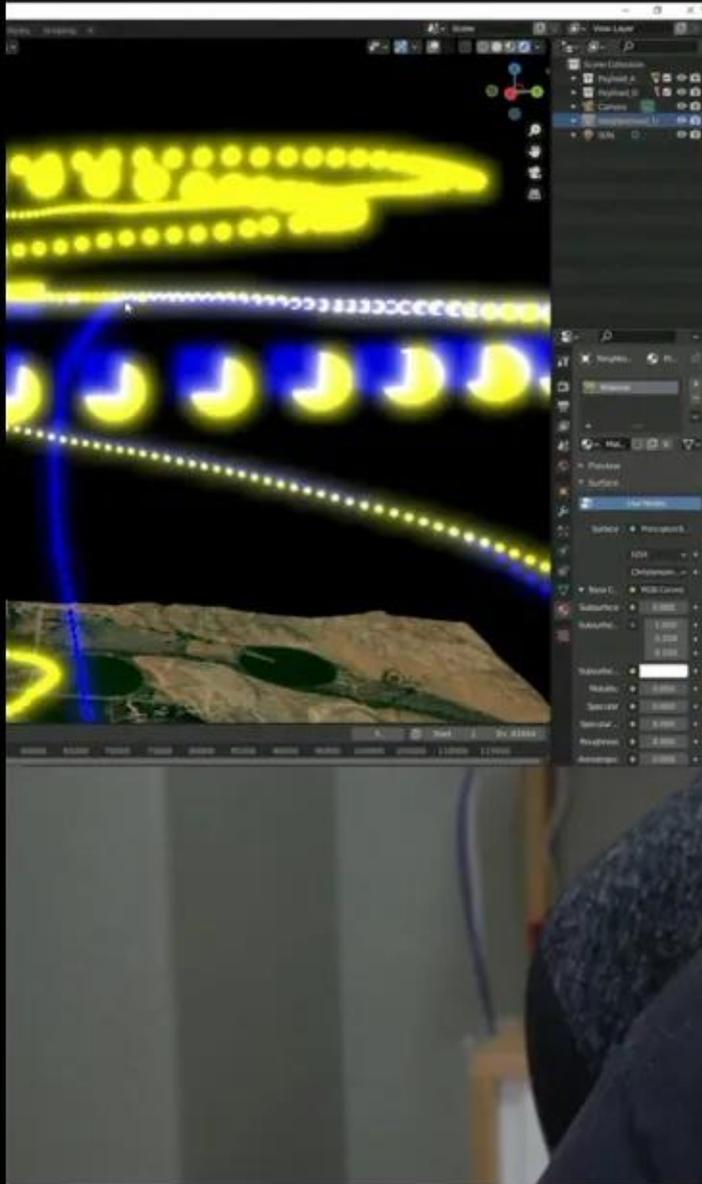


Can we see the
**BOTTLE
DROP
DATA?**
PLEASE?



