

CLAIMS

1. A roulette wheel reading apparatus for triangulating a roulette ball position in a pocket of a roulette wheel, the apparatus comprising:
 - 5 a triangulation sensor, a roulette wheel position sensor, and a processor; wherein the triangulation sensor comprises:
 - a first signal emitter arranged to emit a first signal toward a location within a pocket of a roulette wheel comprising a plurality of roulette wheel pockets; and
 - 10 a second signal emitter arranged to emit a second signal toward the location;
 wherein the triangulation sensor further comprises:
 - 15 a signal receiver positioned to receive a first reflection of the first signal at a first receipt time and arranged to output the first receipt time, the signal receiver being further positioned to receive a second reflection of the second signal at a second receipt time and arranged to output the second receipt time; wherein the first reflection and the second reflection originate from said roulette ball;
 the roulette wheel position sensor being arranged to detect and output a position of one or more of the plurality of roulette wheel pockets relative to the location;
 the processor being arranged to:
 - receive the first receipt time, the second receipt time and the position;
 - calculate a time difference between the first receipt time and the second receipt time;
 - 25 - identify that the time difference is within a predetermined time difference threshold;
 - identify, using the position, the pocket of the roulette wheel; and
 - output the pocket of the roulette wheel as a roulette result.
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2. A roulette wheel reading apparatus as claimed in claim 1, wherein the apparatus further comprises:
 - a memory, and
 - wherein the processor is arranged to store on the memory at least one of: the first receipt time; the second receipt time; the position; the pocket as a roulette result.
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3. A roulette wheel reading apparatus as claimed in claim 1 or claim 2, wherein the apparatus further comprises
a display screen in digital communication with the processor, and wherein the display screen is arranged to display an indication of the pocket as a roulette
5 result.
4. A roulette wheel reading apparatus as claimed in claim 3, wherein the display screen is arranged to display a series of indications of previous roulette results.
- 10 5. A roulette wheel reading apparatus as claimed in any one of the preceding claims, wherein the first signal emitter and the second signal emitter are arranged to emit a signal having a signal type selected from the group: acoustic; infrared; near infrared; ultraviolet; any suitable region of the electromagnetic spectrum.
- 15 6. A roulette wheel reading apparatus as claimed in claim 5, wherein the signal receiver is arranged to receive a signal having the signal type.
7. A roulette wheel reading apparatus as claimed in claim 5 or claim 6, wherein the first signal emitter and the second signal emitter are optical emitters.
- 20 8. A roulette wheel reading apparatus as claimed in any one of the preceding claims, wherein the first signal emitter is arranged to emit the first signal in a first direction toward the location, and wherein the second signal emitter is arranged to emit the second signal in a second direction toward the location, wherein the first direction and the second direction are different.
- 25 9. A roulette wheel reading apparatus as claimed in claim 8, wherein the first signal describes a first signal trajectory in the first direction, and wherein the second signal describes a second signal trajectory in the second direction, wherein the first signal trajectory and the second signal trajectory intersect to describe an angle therebetween, the angle being selected from the range: 0° to 90° .
- 30 10. A roulette wheel reading apparatus as claimed in claim 9, wherein the angle is selected from the range: 5° to 25° .
- 35 11. A roulette wheel reading apparatus as claimed in any one of the preceding claims wherein the first reflection describes a first reflection trajectory toward the signal receiver, and the second reflection describes a second reflection trajectory toward the

signal receiver, wherein the first reflection trajectory and the second reflection trajectory are coincident.

12. A roulette wheel reading apparatus as claimed in any one of the preceding claims,
5 wherein the apparatus further comprises one or more additional signal emitters, each of the additional signal emitters being arranged to emit a corresponding additional signal toward the location.
13. A roulette wheel reading apparatus as claimed in claim 12, wherein the signal receiver
10 is arranged to receive a corresponding reflection of each additional signal at a corresponding receipt time.
14. A roulette wheel reading apparatus as claimed in claim 13, wherein said corresponding reflection originates from the roulette ball.
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15. A roulette wheel comprising a roulette wheel bowl and a roulette wheel wheelhead, the roulette wheel wheelhead having a circumferential pocket region comprising a plurality of pockets, the roulette wheel further comprising a roulette wheel reading apparatus comprising a triangulation sensor, a roulette wheel position sensor, and a processor;
20 wherein the triangulation sensor comprises:
- a first signal emitter arranged to emit a first signal toward a location within a pocket of a roulette wheel comprising a plurality of roulette wheel pockets; and
- a second signal emitter arranged to emit a second signal toward
25 the location;
- wherein the triangulation sensor further comprises:
- a signal receiver positioned to receive a first reflection of the first signal at a first receipt time and arranged to output the first receipt time, the signal receiver being further positioned to receive a second reflection of the second signal at a second receipt time and arranged to
30 output the second receipt time; wherein the first reflection and the second reflection originate from said roulette ball;
- the roulette wheel position sensor being arranged to detect and output a position of one or more of the plurality of roulette wheel pockets relative to the
35 location;
- the processor being arranged to:
- receive the first receipt time, the second receipt time and the position;

- calculate a time difference between the first receipt time and the second receipt time;
 - identify that the time difference is within a predetermined time difference threshold;
 - 5 - identify, using the position, the pocket of the roulette wheel; and
 - output the pocket of the roulette wheel as a roulette result.
16. A roulette wheel as claimed in claim 15, wherein the roulette wheel reading apparatus is a roulette wheel reading apparatus as claimed in any one of claims 1 to 14.
- 10 17. A roulette wheel as claimed in claim 15 or claim 16, wherein the first and second signal emitters are positioned at fixed points on the roulette wheel.
18. A method of triangulating a roulette ball position in a pocket of a roulette wheel, the method comprising the steps of:
- 15 - emitting, by a first signal emitter, a first signal toward a location within a pocket of a roulette wheel comprising a plurality of roulette wheel pockets;
- emitting, by a second signal emitter, a second signal toward the location;
- 20 - receiving, by a signal receiver, a first reflection of the first signal at a first receipt time and arranged to output the first receipt time;
- receiving, by the signal receiver, a second reflection of the second signal at a second receipt time and arranged to output the second receipt time;
- calculating a time difference between the first receipt time and the second receipt time;
- 25 - identifying that the time difference is within a predetermined time difference threshold;
- identifying a position of the roulette wheel;
- identifying, using the position, the pocket of the roulette wheel; and
- 30 - outputting the pocket of the roulette wheel as a roulette result.
19. A method as claimed in claim 18, wherein method further comprises the step of:
- storing, by a memory, the pocket as a roulette result.
- 35 20. A method as claimed in claim 18 or claim 19, wherein the method further comprises the step of:
- displaying, by a display screen, an indication of the pocket as a roulette result.