



1
00:01:44,630 --> 00:01:03,510

so

2
00:01:46,789 --> 00:01:44,640

today we begin our ultimate ascent a

3
00:01:49,270 --> 00:01:46,799

collective climb to new heights new

4
00:01:51,109 --> 00:01:49,280

experiences and new opportunities before

5
00:01:53,030 --> 00:01:51,119

we launch into the intensity of the

6
00:01:55,429 --> 00:01:53,040

build season take a moment and look

7
00:01:57,910 --> 00:01:55,439

around and appreciate the rare chance to

8
00:01:59,670 --> 00:01:57,920

work side by side with a group of very

9
00:02:02,550 --> 00:01:59,680

special people who are focused on the

10
00:02:04,069 --> 00:02:02,560

future your future the secret of first

11
00:02:06,389 --> 00:02:04,079

is not the game

12
00:02:08,710 --> 00:02:06,399

and it's not the robots the secret at

13
00:02:11,270 --> 00:02:08,720

first lies in the positive collaborative

14

00:02:13,750 --> 00:02:11,280

culture fueled by all the spectacular

15

00:02:15,589 --> 00:02:13,760

mentors we have here today and our many

16

00:02:17,750 --> 00:02:15,599

incredible sponsors

17

00:02:20,630 --> 00:02:17,760

thank you all we'll be back in a minute

18

00:02:23,350 --> 00:02:20,640

but now meet the mcs from last year's

19

00:02:26,470 --> 00:02:23,360

chairman award winning team 1114 the

20

00:02:30,550 --> 00:02:26,480

symbolics from st catharines in ontario

21

00:02:32,470 --> 00:02:30,560

brittany shaw and greg robinson

22

00:02:35,110 --> 00:02:32,480

thanks dean and woody we're completely

23

00:02:36,790 --> 00:02:35,120

pumped to be here being on the symbolics

24

00:02:38,790 --> 00:02:36,800

we learned firsthand the power of being

25

00:02:40,309 --> 00:02:38,800

part of a team and we're so grateful to

26

00:02:41,990 --> 00:02:40,319

being part of first part of something

27

00:02:44,309 --> 00:02:42,000

bigger than ourselves that's what this

28

00:02:45,910 --> 00:02:44,319

year's first kickoff is all about

29

00:02:47,990 --> 00:02:45,920

we're proud to be representing the

30

00:02:49,670 --> 00:02:48,000

symbolics who won the chairman's award

31

00:02:51,910 --> 00:02:49,680

here's what it looked like in st louis

32

00:02:53,910 --> 00:02:51,920

at the championship last year it was

33

00:02:55,670 --> 00:02:53,920

amazing

34

00:02:57,750 --> 00:02:55,680

this might be the best part of being

35

00:02:59,270 --> 00:02:57,760

chairman of first

36

00:03:01,270 --> 00:02:59,280

actually it is the best part of being

37

00:03:02,550 --> 00:03:01,280

german at first

38

00:03:04,550 --> 00:03:02,560

and there are a lot of great things

39

00:03:07,190 --> 00:03:04,560

about being chairman of first

40

00:03:09,350 --> 00:03:07,200

the chairman's award his first most

41

00:03:11,830 --> 00:03:09,360

prestigious award

42

00:03:13,750 --> 00:03:11,840

period the chairman's award has been a

43

00:03:16,229 --> 00:03:13,760

culmination of 10 years of hard work for

44

00:03:18,149 --> 00:03:16,239

our team so for us to hear our name i i

45

00:03:20,550 --> 00:03:18,159

didn't even know what to do how to react

46

00:03:22,790 --> 00:03:20,560

it was a rush of emotion of happiness

47

00:03:24,309 --> 00:03:22,800

but at the same time tears were flowing

48

00:03:26,470 --> 00:03:24,319

i just wanted to find the nearest

49

00:03:28,229 --> 00:03:26,480

teammate one all the students i mentored

50

00:03:29,990 --> 00:03:28,239

just hug them all it was absolutely

51
00:03:31,670 --> 00:03:30,000
amazing we've worked so hard towards

52
00:03:32,390 --> 00:03:31,680
this award and

53
00:03:34,309 --> 00:03:32,400
just

54
00:03:37,110 --> 00:03:34,319
a great experience you put your heart

55
00:03:39,270 --> 00:03:37,120
into this and you can achieve anything

56
00:03:40,589 --> 00:03:39,280
well congratulations to all of you we're

57
00:03:42,470 --> 00:03:40,599
here at that

58
00:03:45,589 --> 00:03:42,480
2012

59
00:03:47,990 --> 00:03:45,599
frc finals with the

60
00:03:49,190 --> 00:03:48,000
chairman's award winners how does it

61
00:03:50,470 --> 00:03:49,200
feel

62
00:03:53,429 --> 00:03:50,480
awesome

63
00:03:55,030 --> 00:03:53,439

you exemplify

64

00:03:57,190 --> 00:03:55,040

with your mentors

65

00:04:01,350 --> 00:03:57,200

and your coaches and your sponsors the

66

00:04:03,270 --> 00:04:01,360

epitome of what first is trying to do

67

00:04:04,869 --> 00:04:03,280

the greatest part of a first competition

68

00:04:06,470 --> 00:04:04,879

is working hard with your team

69

00:04:08,309 --> 00:04:06,480

committing to solving problems together

70

00:04:10,390 --> 00:04:08,319

and making it all work it's about the

71

00:04:12,550 --> 00:04:10,400

team belonging to the larger community

72

00:04:14,550 --> 00:04:12,560

that's what makes first unique talking

73

00:04:19,430 --> 00:04:14,560

