

Flagstick Pace Tool

Matt Pringle

Technical Director, USGA

Ross Galarneault

Director New Business Development, GHIN and Handicapping, USGA

Adam Rusciolelli

Vice President of Product Development, Spectrum Technologies

PRESENTED BY THE **USGA** 





Recommendation #1: In order to have control over pace of play, we must be measuring and controlling the relevant parameters

Check Point Pace of Play

114th U.S. AMATEUR CHAMPIONSHIP®

Tuesday, August 12, 2014 -- Round 2 / Atlanta Athletic Club - Riverside Course

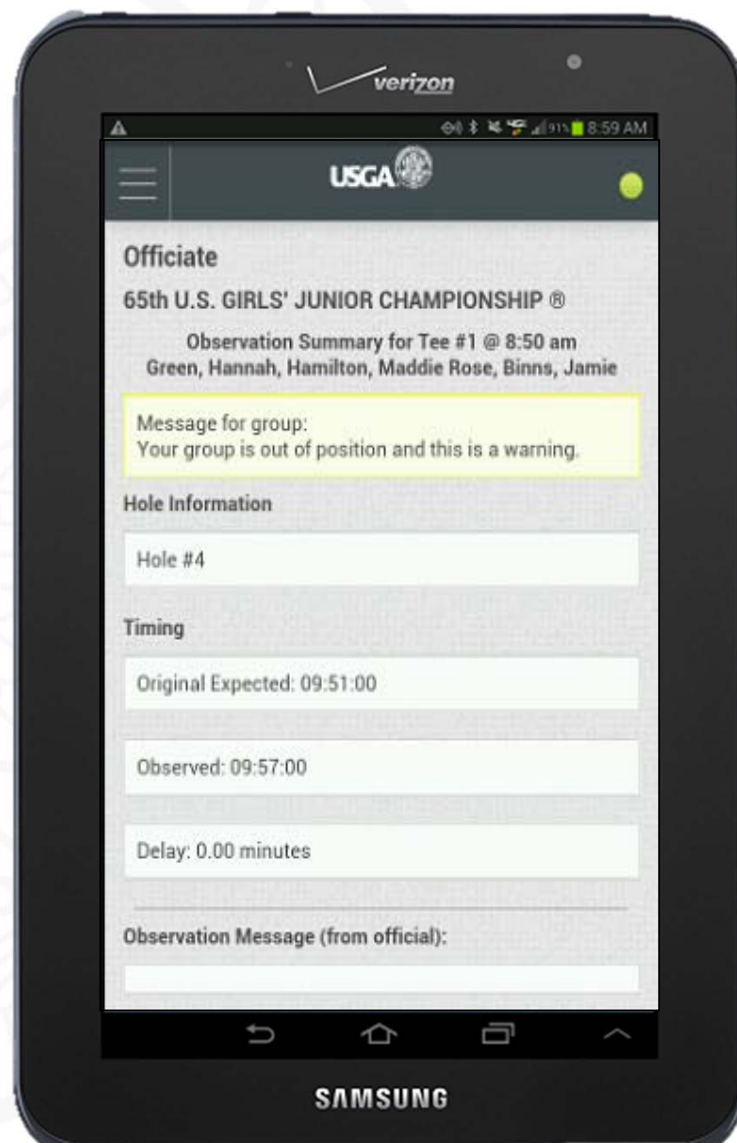


Check Point Worksheet for Hole 18

Tee #1 Starting at 12:45 pm			Adjusted Start or Delay	Expected / Adjusted Finish	Previous + 14 Minutes	Actual Finish Time	+/- from Expected (Adjust.)	+/- 14 Min. from Previous	Actions, Observations or Notes
14	12:45	Toby Tree (40) Theo Humphrey (41) Jack Cornslook (42)		5:28					Warning One Stroke Two Strokes
15	12:55	Rico Hoey (43) Austin Truslow (44) Danny Lovell (46)		5:38					Warning One Stroke Two Strokes
16	1:05	Cody Seal (48) Kyle DeSilva (47) Ethan Freeman (48)		5:48					Warning One Stroke Two Strokes
17	1:15	Alec Talty (48) Ben Reeves (50) Todd Sinnott (51)		5:58					
18	1:25	Derek Bard (52) Kyle Weldon (53) Matthew Bassler (54)		6:08					
19	1:35	Julien Brun (56) Kade McBride (58) Jack Watson (57)		6:18					
20	1:45	James Fahy (58) Robby Shelton (58) Brian Komline (80)		6:28					
21	1:55	Andrew Dorn (81) Justin Tereshko (82) Brandon Sletmoen (83)		6:38					
22	2:05	Andrew Ward (84) Emilio Cuartero (86) McCormick Clouser (88)		6:48					
23	2:15	Andrew Hans (87) Kyle Hoffman (88) Chris Crawford (88)		6:58					
24	2:25	Bradley Neil (70) Derek Castillo (71) Beau Hossler (72)		7:08					
25	2:35	John Pate (73) Andrew Lawson (74) Zach Seabolt (76)		7:18					Warning One Stroke Two Strokes
