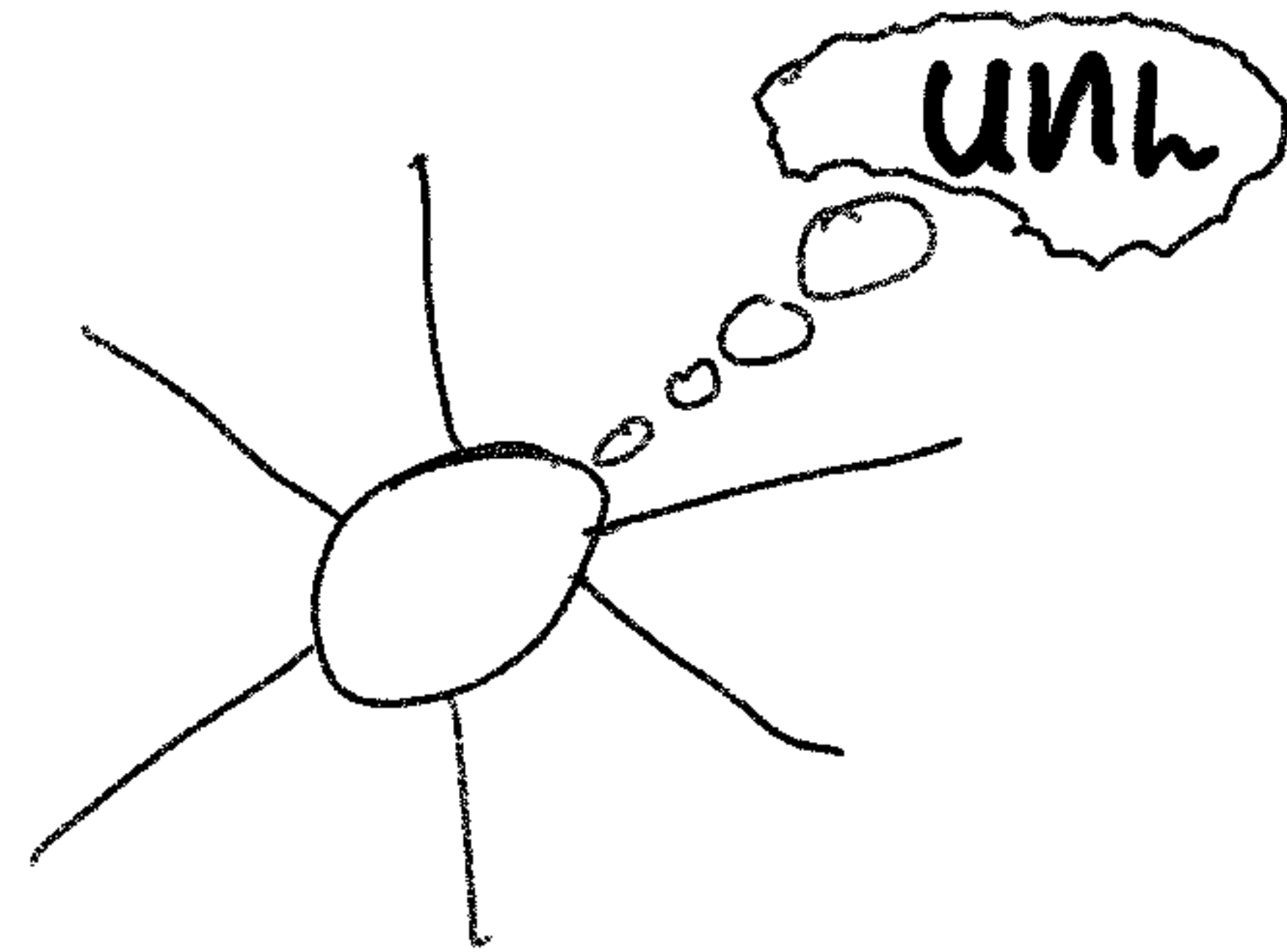