about the larger community blair was

74

00:04:24,469 --> 00:04:21,909

clearly i took a wrong turn

75

00:04:26,310 --> 00:04:24,479

don't let this happen to you make sure

76

00:04:27,670 --> 00:04:26,320

you use the correct zip code on your

77

00:04:31,670 --> 00:04:27,680

robot crate

78

00:04:34,390 --> 00:04:31,680

fedex bring me home

79

00:04:35,749 --> 00:04:34,400

hi i'm lisa daniel and i have a cool job

80

00:04:37,510 --> 00:04:35,759

at fedex

81

00:04:40,150 --> 00:04:37,520

we handle all the donated shipping for

82

00:04:41,749 --> 00:04:40,160

the company and first robotics is the

83

00:04:43,350 --> 00:04:41,759

second largest program that we're

84

00:04:45,430 --> 00:04:43,360

involved with

85

00:04:47,830 --> 00:04:45,440

we've had a long relationship with first

86

00:04:50,469 --> 00:04:47,840

robotics starting with our chairman fred

87

00:04:54,070 --> 00:04:50,479

smith being approached by dean kamen at

88

00:04:55,909 --> 00:04:54,080

the very beginning of the program

89

00:04:58,629 --> 00:04:55,919

we salute the young people that are

90

00:05:01,350 --> 00:04:58,639

involved with science and technology and

91

00:05:03,510 --> 00:05:01,360

we celebrate our future heroes

92

00:05:05,189 --> 00:05:03,520

we are proud to be a part of the new

93

00:05:06,870 --> 00:05:05,199

cool

94

00:05:09,350 --> 00:05:06,880

and now here's a guy who travels the

95

00:05:11,749 --> 00:05:09,360

world for first and knows no boundaries

96

00:05:13,590 --> 00:05:11,759

dean

97

00:05:15,270 --> 00:05:13,600

as a kid

98

00:05:18,550 --> 00:05:15,280

pretty early probably at the beginning

99

00:05:19,430 --> 00:05:18,560

of my high school years the intersection

100

00:05:22,830 --> 00:05:19,440

of

101

00:05:25,189 --> 00:05:22,840

my interest in how the world works

102

00:05:25,990 --> 00:05:25,199

physics math

103

00:05:27,909 --> 00:05:26,000

and

104

00:05:29,350 --> 00:05:27,919

how to how does stuff work how do

105

00:05:31,990 --> 00:05:29,360

products work

106

00:05:33,990 --> 00:05:32,000

and the idea that i wanted to make money

107

00:05:35,830 --> 00:05:34,000

and didn't want to spend all summer

108

00:05:38,870 --> 00:05:35,840

mowing lawns

109

00:05:40,710 --> 00:05:38,880

could i create some technology

110

00:05:43,350 --> 00:05:40,720

that would be valuable enough that after

111

00:05:44,950 --> 00:05:43,360

i spent my time and my money making it

112

00:05:47,749 --> 00:05:44,960

that if i sold it to people i'd make a

113

00:05:50,070 --> 00:05:47,759

profit i realized if i could build

114

00:05:51,830 --> 00:05:50,080

little boxes with little amplifiers that

115

00:05:53,189 --> 00:05:51,840

i could sell to local bands and other

116

00:05:55,350 --> 00:05:53,199

kids that wanted

117

00:05:58,390 --> 00:05:55,360

light shows

118

00:06:01,270 --> 00:05:58,400

i could put these things together

119

00:06:03,670 --> 00:06:01,280

for a few bucks by the end of the summer

120

00:06:06,550 --> 00:06:03,680

i was selling enough of these boxes that

121

00:06:08,469 --> 00:06:06,560

i was making many thousands of dollars

122

00:06:10,469 --> 00:06:08,479

and that's in a day when

123

00:06:12,550 --> 00:06:10,479

a good summer job would give you 40 or

124

00:06:14,950 --> 00:06:12,560

50 bucks a week

125

00:06:17,189 --> 00:06:14,960

my mentors my father

126
00:06:19,990 --> 00:06:17,199
who told me find something you love to

127
00:06:22,469 --> 00:06:20,000
do and do it really well if you do it in

128
00:06:24,629 --> 00:06:22,479
a better way than anybody else has

129
00:06:26,790 --> 00:06:24,639
the world will pay you for it it's a

130
00:06:30,710 --> 00:06:26,800
win-win it's a win-win-win the world

131
00:06:34,150 --> 00:06:32,790
you get to do something you love

132
00:06:35,670 --> 00:06:34,160
and you make a living and make a lot of

133
00:06:38,469 --> 00:06:35,680
money

134
00:06:40,390 --> 00:06:38,479
my older brother was a mentor of mine

135
00:06:41,670 --> 00:06:40,400
math and science are hard to learn for

136
00:06:44,230 --> 00:06:41,680
everybody

137
00:06:47,189 --> 00:06:44,240
but he convinced me it's worth doing

138
00:06:49,110 --> 00:06:47,199

he convinced me that if i stayed with it

139

00:06:50,390 --> 00:06:49,120

it would be valuable to me and i could

140

00:06:51,990 --> 00:06:50,400

become

141

00:06:54,870 --> 00:06:52,000

somebody that delivers valuable

142

00:06:57,029 --> 00:06:54,880

solutions to the world and i ended up

143

00:06:59,350 --> 00:06:57,039

developing a lot of those solutions so

144

00:07:01,110 --> 00:06:59,360

that he could do his research that he

145

00:07:03,830 --> 00:07:01,120

could deliver therapies

146

00:07:05,350 --> 00:07:03,840

my brother's a pediatric oncologist a