1
00:00:06,170 --> 00:00:03,409
hello uh this video is directed towards

2
00:00:07,130 --> 00:00:06,180
Eric Bard specifically Brandon fogle to

3
00:00:09,890 --> 00:00:07,140
a degree

4
00:00:12,470 --> 00:00:09,900
now yesterday Eric Bard was asked about

5
00:00:14,209 --> 00:00:12,480
my request for data relating to the

6
00:00:16,430 --> 00:00:14,219
helicopter drop specifically talking

7
00:00:17,990 --> 00:00:16,440
about Mick West on Twitter where he

8
00:00:20,390 --> 00:00:18,000
asked specifically asked for just the

9
00:00:22,910 --> 00:00:20,400
raw data of I think it was the bottles

10
00:00:25,730 --> 00:00:22,920
that they threw out of the helicopter

11
00:00:27,470 --> 00:00:25,740
um and his response was that I need to

12
00:00:29,269 --> 00:00:27,480
understand the contacts and the data and

13
00:00:31,609 --> 00:00:29,279

the tools and the entire process and he

14

00:00:34,130 --> 00:00:31,619

went over a little bit of that it's

15

00:00:36,290 --> 00:00:34,140

logging internally in this case a GPS

16

00:00:38,209 --> 00:00:36,300

position I've got some code that I've

17

00:00:40,430 --> 00:00:38,219

written to go and parse the resulting

18

00:00:43,369 --> 00:00:40,440

files he thinks that I need to

19

00:00:45,709 --> 00:00:43,379

understand that before I can get to

20

00:00:48,170 --> 00:00:45,719

grips with the data so what I want to do

21

00:00:49,729 --> 00:00:48,180

is to basically demonstrate that I do

22

00:00:52,190 --> 00:00:49,739

actually kind of understand what's going

23

00:00:54,170 --> 00:00:52,200

on there and I I'm quite capable of

24

00:00:57,049 --> 00:00:54,180

doing things with that data

25

00:01:00,950 --> 00:00:57,059

so to recap the bottle drop experiment

26
00:01:02,810 --> 00:01:00,960
was carried out on Skinwalker Ranch and

27
00:01:04,729 --> 00:01:02,820
they thought there was anomaly an

28
00:01:07,070 --> 00:01:04,739
anomaly up in the air above this

29
00:01:08,870 --> 00:01:07,080
triangle area of the ranch and they

30
00:01:11,030 --> 00:01:08,880
thought they would drop bottles out of

31
00:01:13,850 --> 00:01:11,040
the helicopter to see what happened some

32
00:01:16,850 --> 00:01:13,860
of the bottles had GPS receivers in them

33
00:01:18,410 --> 00:01:16,860
which would record the GPS data

34
00:01:20,149 --> 00:01:18,420
there were a whole bunch of different

35
00:01:22,310 --> 00:01:20,159
bottles some of them were dummy bottles

36
00:01:24,289 --> 00:01:22,320
some of them had little cameras in and

37
00:01:25,550 --> 00:01:24,299
four of them had these GPS receivers

38
00:01:27,469 --> 00:01:25,560

which are also meant to transmit the

39

00:01:28,969 --> 00:01:27,479

data but that element of the experiment

40

00:01:30,710 --> 00:01:28,979

didn't work

41

00:01:34,490 --> 00:01:30,720

only one of these bottles was actually

42

00:01:37,429 --> 00:01:34,500

recovered with workable data now the

43

00:01:40,609 --> 00:01:37,439

data from these bottles is stored on a

44

00:01:42,710 --> 00:01:40,619

memory card in what is called nmea

45

00:01:45,170 --> 00:01:42,720

format which is the national Marine

46

00:01:47,090 --> 00:01:45,180

Electronics Association it's a very

47

00:01:49,609 --> 00:01:47,100

simple format it's just a text file with

48

00:01:51,469 --> 00:01:49,619

a series of letters and numbers in a

49

00:01:53,929 --> 00:01:51,479

kind of a comma separated value thing a

50

00:01:57,530 --> 00:01:53,939

kind of a bit like a spreadsheet

51
00:02:00,050 --> 00:01:57,540
and in this text file every second there

52
00:02:03,350 --> 00:02:00,060
is recorded a bunch of different things

53
00:02:07,850 --> 00:02:03,360
but most interestingly a GPS position it

54
00:02:11,029 --> 00:02:07,860
latitude a longitude and an altitude

55
00:02:13,070 --> 00:02:11,039
so what Eric did with this data was he

56
00:02:15,650 --> 00:02:13,080
took it and he converted it into a

57
00:02:17,690 --> 00:02:15,660
blender model now blender is a 3D

58
00:02:19,190 --> 00:02:17,700
program and it displays things in three

59
00:02:21,470 --> 00:02:19,200
dimensions so you can look at them from

60
00:02:23,630 --> 00:02:21,480
different different angles so to take

61
00:02:26,030 --> 00:02:23,640
the nmea data and convert it into

62
