Feasibility of using **GPS or other positioning means** instead of punching in orienteering in the future

IOF ITC open meeting 10th July

In X years Y% of competitions will be held without physical controls in the terrain

”Natural development in the long term when technology improves”

Why do we want to go this way?

- Easier to organize small competitions
  - Lower cost for organizing; do not need controls in the forest
  - Possible to have more flexible time schedule for competitions (e.g. results made for all runs within period of 7 days)
  - Equipment cost lower for organizer; mobile phone could be used for participants to reduce equipment cost also for participants
  - No problem with lost controls
- Easier to spread the sport to new areas with little orienteering knowledge
  - Centralized organization possible
  - Need less skilled orienteering people in areas where the sport is to be spread

Why do we want to go this way? (2)

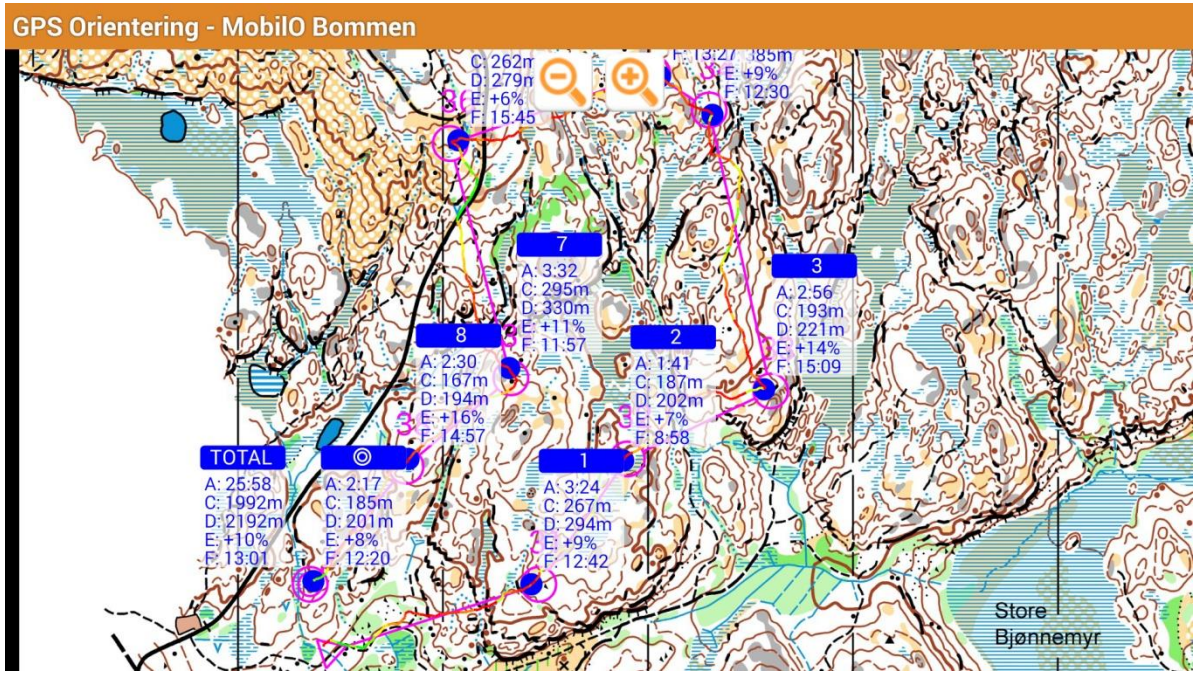
- Possibility to spread to new types of orienteers
  - Mobile phone type format attractive to young people
- Different formats attractive for different groups
  - Signal when at control point (intermediate level)
  - No signal when at control point, evaluation after race (expert level)
  - Map with position on mobile phone/tablet (beginners)
  - “Strava” type of services – “Leaderboards”

Technology status today

- GPS has today effectively accuracy where you can evaluate control checkpoints within approximately 20-25 meters in many areas
  - Exception: Very hilly areas, urban areas with high houses (e.g. as we saw in Trento)
  - Necessary to make sure there is good GPS fix at start of race
  - Currently doing evaluation in different terrains through project “WorldofO Leaderboards”
- Some improvement for GPS+GLONASS in certain areas, but no other technology currently ready to be used

Systems available today

- Mobile phone apps for evaluation of orienteering races
  - “Virtual Orienteering” App
  - “GPS Orientering” App
  - Others ..