147

00:07:08,230 --> 00:07:05,360

cancer specialist

148

00:07:10,390 --> 00:07:08,240

fortunately very very few babies are

149

00:07:12,870 --> 00:07:10,400

born with cancer so we were building all

150

00:07:15,270 --> 00:07:12,880

these special pumps because it's a very

151
00:07:17,830 --> 00:07:15,280
limited market but suddenly we were

152
00:07:19,430 --> 00:07:17,840
given the opportunity to make some

153
00:07:21,029 --> 00:07:19,440
relatively small changes in the

154
00:07:22,710 --> 00:07:21,039
engineering of these little pumps and

155
00:07:23,589 --> 00:07:22,720
deliver insulin

156
00:07:25,830 --> 00:07:23,599
and

157
00:07:26,950 --> 00:07:25,840
unlike pediatric

158
00:07:29,029 --> 00:07:26,960
cancer

159
00:07:31,350 --> 00:07:29,039
the need for insulin is at the other

160
00:07:35,029 --> 00:07:31,360
extreme it's probably the most common

161
00:07:35,909 --> 00:07:35,039
drug delivered for chronic treatment of

162
00:07:52,230 --> 00:07:35,919
a

163
00:07:54,390 --> 00:07:52,240

of course my brother

164

00:07:56,830 --> 00:07:54,400

gave me the confidence

165

00:07:59,510 --> 00:07:56,840

to work hard at science and

166

00:08:01,909 --> 00:07:59,520

technology i hope that a whole

167

00:08:04,150 --> 00:08:01,919

generation of kids in this country

168

00:08:06,309 --> 00:08:04,160

are going to learn from their mentors

169

00:08:09,029 --> 00:08:06,319

the way i learned from my brother

170

00:08:10,869 --> 00:08:09,039

that hard work and focused effort on

171

00:08:12,790 --> 00:08:10,879

things that may seem a little difficult

172

00:08:13,830 --> 00:08:12,800

and daunting to do

173

00:08:15,589 --> 00:08:13,840

can

174

00:08:18,469 --> 00:08:15,599

give you career options that are so

175

00:08:20,629 --> 00:08:18,479

exciting you'll see it was worth it

176

00:08:23,189 --> 00:08:20,639

we've been working on a water project

177

00:08:24,070 --> 00:08:23,199

now for 15 years

178

00:08:27,110 --> 00:08:24,080

but

179

00:08:29,589 --> 00:08:27,120

since lack of access to clean water is

180

00:08:30,469 --> 00:08:29,599

the number one health problem in the

181

00:08:33,029 --> 00:08:30,479

world

182

00:08:35,670 --> 00:08:33,039

it kills more than two million people a

183

00:08:38,389 --> 00:08:35,680

year mostly kids under five years old to

184

00:08:40,709 --> 00:08:38,399

not have clean water we thought 15 years

185

00:08:43,190 --> 00:08:40,719

is a small price to pay next year we

186

00:08:47,350 --> 00:08:43,200

could be producing and delivering a

187

00:08:49,350 --> 00:08:47,360

billion liters of water clean safe water

188

00:08:52,870 --> 00:08:49,360

when we packaged up this solution to

189

00:08:55,350 --> 00:08:52,880

turn any water into pure water

190

00:08:57,670 --> 00:08:55,360

and delivered it as a real

191

00:08:58,949 --> 00:08:57,680

engineering solution to a horrible

192

00:09:02,630 --> 00:08:58,959

problem

193

00:09:04,630 --> 00:09:02,640

and we got video back of kids in ghana

194

00:09:07,350 --> 00:09:04,640

drinking water that was just

195

00:09:09,269 --> 00:09:07,360

gushing out of these little

196

00:09:11,910 --> 00:09:09,279

slingshot machines

197

00:09:13,590 --> 00:09:11,920

everybody at deca just sat there

198

00:09:15,110 --> 00:09:13,600

and looked at this

199

00:09:17,670 --> 00:09:15,120

and realized

200

00:09:20,310 --> 00:09:17,680

the 15 years was worth it

201
00:09:24,310 --> 00:09:20,320
education is about the most valuable

202
00:09:25,910 --> 00:09:24,320
thing anybody can invest their time in

203
00:09:27,829 --> 00:09:25,920
it comes in many different forms and

204
00:09:29,670 --> 00:09:27,839
some people

205
00:09:33,269 --> 00:09:29,680
it's a phd

206
00:09:35,750 --> 00:09:33,279
for some people they've spent their life

207
00:09:38,550 --> 00:09:35,760
like as my father did

208
00:09:40,150 --> 00:09:38,560
learning to draw and to create

209
00:09:41,110 --> 00:09:40,160
education comes in a lot of different

210
00:09:43,829 --> 00:09:41,120
forms

211
00:09:46,310 --> 00:09:43,839
it's very personal the only way to do it

212
00:09:48,150 --> 00:09:46,320
well is to spend a lot of time at it

213
00:09:50,550 --> 00:09:48,160

but i realize the bigger problem in this

214

00:09:52,070 --> 00:09:50,560

country isn't that nobody has access to

215

00:09:54,630 --> 00:09:52,080

science and technology the bigger

216

00:09:56,150 --> 00:09:54,640

problem is that kids are enormously

217

00:09:59,269 --> 00:09:56,160

distracted

218

00:10:01,190 --> 00:09:59,279

if i could just somehow

219

00:10:05,670 --> 00:10:01,200

ignite a little interest in kids that

220

00:10:07,509 --> 00:10:05,680

might not otherwise think about it in

221

00:10:09,350 --> 00:10:07,519

understanding the world

222