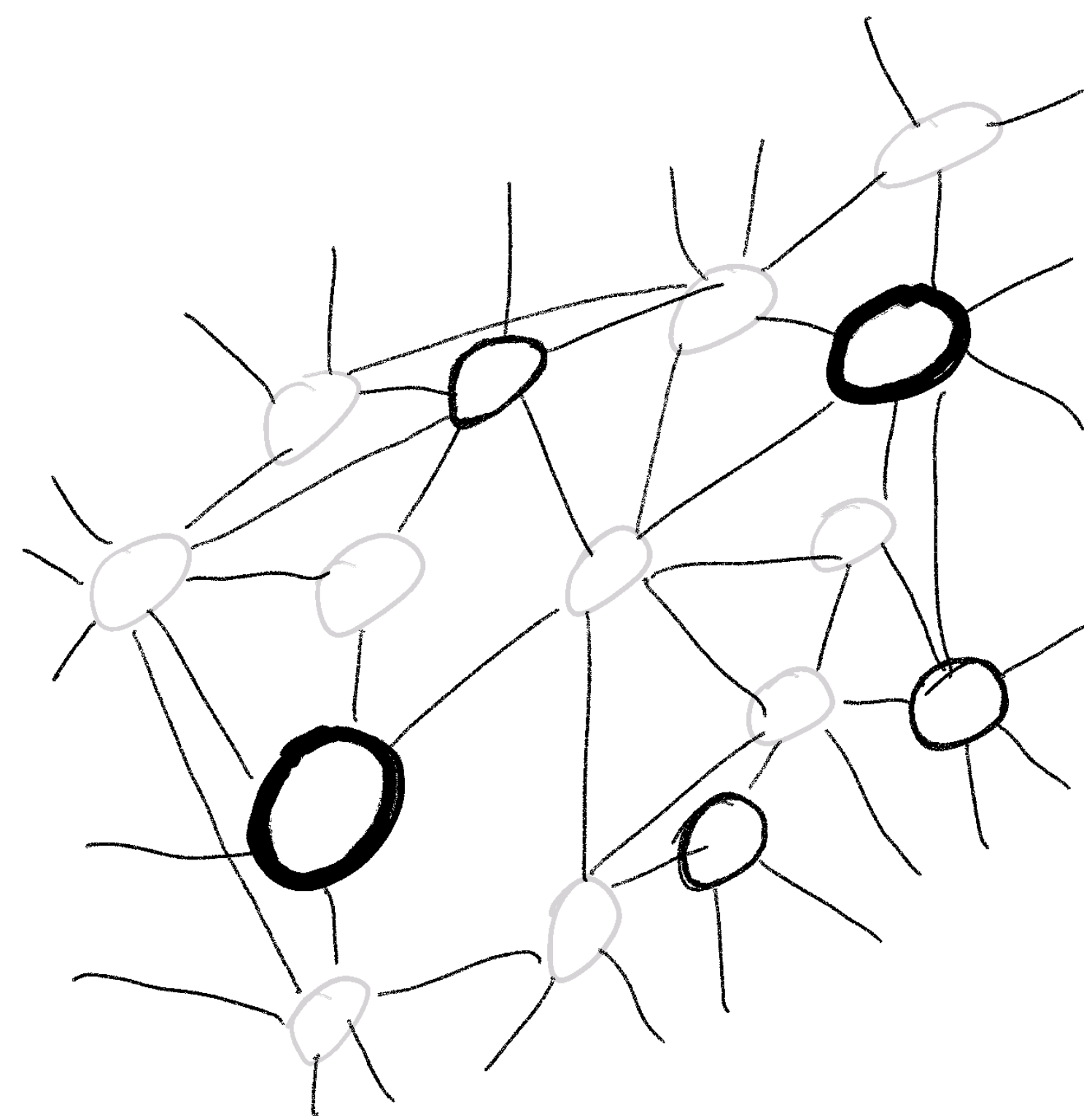