WorldofO Leaderboards

- Evaluation of races post-race with GPS

Course overview | About WorldofO Leaderboards | Add course

WorldofO Leaderboards: The N

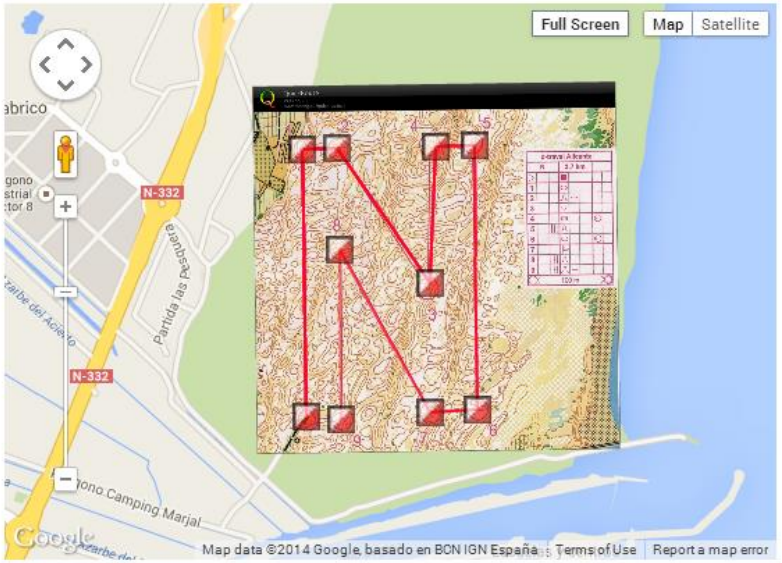
Leaderboard: All runners

Choose Leaderboard category

1.	16:14	Thierry Gueorgiou	2014-01-07,	3:04, 0:21, 1:57, 1:48, 0:34, 3:20, 0:37, 2:43, 1:50
2.	16:48	Thierry Gueorgiou	2010-01-02, TG 2010	3:09, 0:24, 2:04, 2:03, 0:39, 3:19, 0:42, 2:34, 1:54
3.	16:49	Thierry Gueorgiou	2011-01-16, TG 2011	3:10, 0:25, 2:08, 1:51, 0:39, 3:19, 0:41, 2:40, 1:56
4.	17:39*	Thierry Gueorgiou	2009-01-02, TG 2009	3:14, 0:29, 2:19, 2:00, 0:42, 3:29, 0:45, 2:57, 1:44
5.	23:04*	Ivar Lundanes	2014-02-12, Ivar Lundanes	4:04, 0:34, 3:15, 2:14, 0:46, 5:01, 0:43, 3:59, 2:28
6.	24:18	Isak Bergset	2014-01-11, Isak Bergset	5:03, 0:38, 2:55, 2:39, 0:49, 4:19, 0:58, 4:35, 2:22
7.	26:10	Kent Ohlsson	2012-01-19,	3:38, 0:29, 2:39, 2:12, 2:18, 7:09, 0:59, 4:17, 2:29
8.	35:43	Ralph Nixon	2014-02-12, Ralph Nixon	6:32, 0:37, 4:15, 2:50, 0:53, 4:16, 1:03, 12:42, 2:35
9.	38:42	Raul Ferra	2014-02-12,	8:26, 1:26, 4:27, 3:17, 0:58, 6:29, 1:18, 9:01, 3:20

Splitsbrowser » | Open selected in 2DRerun »