00:10:12,470 --> 00:10:09,360

understanding science understanding

223

00:10:13,910 --> 00:10:12,480

mathematics understanding technology

224

00:10:16,870 --> 00:10:13,920

we need

225

00:10:18,389 --> 00:10:16,880

kids to understand at an early age

226

00:10:20,790 --> 00:10:18,399

that they should be putting as much

227

00:10:22,949 --> 00:10:20,800

passion and as much energy into becoming

228

00:10:24,949 --> 00:10:22,959

good at thinking and problem solving and

229

00:10:26,949 --> 00:10:24,959

embracing science and mathematics and

230

00:10:28,870 --> 00:10:26,959

engineering as they are willing to put

231

00:10:32,069 --> 00:10:28,880

all their time and effort and energy

232

00:10:33,269 --> 00:10:32,079

into becoming good at some sports why

233

00:10:36,630 --> 00:10:33,279

don't we take

234

00:10:39,910 --> 00:10:36,640

all the trappings of sports

235

00:10:41,190 --> 00:10:39,920

and wrap them around the sport

236

00:10:42,710 --> 00:10:41,200

that will build the muscle hanging

237

00:10:44,630 --> 00:10:42,720

between their ears

238

00:10:47,430 --> 00:10:44,640

and what if we could make

239

00:10:49,110 --> 00:10:47,440

a sport more attractive and more

240

00:10:52,069 --> 00:10:49,120

appealing to more kids than the other

241

00:10:53,509 --> 00:10:52,079

things they do it's the sport where

242

00:10:57,110 --> 00:10:53,519

one of the things they learn is how the

243

00:11:02,230 --> 00:10:57,120

world works the rules

244

00:11:05,110 --> 00:11:02,240

and we might create the next kid that

245

00:11:07,509 --> 00:11:05,120

does something unbelievable

246

00:11:09,430 --> 00:11:07,519

while i have you one more thing i have

247

00:11:12,230 --> 00:11:09,440

to remind you about another one of our

248

00:11:14,710 --> 00:11:12,240

bright ideas at first the led light

249

00:11:17,829 --> 00:11:14,720

bulbs thanks to the partnership with

250

00:11:20,389 --> 00:11:17,839

google we were able to have teams raise

251

00:11:22,310 --> 00:11:20,399

over a million dollars

252

00:11:25,190 --> 00:11:22,320

selling these bulbs over the last couple

253

00:11:27,430 --> 00:11:25,200

of years and with our continuing support

254

00:11:29,110 --> 00:11:27,440

from google the cost of the bulbs is

255

00:11:31,670 --> 00:11:29,120

even lower this year

256

00:11:34,069 --> 00:11:31,680

get out and sell the bulbs you'll raise

257

00:11:36,230 --> 00:11:34,079

money for your teams you'll get more

258

00:11:38,710 --> 00:11:36,240

community awareness for first and you'll

259

00:11:41,269 --> 00:11:38,720

help the environment thanks to google

260

00:11:42,870 --> 00:11:41,279

thanks for the teams let's do it one of

261

00:11:44,630 --> 00:11:42,880

the most powerful things about first is

262

00:11:46,150 --> 00:11:44,640

that it doesn't matter how old you are

263

00:11:48,790 --> 00:11:46,160

from elementary school through high

264

00:11:51,030 --> 00:11:48,800

school and beyond first is there for us

265

00:11:52,790 --> 00:11:51,040

it's the sponsors volunteers and mentors

266

00:11:55,509 --> 00:11:52,800

that make it possible for each and every

267

00:11:57,269 --> 00:11:55,519

one of us of any age to come on board

268

00:11:59,430 --> 00:11:57,279

first prepares us to be world-class

269

00:12:01,110 --> 00:11:59,440

citizens at every level by providing a

270

00:12:02,790 --> 00:12:01,120

passionate supportive and caring

271

00:12:04,629 --> 00:12:02,800

community helping create these

272

00:12:08,150 --> 00:12:04,639

opportunities for all of us are kickoff

273

00:12:10,389 --> 00:12:08,160

sponsors ptc and nasa

274

00:12:12,150 --> 00:12:10,399

thank you brittany and craig

275

00:12:14,550 --> 00:12:12,160

one of the things i like most about

276

00:12:16,550 --> 00:12:14,560

first is the transformation that each of

277

00:12:20,310 --> 00:12:16,560

you will experience this year

278

00:12:22,230 --> 00:12:20,320

you'll create innovate build and compete

279

00:12:24,629 --> 00:12:22,240

you'll grow by strengthening your real

280

00:12:26,870 --> 00:12:24,639

world engineering know-how

281

00:12:29,269 --> 00:12:26,880

you'll transform yourself into someone

282

00:12:32,069 --> 00:12:29,279

that colleges will want to enroll and

283

00:12:33,990 --> 00:12:32,079

into someone that our 27 000 customers

284

00:12:36,310 --> 00:12:34,000

will want to employ

285

00:12:38,629 --> 00:12:36,320

at ptc we're proud to be part of your

286

00:12:56,550 --> 00:12:38,639

transformation and to be a strategic

287

00:13:37,670 --> 00:13:29,430

so

288

00:13:41,189 --> 00:13:40,150

hi i'm john grunsfeld head of science at

289

00:13:42,949 --> 00:13:41,199

nasa

290

00:13:45,030 --> 00:13:42,959

i've had the privilege of flying five

291

00:13:46,710 --> 00:13:45,040