26	2:45	Dominic Foss (78) Blake Kennedy (77) Ell Hendricks (78)		7:28					Warning One Stroke Two Strokes



Pace of Play “App”









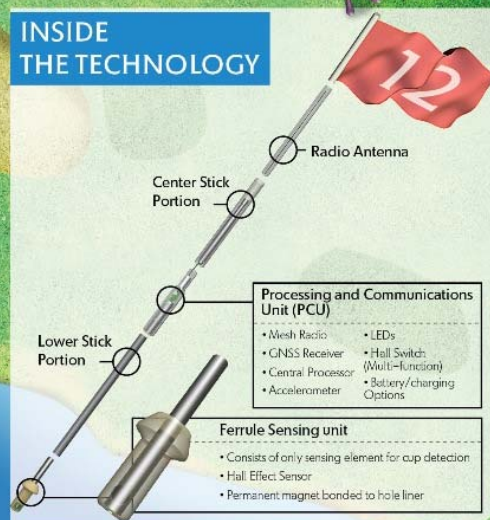
Tool for Monitoring Pace of Play

The best way to avoid delays on the course is for facility operators to identify and clear backups before they impact other golfers on the course. The USGA has worked with Spectrum Technologies to develop a flagstick-based tool that will allow just a single person to keep track of all the golfers on the course. So if one group has trouble on a hole, the facility operator can get that group back on pace and prevent delays that would have rippled down to every subsequent group. Here is a quick look at the technology and how it helps prevent backups that decrease golfer enjoyment and add to round times.

HOW IT WORKS

1 The device records when group 1 puts the flagstick in hole after putting out.

INSIDE THE TECHNOLOGY



2 Group 2 pulls out the flagstick and putts.

3 The device records when group 2 replaces the flagstick after finishing the hole.

5 If a group has a longer-than-expected "cycle time," a marshal can get them back on track in just minutes instead of letting the delay add to the waits and playing times of the following groups on the course.

4 The device sends the duration between the groups, called "cycle time," to a central source: computer, tablet or smartphone.



Spectrum Technologies – History

- 27 years of serving customers in over 75 countries
- Technology company specializing in weather monitoring and plant measurement
 - Specialty products
 - Decision-making tools
- 21 AE50 innovation awards – ASABE
- Expertise in agriculture, horticulture, turf, ecology, and research industries
- Ideal balance of precision, quality, and value



Spectrum Technologies, Inc.

