
HUMAN EVOLUTION



for more information: [Retro.io](https://retro.io)



Invention of Bicycle, Human Evolution & Retrospectives



**RETROSPECTIVES
EVOLUTION**

Let's Evolve!



The first modern humans, evolved from their early hominid predecessors between 200,000 and 300,000 years ago.

Life was very trivial and basic until the first breakthrough in human evolution came when they developed the capacity to build basic stone tools.

With the passage of time, as humans evolved, the pace of



RETROSPECTIVES EVOLUTION

Let's Evolve!



innovations rose. They developed language. People experimented with diverse raw materials , the level of craftsmanship increased, and different groups sought their own distinct cultural identity and adopted their own ways of making things.

But still humans did not make a lot of progress. Life was basic and hard. It was the invention of



RETROSPECTIVES EVOLUTION

Let's Evolve!



the wheel that gave humans the much needed momentum for evolution. Eventually, from the wheels, bicycle was introduced and from that point, human progress became exponential.

In fact a 1973 study measured the efficiency of locomotion for various species on the planet. It concluded that the condor used the least amount of energy to move a kilometer. And, humans



RETROSPECTIVES EVOLUTION

Let's Evolve!



with a rather unimpressive showing, about a third of the way down the list. It was not too proud a showing for the crown of creation.

So, that didn't look so good. But, then somebody at Scientific American had the insight to test the efficiency of locomotion for a man on a bicycle.

And, a man on a bicycle, a human on a bicycle, blew the



RETROSPECTIVES EVOLUTION

Let's Evolve!



condor away, completely off the top of the charts. It is worth asking why such an apparently simple device as the bicycle should have had such a major effect on the acceleration of human evolution.

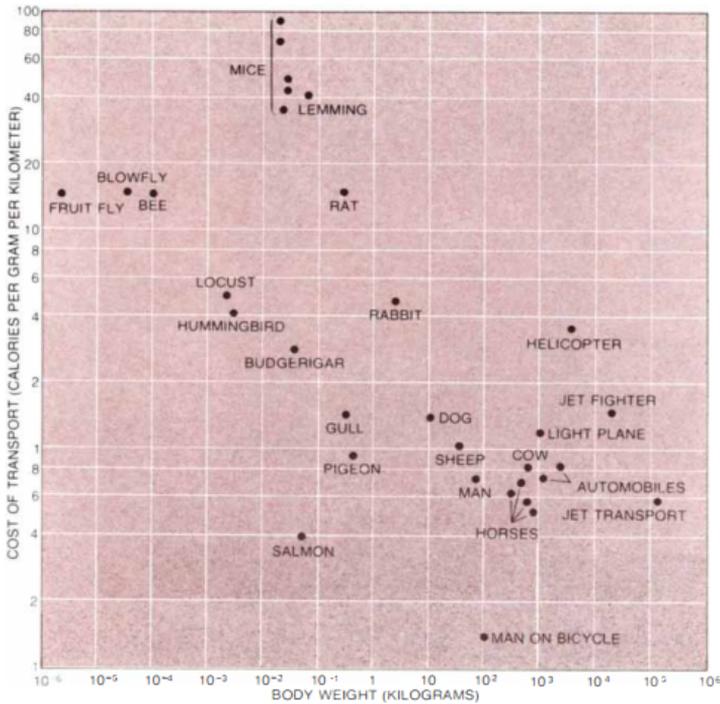
The answer surely lies in the sheer humanity of the machine. Its purpose is to make it easier for an individual to move about, and this the bicycle achieves in a way



RETROSPECTIVES EVOLUTION

Let's Evolve!

that quite outdoes natural evolution.



MAN ON A BICYCLE ranks first in efficiency among traveling animals and machines in terms of energy consumed in moving a certain distance as a function of body weight. The rate of energy consumption for a bicyclist (about .15 calorie per gram per kilometer) is approximately a fifth of that for an unaided walking man (about .75 calorie per gram per kilometer). With the exception of the black point representing the bicyclist (*lower right*), this graph is based on data originally compiled by Vance A. Tucker of Duke University.



RETROSPECTIVES EVOLUTION

Let's Evolve!



And this is entirely true for the nature of software development evolution and the invention of the Agile/ SCRUM process and the birth of retrospectives.