Francis Behnen as part of CSE3000; Supervisors: Dr. A. Panichella; Dr. S. Roos; M. Olsthoorn, MSc; S. Prabhu Kumble, MSc  
 1[Undergraduate EEMCS, TU Delft], 2[Assistant professor Software Engineering Research Group, EEMCS TU Delft], 3[Assistant professor Software Engineering Research Group, EEMCS TU Delft], 4[PHD student, EEMCS TU Delft], 5[PHD student, EEMCS TU Delft]

## BACKGROUND



## MORE BACKGROUND

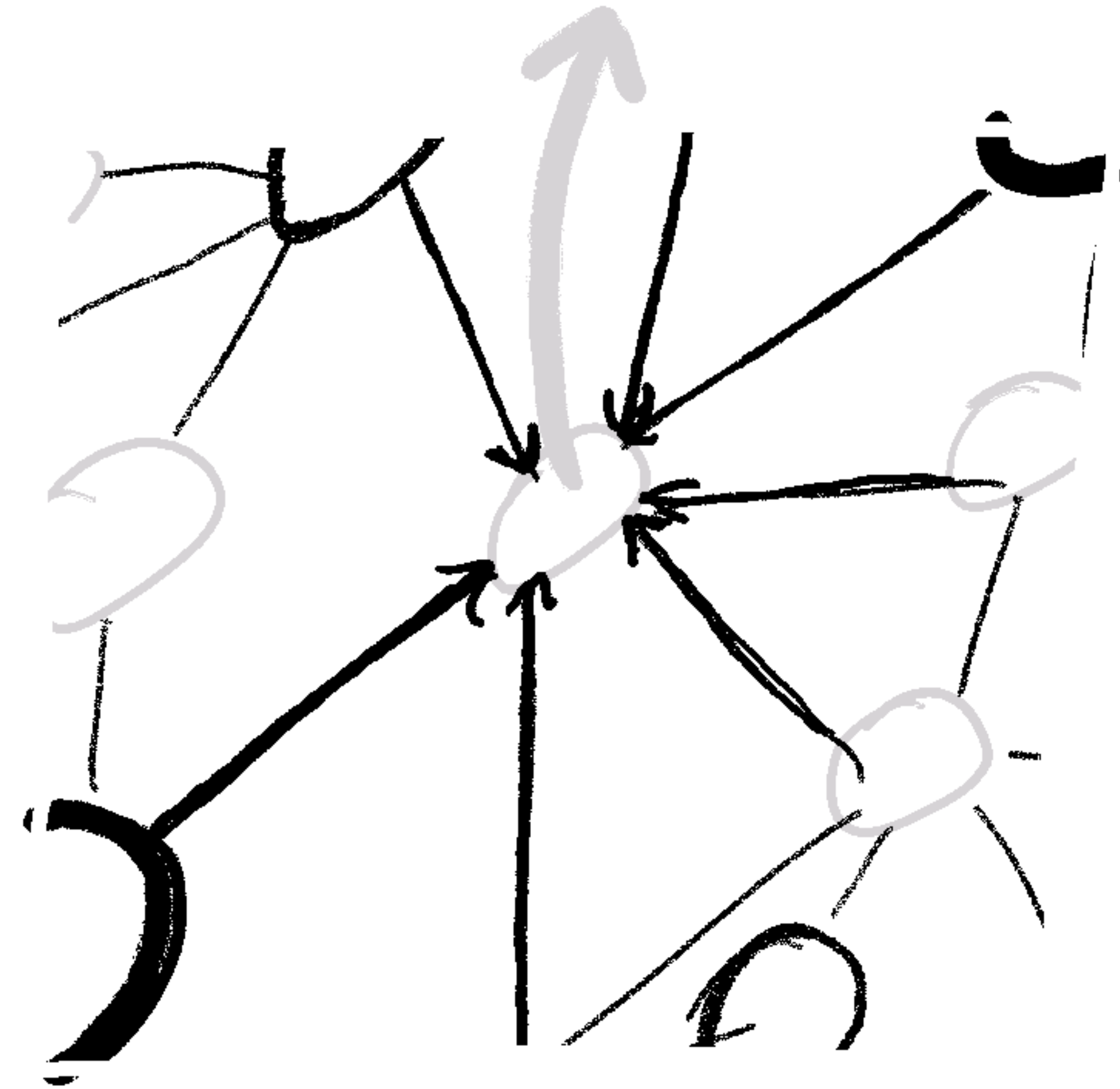


## CURRENT LIMITATION

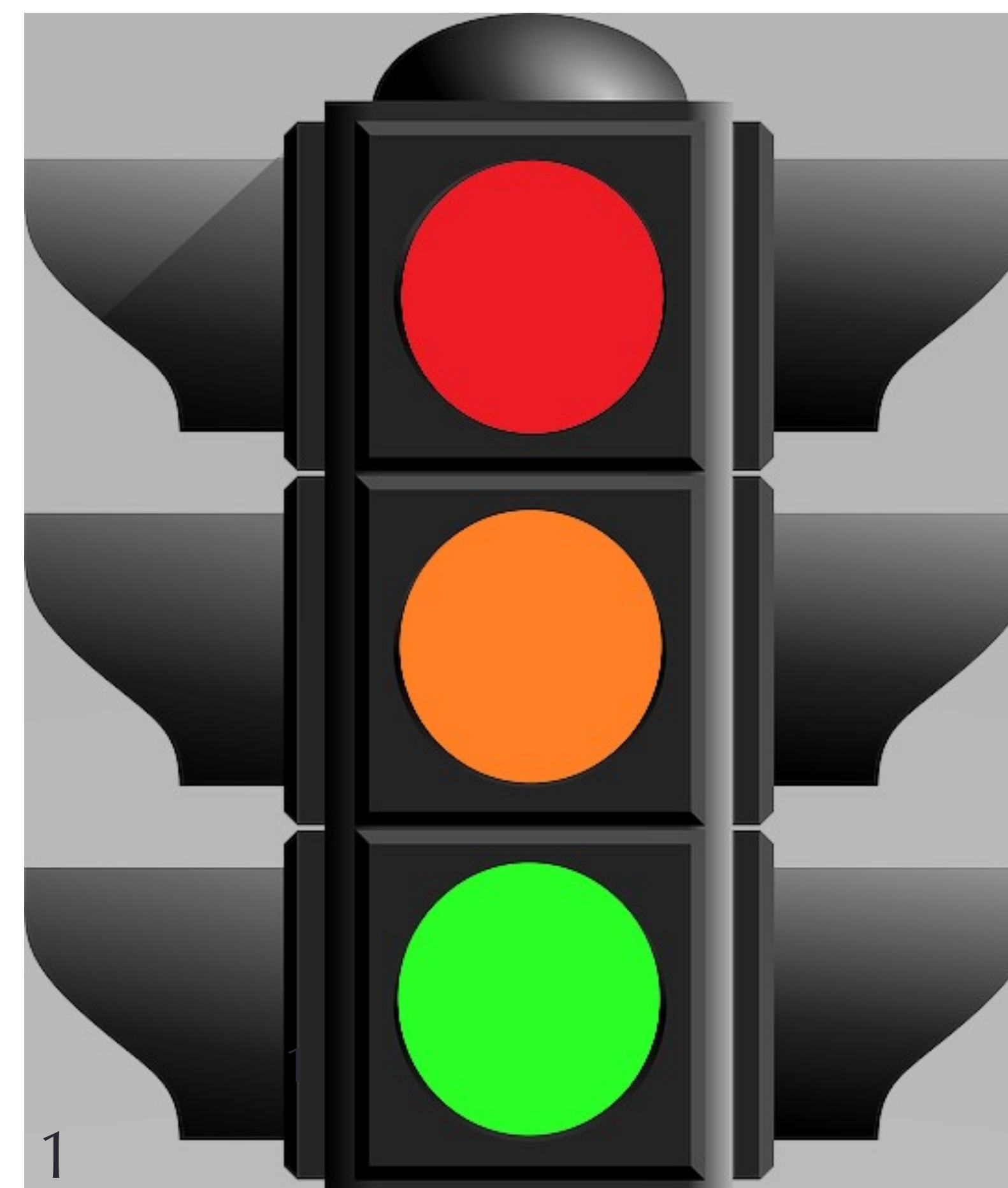
No independent verification

## SOLUTION

Independent score computation



Performance metric on top of scores



## VALIDATION

Hour	Address	Missed		Score	
		local	Ripple	local	Ripple
May 25 <sup>th</sup> 2020, 11:02:59 CET, 9 hours					
1	NePRTw	0	0	1.0000	0.0000
2	yMRWJW	5	0	0.9947	1.0000
	ZDfnYe	5	0	0.9947	1.0000
	NePRTw	0	0	1.0000	0.0000
3	NePRTw	0	0	1.0000	0.0000
4	NePRTw	0	0	1.0000	0.0000
5	ZDfnYe	1	11	0.9989	0.9884