- **Our Mission** – Turning plant measurements into information for profitable decisions
- **Our Vision** – Developing and marketing the most advanced plant measurement technologies
- **Our Goal** – Serving as a valued partner of our customers' research or production team



FieldScout TruFirm

- Self contained, lightweight mechanism that simulates the impact of a golf ball and measures the firmness of turf and bunker sands





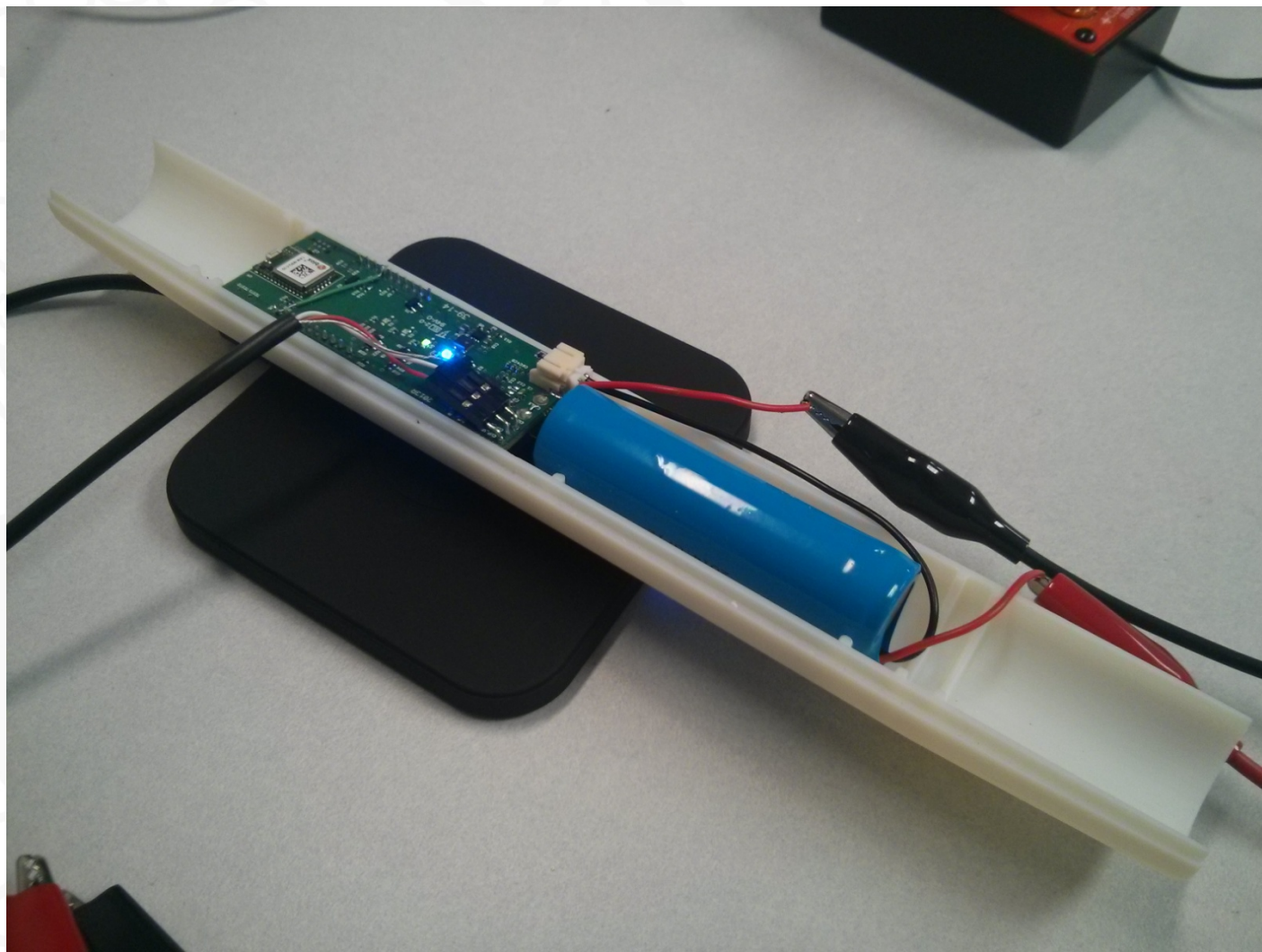