times on the space shuttle including

292

00:13:48,389 --> 00:13:46,720

three flights to service the hubble

293

00:13:50,150 --> 00:13:48,399

space telescope

294

00:13:51,750 --> 00:13:50,160

i congratulate all of you for

295

00:13:53,670 --> 00:13:51,760

participating in this year's first

296

00:13:56,230 --> 00:13:53,680

robotics competition

297

00:13:58,389 --> 00:13:56,240

teamwork is the best formula for success

298

00:13:59,350 --> 00:13:58,399

and this competition is more than just a

299

00:14:00,949 --> 00:13:59,360

game

300

00:14:02,470 --> 00:14:00,959

this experience will highlight what you

301
00:14:06,069 --> 00:14:02,480
will encounter in science and technical

302
00:14:08,310 --> 00:14:06,079
careers engineering design construction

303
00:14:09,590 --> 00:14:08,320
real deadlines and of course working in

304
00:14:11,509 --> 00:14:09,600
teams

305
00:14:13,670 --> 00:14:11,519
this competition will also be similar in

306
00:14:16,470 --> 00:14:13,680
many ways to how we design built and

307
00:14:18,790 --> 00:14:16,480
tested the nasa mars curiosity rover now

308
00:14:19,990 --> 00:14:18,800
exploring on the red planet

309
00:14:21,990 --> 00:14:20,000
being part of a team that builds

310
00:14:23,750 --> 00:14:22,000
something like curiosity takes the same

311
00:14:26,150 --> 00:14:23,760
kind of ingenuity and creative problem

312
00:14:27,829 --> 00:14:26,160
solving that you will face in designing

313
00:14:29,110 --> 00:14:27,839

your robots to face this year's

314

00:14:30,550 --> 00:14:29,120

challenge

315

00:14:32,550 --> 00:14:30,560

nasa looks forward to seeing the

316

00:14:34,710 --> 00:14:32,560

innovative solutions you develop and

317

00:14:36,230 --> 00:14:34,720

seeing how your creativity might help

318

00:14:37,990 --> 00:14:36,240

inspire development of our future

319

00:14:41,269 --> 00:14:38,000

spacecraft systems

320

00:14:42,949 --> 00:14:41,279

good luck work hard and above all have

321

00:14:45,110 --> 00:14:42,959

fun

322

00:14:47,030 --> 00:14:45,120

we understand chief robot inspector al

323

00:14:48,870 --> 00:14:47,040

skirkowicz had some early exposure to

324

00:14:50,550 --> 00:14:48,880

the rules of this year's game and we

325

00:14:51,189 --> 00:14:50,560

want to know what his first impression

326

00:14:53,269 --> 00:14:51,199

is

327

00:14:54,870 --> 00:14:53,279

al your thoughts

328

00:14:57,269 --> 00:14:54,880

yeah we've been working really really

329

00:14:59,670 --> 00:14:57,279

hard on the robot rules this year look

330

00:15:03,030 --> 00:14:59,680

for some significant changes in the

331

00:15:04,550 --> 00:15:03,040

bumper rules and the electrical rules

332

00:15:06,230 --> 00:15:04,560

we don't need this this year you can put

333

00:15:08,629 --> 00:15:06,240

it back in the warehouse we're shipping

334

00:15:10,069 --> 00:15:08,639

this instead

335

00:15:12,470 --> 00:15:10,079

uh you guys weren't supposed to hear

336

00:15:15,110 --> 00:15:12,480

that um back to you guys

337

00:15:16,310 --> 00:15:15,120

thanks al that was interesting we're

338

00:15:18,389 --> 00:15:16,320

looking forward to figuring out what

339

00:15:20,470 --> 00:15:18,399

that was all about change is constant in

340

00:15:21,990 --> 00:15:20,480

frc but there are enduring life lessons

341

00:15:24,310 --> 00:15:22,000

all around and you don't have to look

342

00:15:28,230 --> 00:15:24,320

too hard woody is always reminding us

343

00:15:29,350 --> 00:15:28,240

what's important here's woody

344

00:15:31,110 --> 00:15:29,360

let's talk about gracious

345

00:15:33,430 --> 00:15:31,120

professionalism

346

00:15:34,870 --> 00:15:33,440

in many ways it's the heart and the soul

347

00:15:37,110 --> 00:15:34,880

of first

348

00:15:39,430 --> 00:15:37,120

simply put a big deal

349

00:15:42,069 --> 00:15:39,440

pay attention to the professor he's

350

00:15:44,870 --> 00:15:42,079

right when woody first used those words

351
00:15:46,629 --> 00:15:44,880
in the first first kickoff i said more

352
00:15:48,870 --> 00:15:46,639
and the first community has embraced

353
00:15:49,749 --> 00:15:48,880
gracious professionalism for over 20

354
00:15:52,550 --> 00:15:49,759
years

355
00:15:54,550 --> 00:15:52,560
thank you thank you thank you the term

356
00:15:57,189 --> 00:15:54,560
was coined to describe the behavior of a

357
00:16:00,629 --> 00:15:57,199
bunch of mit students who were competing

358
00:16:02,150 --> 00:16:00,639
like crazy but also helping each other

359
00:16:04,550 --> 00:16:02,160
because of you

360
00:16:07,430 --> 00:16:04,560
that behavior has spread like wildfire

361
00:16:09,430 --> 00:16:07,440
throughout first nfl's senior solutions

362
00:16:11,670 --> 00:16:09,440
challenge members of the electric

363