	NePRTw	0	0	1.0000	0.0000
6	GgPBjP	7	16	0.9926	0.9831
	NePRTw	0	0	1.0000	0.0000
7	NePRTw	0	0	1.0000	0.0000
8	ZDfnYe	5	0	0.9947	1.0000
	NePRTw	0	0	1.0000	0.0000
9	KzD6Hv	0	5	1.0000	0.9947
	ZDfnYe	0	8	1.0000	0.9916
	NePRTw	0	0	1.0000	0.0000
May 26 <sup>th</sup> 2020, 10:19:08 CET, 14 hours					
2	ZDfnYe	8	0	0.9915	1.0000
	yMRWJW	10	0	0.9894	1.0000
	DHn7GK	10	0	0.9894	1.0000
4	ZDfnYe	11	0	0.9883	1.0000
	yMRWJW	9	0	0.9904	1.0000
	DHn7GK	9	0	0.9904	1.0000
5	ZDfnYe	0	13	1.0000	0.9863
	ZDfnYe	6	0	0.9936	1.0000
	yMRWJW	6	0	0.9936	1.0000
	DHn7GK	8	0	0.9915	1.0000
7	QVajam	0	26	1.0000	0.9723
8	ZDfnYe	9	0	0.9904	1.0000
	yMRWJW	11	0	0.9883	1.0000
	DHn7GK	11	0	0.9883	1.0000
9	ZDfnYe	0	6	1.0000	0.9936
10	ZDfnYe	5	0	0.9947	1.0000
11	KzD6Hv	0	6	1.0000	0.9937
12	ZDfnYe	8	0	0.9915	1.0000
	yMRWJW	13	0	0.9863	1.0000
	DHn7GK	13	0	0.9863	1.0000
May 27 <sup>th</sup> 2020, 12:49:19 CET, 7 hours					
1	ZDfnYe	8	14	0.9916	0.9853