Acceleration of development & invention of SCRUM

In 1937 the first electronic digital computer was built by Dr. John V. Atanasoff. As the technological breakthrough continued to



RETROSPECTIVES EVOLUTION

Let's Evolve!



happen the computer continued to evolve. And along with the computer, programming languages evolved. With this new emerging technologies and requirements the software development process also evolved from punching cards to complex programming languages.

Thus the humans decided to invent some processes which can



RETROSPECTIVES EVOLUTION

Let's Evolve!



govern the software development.

The very first and successful process was waterfall model. The waterfall model, documented in 1970 by Royce was the first software development life cycle model.

The waterfall model describes a development method that is linear and sequential. In a similar



RETROSPECTIVES EVOLUTION

Let's Evolve!



fashion as invention of wheels
lead to the invention of bicycle.
The invention of waterfall model
lead to the development of
SCRUM model.

Perhaps the most significant
addition in the SCRUM model
was the invention of the
Retrospectives.



RETROSPECTIVES EVOLUTION

Let's Evolve!



Observance:

The process of software development is a constant battle and struggle. And every SCRUM team very often finds itself facing bad situations, struggles, difficulties, and a constant stream of challenges both from inside and outside of the team.

The ability of a team to operate at its best is based on iterative



**RETROSPECTIVES
EVOLUTION**

Let's Evolve!



improvement process. Just like a human on bicycle was able to beat the natural evolution. A development team on the iterative improvement process will be able to overcome all the problems.

But it's easier said than done, everyone understands the need for change in abstract. But on the day-to-day level people are



RETROSPECTIVES EVOLUTION

Let's Evolve!



creatures of habit. Too many tries of improvement is traumatic and will lead to revolt.

Human psychology contains many dualities, one of them being that even while people understand the need for change, knowing how important it is for them, they are also irritated and upset by changes that affect them personally. They know that



RETROSPECTIVES EVOLUTION

Let's Evolve!



change is necessary, but deep inside they wish to avoid it. Change in the abstract, or superficial change, they desire, but a change that upsets core habits and routines is deeply disturbing to them.

The lesson is simple: We are a creature of habit, although your team will be regularly running retrospectives, but it's very



RETROSPECTIVES EVOLUTION

Let's Evolve!



seldom that they will be able to bring any substantial changes by themselves.

The trick is to understand our inherent ability to fallback into our old habits. To avoid this you need to evolve your retrospectives with time, and to achieve this you need a systematic approach. Create a log of all the problems discussed



RETROSPECTIVES EVOLUTION

Let's Evolve!



in your retrospectives, try to extract a pattern of complaints, a pattern of things going well, what problems people are repeatedly discussing, and what kind of internal and external conflicts they are facing.

Based on this data you need to introduce major changes, measure its impact, refine and execute it again. If done right,



RETROSPECTIVES EVOLUTION

Let's Evolve!



this will put your team on the right path, With the passage of time your retrospectives will evolve, the pace of improvements will increase and you will see your team getting better and better and is embracing the changes happily.



RETROSPECTIVES EVOLUTION

Let's Evolve!

References:

-<https://gizmodo.com/how-did-the-bicycle-evolve1723711111>

-<https://www.livescience.com/7968-human-evolution-origin-tool.html>

<http://humanorigins.si.edu/evidence/behavior/st-one-tools>

-<http://www.bikeboom.info/efficiency/>

-<https://www.livescience.com/7968-human-evolution-origin-tool.html>

-<https://www.smithsonianmag.com/science-nature/a-salute-to-the-wheel-31805121/>

-<https://interestingengineering.com/history-and-evolution-wheel>

-<https://www.123helpme.com/evolution-of-bicycles-throughout-history-preview.asp?id=292087>



RETROSPECTIVES EVOLUTION

Let's Evolve!



References:

- <https://www.ukessays.com/essays/information-technology/the-history-of-the-waterfall-model-information-technology-essay.php>
- <https://www.vikingcodeschool.com/software-engineering-basics/a-brief-history-of-software-engineering>
- <https://www.visual-paradigm.com/scrum/what-is-the-evolution-of-scrum/>
- <https://www.onlinecollegeplan.com/computer-programming-languages/>



RETROSPECTIVES EVOLUTION

Let's Evolve!

REETRO.IO

Every scrum master runs into the same fundamental problems.

Prepare for the retrospective meeting, ask for the feedback, track action items, engage unmotivated team members, manage unplanned activities, and avoid distractions.

The good news? Reetro solves all of them.

<https://reetro.io>