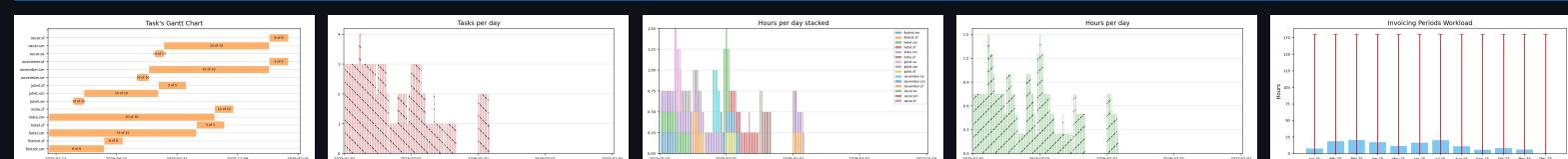
SA.Melanie the 2nd unit



SA.Peter the 2nd unit



SA.Robert the 1st unit



Solver output at 28 January 2025, 17:29:40 PM

```

HiGHS 1.8.1:  tech:outlev = 1
Running HiGHS 1.8.1 (git hash: 4a7f24a): Copyright (c) 2024 HiGHS under MIT licence terms
Coefficient ranges:
  Matrix [1e+00, 3e+01]
  Cost [1e+00, 1e+00]
  Bound [1e+00, 3e+03]
  RHS [1e+01, 8e+02]
Presolving model
233267 rows, 238161 cols, 475875 nonzeros 0s
1287 rows, 122170 cols, 11932 nonzeros 0s
1283 rows, 9126 cols, 11600 nonzeros 0s
1279 rows, 8981 cols, 11447 nonzeros 0s

```

```

Solving MIP model with:
 1279 rows
 8981 cols (3921 binary, 5060 integer, 0 implied int., 0 continuous)
 11447 nonzeros
MIP-Timing:  0.91 - starting analytic centre calculation

```

```

Src: B => Branching; C => Central rounding; F => Feasibility pump; H => Heuristic; L => Sub-MIP;
P => Empty MIP; R => Randomized rounding; S => Solve LP; T => Evaluate node; U => Unbounded;
z => Trivial zero; l => Trivial lower; u => Trivial upper; p => Trivial point

```

Src	Proc.	InQueue	Nodes		B&B Tree		Objective Bounds		Dynamic Constraints		Work	
			Leaves	Expl.	BestBound	BestSol	Gap	Cuts	InLp	Confl.	LpIters	Time
R	0	0	0	0.00%	48482.66282	inf	inf	0	0	0	0	0.9s
R	0	0	0	0.00%	64873.050427	64873.050427	0.00%	0	0	0	475	0.9s
R	1	0	1	100.00%	64873.050427	64873.050427	0.00%	0	0	0	501	1.0s

```

Solving report
Status          Optimal
Primal bound    64873.0504266
Dual bound      64873.0504266
Gap             0% (tolerance: 0.01%)
P-D integral    3.4113108883e-18
Solution status  feasible
                64873.0504266 (objective)
                0 (bound viol.)
                0 (int. viol.)
                0 (row viol.)
Timing          0.96 (total)
                0.00 (presolve)
                0.00 (solve)
                0.00 (postsolve)
Max sub-MIP depth 0
Nodes           1

```