00:16:13,269 --> 00:16:11,680

pineapples liked the folks they met

364

00:16:14,870 --> 00:16:13,279

while doing research at the fairfax

365

00:16:16,870 --> 00:16:14,880

nursing center

366

00:16:18,790 --> 00:16:16,880

they decided to become bingo game

367

00:16:21,189 --> 00:16:18,800

helpers and to conduct fundraising

368

00:16:22,790 --> 00:16:21,199

projects to buy holiday gifts for their

369

00:16:26,150 --> 00:16:22,800

new elderly friend

370

00:16:28,230 --> 00:16:26,160

ftc teams mash and the sprouts met

371

00:16:29,990 --> 00:16:28,240

recently at the miss daisy ramp riot

372

00:16:32,550 --> 00:16:30,000

competition the sprouts were there to

373

00:16:33,670 --> 00:16:32,560

take notes about how to build a robot

374

00:16:36,150 --> 00:16:33,680

mash said

375

00:16:37,189 --> 00:16:36,160

let's just do it now so they worked

376

00:16:39,430 --> 00:16:37,199

together

377

00:16:41,749 --> 00:16:39,440

built a new robot and the two teams

378

00:16:44,550 --> 00:16:41,759

ended the day as the winning alliance in

379

00:16:46,389 --> 00:16:44,560

the finals at the 2009 greater kansas

380

00:16:48,470 --> 00:16:46,399

city frc regional

381

00:16:49,509 --> 00:16:48,480

after the robot had been unloaded for

382

00:16:52,230 --> 00:16:49,519

the event

383

00:16:55,030 --> 00:16:52,240

thieves stole panther robotics trailer

384

00:16:57,590 --> 00:16:55,040

with tools and important extra parts

385

00:16:59,430 --> 00:16:57,600

an expensive loss that could have ended

386

00:17:03,670 --> 00:16:59,440

the competition for them

387

00:17:05,590 --> 00:17:03,680

but thanks to team 525 it was not over

388

00:17:07,990 --> 00:17:05,600

they heard what happened and gave the

389

00:17:09,750 --> 00:17:08,000

panthers the balance of the gift cards

390

00:17:12,630 --> 00:17:09,760

donated to the kansas city regional

391

00:17:15,429 --> 00:17:12,640

teams over 20 other teams joined by

392

00:17:17,590 --> 00:17:15,439

donating their cards and some cash

393

00:17:20,069 --> 00:17:17,600

and mastercard upped the ante by

394

00:17:22,470 --> 00:17:20,079

replacing the donated cards

395

00:17:24,069 --> 00:17:22,480

i see lots of these examples every year

396

00:17:26,230 --> 00:17:24,079

at first

397

00:17:28,470 --> 00:17:26,240

clearly gracious professionalism is

398

00:17:30,950 --> 00:17:28,480

contrary to what is promoted by many

399

00:17:34,950 --> 00:17:30,960

parts of our culture today

400

00:17:37,029 --> 00:17:34,960

it's nothing like reality tv or bullying

401
00:17:38,390 --> 00:17:37,039
it's not about greed or ruthless

402
00:17:39,430 --> 00:17:38,400
competition

403
00:17:41,270 --> 00:17:39,440
it is

404
00:17:44,310 --> 00:17:41,280
sometimes really hard

405
00:17:46,870 --> 00:17:44,320
you gotta put we ahead of me

406
00:17:48,870 --> 00:17:46,880
it is not sticky sweet or simple

407
00:17:50,310 --> 00:17:48,880
and it's both from the heart and the

408
00:17:53,029 --> 00:17:50,320
mind

409
00:17:55,510 --> 00:17:53,039
it's sort of like wise kindness

410
00:17:57,590 --> 00:17:55,520
the gracious part has to do with empathy

411
00:18:00,150 --> 00:17:57,600
helping sympathy

412
00:18:01,110 --> 00:18:00,160
the professionalism part has to do with

413
00:18:03,510 --> 00:18:01,120

knowledge

414

00:18:05,510 --> 00:18:03,520

wisdom judgment

415

00:18:06,950 --> 00:18:05,520

gracious you probably know in your heart

416

00:18:09,430 --> 00:18:06,960

instinctively but

417

00:18:11,510 --> 00:18:09,440

note that it must not be confused with

418

00:18:14,549 --> 00:18:11,520

pity or condescension or believing

419

00:18:17,190 --> 00:18:14,559

yourself to be better than someone else

420

00:18:19,190 --> 00:18:17,200

so let's talk about professionalism when

421

00:18:21,110 --> 00:18:19,200

you learn something you likely did so

422

00:18:23,430 --> 00:18:21,120

with the help of others

423

00:18:25,669 --> 00:18:23,440

the others may include your parents your

424

00:18:26,950 --> 00:18:25,679

friends your first competitors your

425

00:18:29,510 --> 00:18:26,960

teachers

426

00:18:32,150 --> 00:18:29,520

but the others also include galileo

427

00:18:35,029 --> 00:18:32,160

einstein newton curie

428

00:18:38,230 --> 00:18:35,039

and also folks like jane goodall mahatma

429

00:18:40,390 --> 00:18:38,240

gandhi abraham lincoln rachel carson the

430

00:18:43,110 --> 00:18:40,400

point is that our professional knowledge

431

00:18:44,870 --> 00:18:43,120

comes from the brilliance of others

432

00:18:46,150 --> 00:18:44,880

we're all standing on the shoulders of

433

00:18:48,950 --> 00:18:46,160

giants

434

00:18:50,950 --> 00:18:48,960

and we owe others a lift

435

00:18:53,990 --> 00:18:50,960

with the privilege of knowing

436

00:18:56,710 --> 00:18:54,000