00:02:28,550 --> 00:02:26,040
blender isn't actually very complicated

63
00:02:31,070 --> 00:02:28,560

in fact it's a task you could ask chat

64

00:02:32,930 --> 00:02:31,080

gbt4 to do you could just do a very

65

00:02:34,369 --> 00:02:32,940

simple prompt and it will spit out the

66

00:02:36,470 --> 00:02:34,379

program and it would work

67

00:02:38,570 --> 00:02:36,480

uh but even if you didn't

68

00:02:40,010 --> 00:02:38,580

have ai to help you it's not a

69

00:02:42,350 --> 00:02:40,020

particularly complicated bit of code to

70

00:02:45,670 --> 00:02:42,360

write it's just taking the numbers from

71

00:02:49,430 --> 00:02:45,680

the right positions converting it from

72

00:02:51,470 --> 00:02:49,440

lla latitude longitude and altitude to a

73

00:02:53,990 --> 00:02:51,480

different coordinate system probably

74

00:02:56,509 --> 00:02:54,000

something like enu which is East North

75

00:02:58,910 --> 00:02:56,519

up which is a local frame of reference

76

00:03:00,229 --> 00:02:58,920

it's very simple well understood thing

77

00:03:03,050 --> 00:03:00,239

the type of thing I've done many many

78

00:03:04,970 --> 00:03:03,060

times before now there wasn't just one

79

00:03:06,949 --> 00:03:04,980

GPS track being displayed that was two

80

00:03:08,449 --> 00:03:06,959

the other one wasn't from a bottle

81

00:03:10,250 --> 00:03:08,459

though at least not from a bottle that

82

00:03:11,630 --> 00:03:10,260

was dropped from the helicopter because

83

00:03:13,910 --> 00:03:11,640

it showed the entire path of the

84

00:03:15,649 --> 00:03:13,920

helicopter going up flying around and

85

00:03:17,210 --> 00:03:15,659

then going back down again

86

00:03:19,670 --> 00:03:17,220

so that track might have actually come

87

00:03:22,490 --> 00:03:19,680

from the helicopter's GPS system perhaps

88

00:03:24,410 --> 00:03:22,500

an egg finder in the helicopter or

89

00:03:26,330 --> 00:03:24,420

perhaps something like the adsb data

90

00:03:27,770 --> 00:03:26,340

from the helicopter either way there

91

00:03:29,809 --> 00:03:27,780

we've got a one track which is the

92

00:03:32,270 --> 00:03:29,819

helicopter and another one which shows

93

00:03:33,530 --> 00:03:32,280

the bottle going up with the helicopter

94

00:03:36,350 --> 00:03:33,540

then being thrown out and then

95

00:03:39,770 --> 00:03:36,360

descending to the ground

96

00:03:41,809 --> 00:03:39,780

now uh Eric converted the data into this

97

00:03:43,250 --> 00:03:41,819

3D format and the team looked at it and

98

00:03:45,589 --> 00:03:43,260

in the show you see they're looking at

99

00:03:48,470 --> 00:03:45,599

the data on screen and they're pointing

100

00:03:51,530 --> 00:03:48,480

to the screen and they claim that there

101
00:03:52,729 --> 00:03:51,540
is a bounce something bounces well the

102
00:03:56,630 --> 00:03:52,739
bottle actually bounces off something

103
00:03:58,789 --> 00:03:56,640
and changes Direction in a radical way

104
00:04:01,070 --> 00:03:58,799
this is something that's quite hard to

105
00:04:02,809 --> 00:04:01,080
verify just by looking at this thing on

106
00:04:05,270 --> 00:04:02,819
on the screen especially for me what for

107
00:04:06,770 --> 00:04:05,280
what is being shown because it's very

108
00:04:09,229 --> 00:04:06,780
hard to look at a 3D perspective

109
00:04:10,789 --> 00:04:09,239
projection of something and see what

110
00:04:12,470 --> 00:04:10,799
it's actually doing when you're looking

111
00:04:14,270 --> 00:04:12,480
at things from a certain angle you get

112
00:04:15,649 --> 00:04:14,280
perspective for shortening things look

113
00:04:18,050 --> 00:04:15,659

very strange when you're looking

114

00:04:19,729 --> 00:04:18,060

straight at them versus looking at them

115

00:04:21,830 --> 00:04:19,739

from the side and with perspective

116

00:04:24,590 --> 00:04:21,840

things get even more strange

117

00:04:26,270 --> 00:04:24,600

so what I'd like to do is try to verify

118

00:04:29,330 --> 00:04:26,280

the claim that the model bounds up

119

00:04:31,850 --> 00:04:29,340

something and there's two ways two ways

120

00:04:34,370 --> 00:04:31,860

of analyzing this that I would do

121

00:04:36,530 --> 00:04:34,380

the first one is I would animate the