	KzD6Hv	0	7	1.0000	0.9926
	QVajam	34	0	0.9642	1.0000
	yMRWJW	9	0	0.9905	1.0000
	DHn7GK	11	0	0.9884	1.0000
2	QVajam	4	9	0.9958	0.9905
3	ZDfnYe	6	0	0.9937	1.0000
	yMRWJW	8	0	0.9916	1.0000
	DHn7GK	7	0	0.9926	1.0000
7	yMRWJW	5	0	0.9945	1.0000
	DHn7GK	7	0	0.9923	1.0000
May 28 <sup>th</sup> 2020, 12:54:15 CET, 7 hours					
5	yMRWJW	9	0	0.9902	1.0000
7	yMRWJW	7	0	0.9924	1.0000
	ZDfnYe	7	0	0.9924	1.0000
	KzD6Hv	0	6	1.0000	0.9935

As reliable as Ripple?

Yes!  
 < 0.1% disagreement

Table 4: Validator scores per hour for the validators that our local program and the Ripple score did not agree on. It turns out that in less than 0.1% of the submissions there is disagreement. If missed and score report 0 simultaneously Ripple had no data on this validator. Validator wvey8j is left out completely because it was unreliable.

## CONCLUSION

My program, with the introduced metric, can help validator operators judge their validator's performance