comes the responsibility of integrity

437

00:18:58,549 --> 00:18:56,720

society simply does not work unless

438

00:19:00,549 --> 00:18:58,559

people can trust those who have special

439

00:19:02,230 --> 00:19:00,559

knowledge if you're a physician you help

440

00:19:04,230 --> 00:19:02,240

your patients if you're a parent you

441

00:19:05,750 --> 00:19:04,240

help your children if you're an engineer

442

00:19:07,990 --> 00:19:05,760

you make life better for the people

443

00:19:11,350 --> 00:19:08,000

using the things you produce

444

00:19:13,750 --> 00:19:11,360

a professional is in a trusted position

445

00:19:17,270 --> 00:19:13,760

gracious professionals are simply good

446

00:19:19,350 --> 00:19:17,280

smart people doing good smart things and

447

00:19:21,510 --> 00:19:19,360

the benefit of gracious professionalism

448

00:19:22,710 --> 00:19:21,520

is shared between the giver and the

449

00:19:24,870 --> 00:19:22,720

receiver

450

00:19:27,350 --> 00:19:24,880

obviously they both win

451
00:19:29,750 --> 00:19:27,360
when we do something nice for others

452
00:19:31,270 --> 00:19:29,760
the giver wins with a boost in rational

453
00:19:33,029 --> 00:19:31,280
self-esteem

454
00:19:35,270 --> 00:19:33,039
and here's a fact

455
00:19:37,750 --> 00:19:35,280
science is teaching us that the giver

456
00:19:39,750 --> 00:19:37,760
also wins because our bodies release

457
00:19:41,270 --> 00:19:39,760
endorphins and other good stuff into the

458
00:19:43,029 --> 00:19:41,280
brain

459
00:19:45,190 --> 00:19:43,039
a third more subtle but important

460
00:19:47,590 --> 00:19:45,200
benefit is that through practicing

461
00:19:49,830 --> 00:19:47,600
gracious professionalism it becomes part

462
00:19:52,870 --> 00:19:49,840
of the way you define yourself

463
00:19:55,350 --> 00:19:52,880

if the gp habit gets started and moves

464

00:19:57,669 --> 00:19:55,360

into your subconscious it can be a major

465

00:19:59,990 --> 00:19:57,679

asset in everything you do in life it

466

00:20:03,029 --> 00:20:00,000

can be as important as being observant

467

00:20:05,110 --> 00:20:03,039

or curious or even creative

468

00:20:06,789 --> 00:20:05,120

yet another important benefit is that

469

00:20:09,510 --> 00:20:06,799

being graciously professional will

470

00:20:11,350 --> 00:20:09,520

attract other gracious professionals

471

00:20:13,669 --> 00:20:11,360

that is the right crowd

472

00:20:16,070 --> 00:20:13,679

for work play or any kind of life

473

00:20:16,950 --> 00:20:16,080

partnership you want to be with those

474

00:20:18,950 --> 00:20:16,960

folks

475

00:20:21,029 --> 00:20:18,960

i got hooked on first when i was four

476

00:20:22,470 --> 00:20:21,039

it's what my family does my older

477

00:20:24,470 --> 00:20:22,480

brothers were competitors and i was

478

00:20:26,390 --> 00:20:24,480

their team mascot a role i cherish to

479

00:20:28,149 --> 00:20:26,400

this day my brothers went off to college

480

00:20:30,070 --> 00:20:28,159

and the baton was handed to me when i

481

00:20:32,310 --> 00:20:30,080

was nine we had first lego league

482

00:20:34,870 --> 00:20:32,320

competitions in our basement then we got

483

00:20:37,190 --> 00:20:34,880

our school board to start an fll program

484

00:20:39,270 --> 00:20:37,200

i graduated to frc where my passion for

485

00:20:40,710 --> 00:20:39,280

engineering grew now i'm delighted to

486

00:20:43,270 --> 00:20:40,720

say that i'm studying mechanical

487

00:20:45,190 --> 00:20:43,280

engineering first is the reason i'm here

488

00:20:46,870 --> 00:20:45,200

engineering classes are not easy but my

489

00:20:48,549 --> 00:20:46,880

wonderful mentors have really given me a

490

00:20:50,870 --> 00:20:48,559

head start they taught me that i should

491

00:20:53,430 --> 00:20:50,880

aim to be a special kind of engineer but

492

00:20:55,669 --> 00:20:53,440

bu calls a societal engineer essentially

493

00:20:57,669 --> 00:20:55,679

a gracious professional i'm expected to

494

00:20:59,510 --> 00:20:57,679

make big positive impacts in the world

495

00:21:01,029 --> 00:20:59,520

that's why i joined this community

496

00:21:02,789 --> 00:21:01,039

hanging with great people is the best

497

00:21:05,590 --> 00:21:02,799

thing you can do for yourself thank you

498

00:21:08,630 --> 00:21:05,600

first thank you again first community we

499

00:21:10,070 --> 00:21:08,640

are just getting started

500

00:21:12,070 --> 00:21:10,080

there's so much you can get from being a

501
00:21:14,070 --> 00:21:12,080
part of first a bunch of our teammates

502
00:21:15,430 --> 00:21:14,080
have even won scholarships here's

503
00:21:19,110 --> 00:21:15,440
samantha hey from northeastern

504
00:21:21,029 --> 00:21:19,120
university and team 1073.