122

00:04:38,330 --> 00:04:36,540

data instead of just showing a static

123

00:04:40,430 --> 00:04:38,340

model just showing the path that it

124

00:04:42,890 --> 00:04:40,440

takes I show the actual thing moving

125

00:04:44,870 --> 00:04:42,900

along that path so if there's any bump

126
00:04:47,629 --> 00:04:44,880
along that path you would actually see

127
00:04:49,490 --> 00:04:47,639
it this is far better than simply

128
00:04:50,749 --> 00:04:49,500
looking at a line because you can

129
00:04:52,969 --> 00:04:50,759
actually see how fast the object is

130
00:04:55,129 --> 00:04:52,979
moving along the line and how much at a

131
00:04:57,170 --> 00:04:55,139
time that bump actually takes sometimes

132
00:04:59,870 --> 00:04:57,180
if it's going around a smooth thing it's

133
00:05:02,090 --> 00:04:59,880
not really bumping if it goes boom boom

134
00:05:03,830 --> 00:05:02,100
then you can tell it's actually bumping

135
00:05:05,810 --> 00:05:03,840
the second thing I would do and this is

136
00:05:07,730 --> 00:05:05,820
probably the more useful thing is that I

137
00:05:10,070 --> 00:05:07,740
would graph the second derivative of the

138
00:05:11,689 --> 00:05:10,080

position that should say complicated way

139

00:05:14,629 --> 00:05:11,699

of saying I would create a graph that

140

00:05:18,110 --> 00:05:14,639

shows the acceleration or the forces

141

00:05:19,430 --> 00:05:18,120

that are acting upon this bottle now the

142

00:05:20,930 --> 00:05:19,440

second derivative what does that mean

143

00:05:23,570 --> 00:05:20,940

well the first derivative of something

144

00:05:25,010 --> 00:05:23,580

is just how much it changes so if we

145

00:05:27,590 --> 00:05:25,020

have the positions

146

00:05:29,870 --> 00:05:27,600

of where the bottle is we take the first

147

00:05:31,070 --> 00:05:29,880

derivative that tells you the speed or

148

00:05:33,950 --> 00:05:31,080

the velocity

149

00:05:35,330 --> 00:05:33,960

if you take this second derivative you

150

00:05:38,570 --> 00:05:35,340

that tells you how fast the speed

151
00:05:41,390 --> 00:05:38,580
changes which is the acceleration now

152
00:05:43,790 --> 00:05:41,400
a bump in something is actually an

153
00:05:45,590 --> 00:05:43,800
acceleration its velocity changes either

154
00:05:48,050 --> 00:05:45,600
from zero to something or

155
00:05:50,510 --> 00:05:48,060
from something to something else so if

156
00:05:53,150 --> 00:05:50,520
there is a bump if something is bumping

157
00:05:54,830 --> 00:05:53,160
off something it will show up on a graph

158
00:05:56,990 --> 00:05:54,840
of the second derivative it will show up

159
00:05:58,430 --> 00:05:57,000
on a graph of the acceleration as a

160
00:06:00,950 --> 00:05:58,440
spike

161
00:06:01,969 --> 00:06:00,960
it'll show be very distinctive so if

162
00:06:04,670 --> 00:06:01,979
there is actually something there

163
00:06:06,469 --> 00:06:04,680

something anomalous then it will show up

164

00:06:08,150 --> 00:06:06,479

on this graph

165

00:06:09,650 --> 00:06:08,160

we can do the graph in multiple

166

00:06:10,969 --> 00:06:09,660

different ways just to make sure we

167

00:06:13,730 --> 00:06:10,979

understand what we're actually looking

168

00:06:15,710 --> 00:06:13,740

at we can do the most straightforward

169

00:06:17,689 --> 00:06:15,720

one is the rate of the change or the

170

00:06:19,270 --> 00:06:17,699

magnitude of the Velocity which doesn't

171

00:06:22,070 --> 00:06:19,280

sound straightforward but it's basically

172

00:06:25,070 --> 00:06:22,080

the speed of the object along its path

173

00:06:27,469 --> 00:06:25,080

and how fast that changes so how fast is

174

00:06:30,170 --> 00:06:27,479

it is it accelerating along the path the

175

00:06:32,450 --> 00:06:30,180

instantaneous acceleration

176
00:06:34,850 --> 00:06:32,460
we can also measure independently the

177
00:06:37,249 --> 00:06:34,860
vertical acceleration which normally

178
00:06:39,409 --> 00:06:37,259
would just be gravity minus friction

179
00:06:41,990 --> 00:06:39,419
from the air but if there's something

180
00:06:44,809 --> 00:06:42,000
else going on pushing it up or down we

181
00:06:47,210 --> 00:06:44,819
would say see variance in that

182
00:06:49,490 --> 00:06:47,220
