1 The main concept

1.1 Assumptions

This document is a proposal of an implementation of the reputation model described in the "Microeconomic Golem Reputation"[1], and thus accepts all assumptions made there, most important being the expected utility maximization.

Additional assumptions we'll accept in this section:

1. The ground truth about all invoices on the market (amount, sender, receiver) is known.
2. Obtaining & parsing the data about invoices/payments costs no money and/or time.
3. The only information provider cares about is "how much I will be paid?" and the only information requestor cares about is the quality of the services received.

They are questionable even as approximations, we'll weaken them for the more "real-life" scenario in the further part of the document.

1.2 General idea

The full knowledge about invoices and payments gives us a crude approximation of the "reputation-like" information:

1. Provider POV: the requestor who paid bigger part of their past invoices will more likely pay another invoice than another requestor who paid less past invoices.
2. Requestor POV: the provider whose invoices are usually paid more likely provides high quality services than a provider who is paid only rarely or never.

Justification behind these statements:

- Both first and second: agent's strategy rarely changes, so it's likely that when trading with us they will behave similarly to the way they behaved in the similiar past situations.
- Secod: if a requestor doesn't pay the provider, they are less likely to trade with them in the future (e.g. because of a provider's local history), and thus requestors more often pay providers they want to trade with, and those are more likely the providers we want to trade with.

[1] https://github.com/golemfactory/golem-architecture/blob/jb/microeconomy-reputation/reputation/microeconomic_reputation.pdf [TODO - beter url when this is merged to some final location]