Radio Antenna

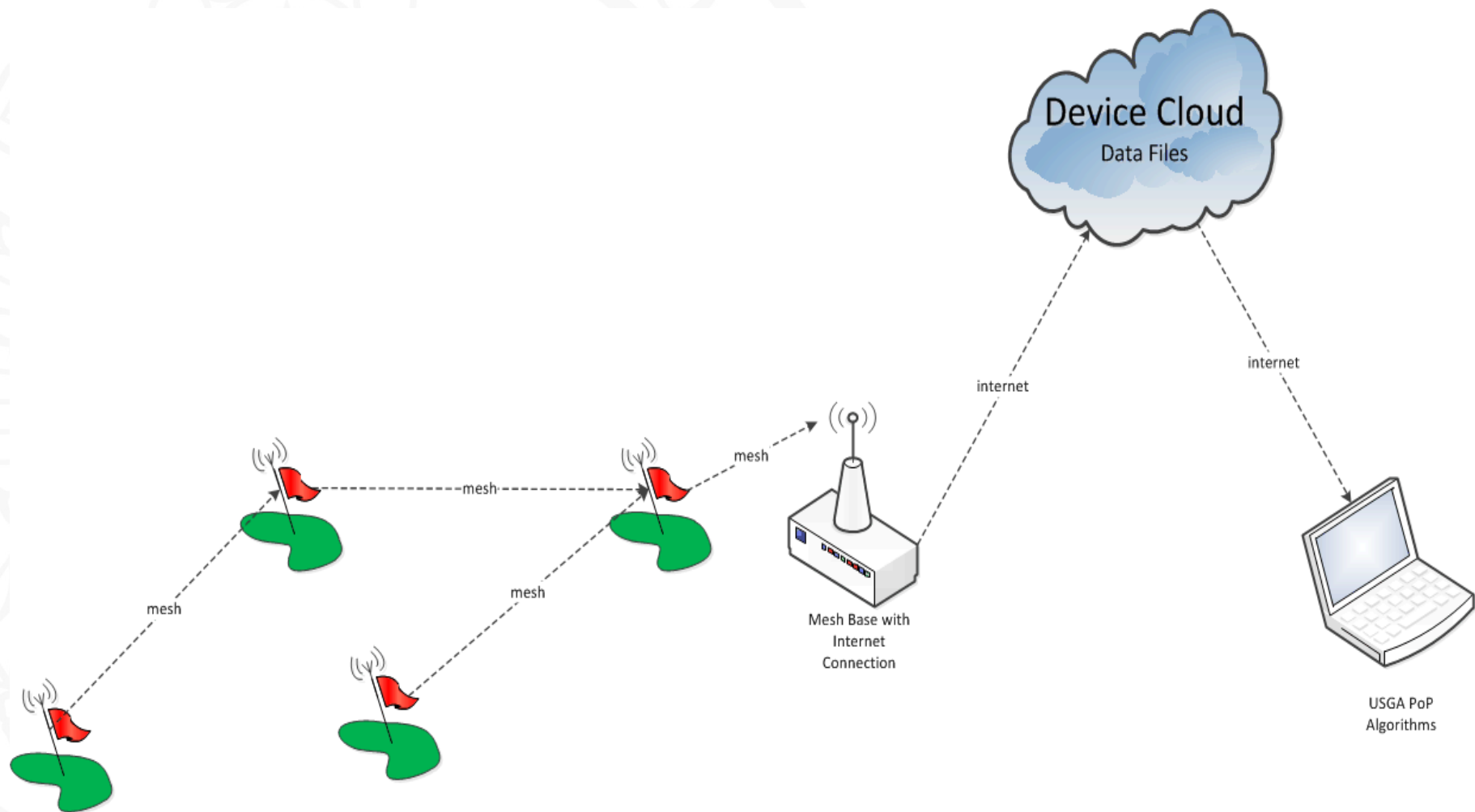
Processing and Communications Unit

- Mesh Radio
- GPS Receiver
- Central Processor
- LEDs
- Hall Switch (multi-function)
- Battery/Charging Options

Ferrule Sensing Unit

UNITED STATES GOLF ASSOCIATION





Key Operational Points

- Play is unaffected
- Rugged
- Long battery life (\approx 28 days)
- Simple, wireless charging rack
- GPS (any flag in any hole)
- Simple dashboard, any device