we can also separate out entirely the

183
00:06:50,809 --> 00:06:49,500
horizontal acceleration now the claim is

184
00:06:52,550 --> 00:06:50,819
that there's a bump which is pushing

185
00:06:54,110 --> 00:06:52,560
something to the side so that would

186
00:06:56,510 --> 00:06:54,120
definitely show up as a spike in the

187
00:06:58,610 --> 00:06:56,520
graph of the horizontal acceleration and

188
00:07:01,909 --> 00:06:58,620

what's more we can do both these things

189

00:07:03,710 --> 00:07:01,919

we can animate the scene we can animate

190

00:07:05,629 --> 00:07:03,720

the object moving along the path and we

191

00:07:07,370 --> 00:07:05,639

can share a graph and we can sync them

192

00:07:09,050 --> 00:07:07,380

together so we can show where things are

193

00:07:10,370 --> 00:07:09,060

in the graph at any point in this

194

00:07:12,650 --> 00:07:10,380

animation and we can rotate things

195

00:07:15,050 --> 00:07:12,660

around in 3D and have a look at it see

196

00:07:16,550 --> 00:07:15,060

exactly what's going on this is the type

197

00:07:18,650 --> 00:07:16,560

of thing that I do this is the type of

198

00:07:20,990 --> 00:07:18,660

thing I've done many many many times

199

00:07:23,089 --> 00:07:21,000

before I've got a special tool for doing

200

00:07:24,830 --> 00:07:23,099

this which I call set rack situation

201
00:07:25,610 --> 00:07:24,840
Recreation where I can just drop things

202
00:07:28,010 --> 00:07:25,620
in

203
00:07:29,809 --> 00:07:28,020
and I can create scenarios like this

204
00:07:33,409 --> 00:07:29,819
with a little bit of extra coding

205
00:07:36,409 --> 00:07:33,419
so I think I will be able to demonstrate

206
00:07:39,170 --> 00:07:36,419
very clearly if there is actually some

207
00:07:41,809 --> 00:07:39,180
kind of bump or if there isn't

208
00:07:43,909 --> 00:07:41,819
now there are concerns that I would

209
00:07:45,830 --> 00:07:43,919
manipulate the data that I would somehow

210
00:07:47,749 --> 00:07:45,840
change it I think the concern was that

211
00:07:50,450 --> 00:07:47,759
it was such a small file it would be

212
00:07:52,969 --> 00:07:50,460
very easy for me to change well

213
00:07:56,029 --> 00:07:52,979

I'm suggesting that you release the data

214

00:07:58,610 --> 00:07:56,039

publicly so that the data cannot be

215

00:08:01,129 --> 00:07:58,620

messed with other people can very easily

216

00:08:03,170 --> 00:08:01,139

replicate what I do it's not going to be

217

00:08:05,150 --> 00:08:03,180

very complicated at all anyone can take

218

00:08:07,430 --> 00:08:05,160

this the second derivative of the

219

00:08:09,050 --> 00:08:07,440

position very very simple again you

220

00:08:10,010 --> 00:08:09,060

could probably write an AI script to do

221

00:08:12,710 --> 00:08:10,020

it for you

222

00:08:14,390 --> 00:08:12,720

if I manipulated data in any way it

223

00:08:17,150 --> 00:08:14,400

would be perfectly apparent

224

00:08:19,189 --> 00:08:17,160

and I will be completely discredited and

225

00:08:21,710 --> 00:08:19,199

game over for Mick so obviously I'm not

226

00:08:23,749 --> 00:08:21,720

going to do that but you can check you

227

00:08:26,629 --> 00:08:23,759

can check if I do it

228

00:08:28,129 --> 00:08:26,639

so I hope this makes it clear that I

229

00:08:30,770 --> 00:08:28,139

understand the situation I understand

230

00:08:32,589 --> 00:08:30,780

where the data came from what the data

231

00:08:35,449 --> 00:08:32,599

are

232

00:08:36,829 --> 00:08:35,459

what you did to the data and I've

233

00:08:38,870 --> 00:08:36,839

explained what I'm going to do to the

234

00:08:40,370 --> 00:08:38,880

data to try to verify the claims that

235

00:08:43,490 --> 00:08:40,380

were made on the show

236

00:08:45,350 --> 00:08:43,500

so I'll be happy to discuss this more

237

00:08:48,650 --> 00:08:45,360

but if that's enough you can just email

238

00:08:52,070 --> 00:08:48,660

me the data all I need are the two nmea

239

00:08:54,710 --> 00:08:52,080

files the one for the bottle drop and

240

00:08:56,269 --> 00:08:54,720

the one for the the helicopter or

241

00:08:58,850 --> 00:08:56,279

whatever format you have that one in if

242

00:09:02,269 --> 00:08:58,860

it's not an MEA and you can email them