Course: The N

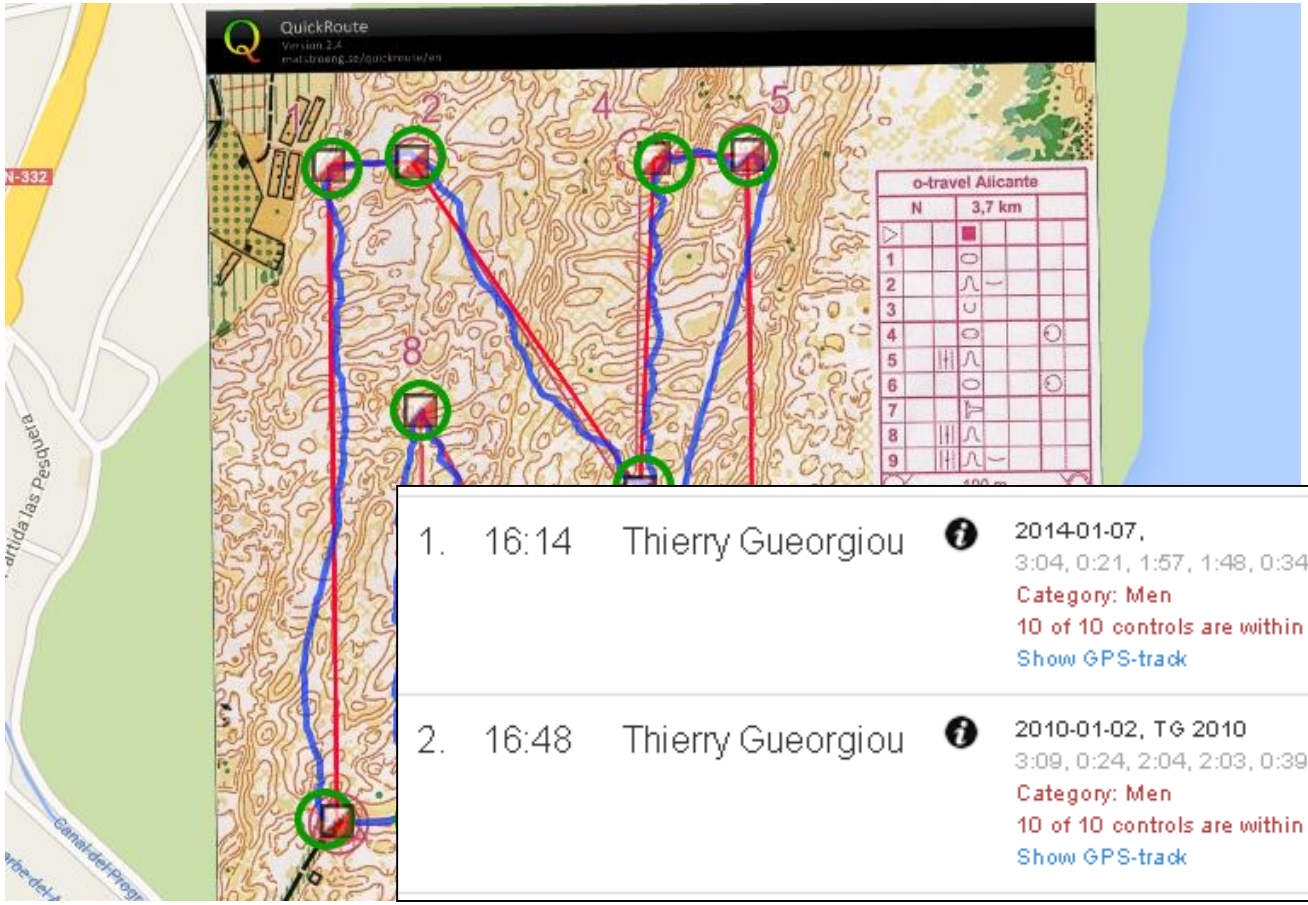


Hide orienteering map

Course name The N

WorldofO Leaderboards

- Evaluation of races post-race with GPS



Technology outlook

- Galileo – improved positioning accuracy, also in cities. Expected fully built-out by 2019
- “Indoor positioning” initiatives are being pursued by several commercial parties; local magnetic fields, etc.
- Evaluation system
  - Mobile phones will get new capabilities first – probably best way to go for evaluation system.
  - Alternative: Build into today’s time keeping systems (EMIT, SI) – also other advantages with this

Implications

- Need to allow “checkpoint” radius to be bigger than today’s “touch the control point”
  - 20-25 meters (going down over time).
  - Goes against today’s development with more and more accurate maps
- More technology dependent – will probably not be 100% failsafe at first
  - Only for smaller competitions (at least from the start)

5?

10%?

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