505
00:21:22,950 --> 00:21:21,039
i'm an industrial engineering major at

506
00:21:24,470 --> 00:21:22,960
northeastern university in boston and i

507
00:21:26,870 --> 00:21:24,480
wouldn't be here if i hadn't won a first

508
00:21:28,549 --> 00:21:26,880
robotics scholarship i bet lots of you

509
00:21:30,549 --> 00:21:28,559
are starting to think about life after

510
00:21:33,190 --> 00:21:30,559
high school did you know there are over

511
00:21:34,870 --> 00:21:33,200
800 individual scholarship opportunities

512
00:21:36,390 --> 00:21:34,880
available specifically for students who

513
00:21:38,390 --> 00:21:36,400

participate in first

514

00:21:40,470 --> 00:21:38,400

that's over 16 million dollars worth

515

00:21:42,149 --> 00:21:40,480

waiting up there for you to apply for

516

00:21:44,070 --> 00:21:42,159

last year one out of every four

517

00:21:45,510 --> 00:21:44,080

applicants received an offer those odds

518

00:21:47,510 --> 00:21:45,520

are off the charts

519

00:21:49,590 --> 00:21:47,520

there are more than 150 different

520

00:21:51,830 --> 00:21:49,600

colleges corporations and associations

521

00:21:53,590 --> 00:21:51,840

involved but no worries the stuff you

522

00:21:55,669 --> 00:21:53,600

need to get started is easy to find on

523

00:21:56,830 --> 00:21:55,679

the first scholarship page you guessed

524

00:21:59,110 --> 00:21:56,840

it

525

00:22:00,710 --> 00:21:59,120

usfirst.org scholarships if you're not

526

00:22:02,710 --> 00:22:00,720

quite sure what you want to study don't

527

00:22:03,990 --> 00:22:02,720

worry well many awards for specific

528

00:22:06,070 --> 00:22:04,000

programs others are for any

529

00:22:07,590 --> 00:22:06,080

concentration you choose securing

530

00:22:09,270 --> 00:22:07,600

scholarship offers is like building a

531

00:22:11,110 --> 00:22:09,280

robot in one way the devils and the

532

00:22:12,630 --> 00:22:11,120

details so be sure to check out the

533

00:22:15,350 --> 00:22:12,640

first scholarship page and maybe i'll

534

00:22:17,830 --> 00:22:15,360

see you on campus in the fall

535

00:22:19,590 --> 00:22:17,840

thanks samantha and not everyone knows

536

00:22:22,310 --> 00:22:19,600

about the dean's list

537

00:22:24,310 --> 00:22:22,320

in 2011 the cayman family introduced a

538

00:22:26,390 --> 00:22:24,320

new award honoring first superstar

539

00:22:29,029 --> 00:22:26,400

students the dean's list students

540

00:22:31,029 --> 00:22:29,039

each team has them your team's job is to

541

00:22:33,990 --> 00:22:31,039

nominate two examples of the best of the

542

00:22:35,990 --> 00:22:34,000

best of first the superstar's a first

543

00:22:38,149 --> 00:22:36,000

the deansley students know how important

544

00:22:39,750 --> 00:22:38,159

the mission of first is i wouldn't miss

545

00:22:41,110 --> 00:22:39,760

this for the world

546

00:22:43,029 --> 00:22:41,120

being around

547

00:22:46,950 --> 00:22:43,039

all you guys

548

00:22:49,270 --> 00:22:46,960

you guys represent the leaders

549

00:22:50,070 --> 00:22:49,280

you come to us first and you're like

550

00:22:53,029 --> 00:22:50,080

what

551
00:22:54,310 --> 00:22:53,039
the future of america right here and

552
00:22:56,149 --> 00:22:54,320
thank you guys so much for your

553
00:22:58,789 --> 00:22:56,159
dedication

554
00:23:01,110 --> 00:22:58,799
you guys make me proud

555
00:23:03,510 --> 00:23:01,120
colleges and universities love dean's

556
00:23:06,070 --> 00:23:03,520
list students i remember very well the

557
00:23:09,669 --> 00:23:06,080
dean's list uh winner that came to yale

558
00:23:11,510 --> 00:23:09,679
in 2010 caitlyn mori and the

559
00:23:13,830 --> 00:23:11,520
the characteristics of leadership she

560
00:23:16,310 --> 00:23:13,840
showed both in the classroom in her

561
00:23:17,590 --> 00:23:16,320
first team and in her community uh were

562
00:23:19,830 --> 00:23:17,600
some of the things that were we're

563
00:23:22,470 --> 00:23:19,840

looking for one of the real ethics in

564

00:23:24,070 --> 00:23:22,480

our student body is that students help

565

00:23:25,430 --> 00:23:24,080

each other and in fact they make each

566

00:23:28,310 --> 00:23:25,440

other better

567

00:23:30,549 --> 00:23:28,320

and that is of course one of the core

568

00:23:33,190 --> 00:23:30,559

values of first

569

00:23:36,470 --> 00:23:33,200

and it's embodied in

570

00:23:38,950 --> 00:23:36,480

the dean's list finalists and winners

571

00:23:40,870 --> 00:23:38,960

because what you have done is make your

572

00:23:42,710 --> 00:23:40,880

teammates better i'm proud to say that

573

00:23:45,190 --> 00:23:42,720

our enrolling freshman class typically

574

00:23:47,669 --> 00:23:45,200

includes more than 10 percent students

575

00:23:49,590 --> 00:23:47,679

with first participation last year's

576

00:23:52,230 --> 00:23:49,600

freshman class

577

00:23:57,909 --> 00:23:52,240

included three dean's list winners out

578

00:24:01,990 --> 00:24:00,390

teams honor your best and your brightest

579

00:24:04,470 --> 00:24:02,000

by nominating them for the dean's list

580

00:24:06,149 --> 00:24:04,480

award and for college admissions it is

581

00:24:08,070 --> 00:24:06,159

best to honor juniors because as you

582

00:24:10,630 --> 00:24:08,080

just heard schools love dean's list

583

00:24:13,029 --> 00:24:10,640

award winners all of them and for all of

584

00:24:15,190 --> 00:24:13,039

us especially the dean's list winners

585

00:24:18,149 --> 00:24:15,200

become active alumni

586

00:24:20,470 --> 00:24:18,159

what i like about the dean's list in

587

00:24:23,029 --> 00:24:20,480

selecting the students for the stainless

588

00:24:23,990 --> 00:24:23,039

the outreach going into the community

589

00:24:29,190 --> 00:24:24,000

helping

590

00:24:37,510 --> 00:24:29,200

promise of forevermore being potter

591

00:24:42,149 --> 00:24:40,230

hi teams i'm kate and i'm colin we're

592

00:24:43,909 --> 00:24:42,159

the frc kid aparts team we're getting

593

00:24:45,029 --> 00:24:43,919

ready for the upcoming season we're

594

00:24:46,870 --> 00:24:45,039

going to tell you about some really

595

00:24:48,549 --> 00:24:46,880

exciting updates to the kit

596

00:24:50,470 --> 00:24:48,559

first off to all of you who fill out the

597

00:24:52,549 --> 00:24:50,480

kit apart survey after the season we

598

00:24:54,230 --> 00:24:52,559

can't thank you enough we review all the

599

00:24:56,070 --> 00:24:54,240

feedback and incorporated some of your

600

00:24:58,149 --> 00:24:56,080

suggestions this season

601
00:25:00,310 --> 00:24:58,159
thank you to the 2013 suppliers your

602
00:25:01,669 --> 00:25:00,320
generosity is key to first the

603
00:25:03,110 --> 00:25:01,679
electronic component industry

604
00:25:04,789 --> 00:25:03,120
association has been helping their

605
00:25:06,870 --> 00:25:04,799
members donate individual components of

606
00:25:08,710 --> 00:25:06,880
the control system boards the supplier

607
00:25:10,630 --> 00:25:08,720
network is bigger than it's ever been

608
00:25:12,789 --> 00:25:10,640
the kit distribution model continues to

609
00:25:15,269 --> 00:25:12,799
evolve once again the kit is broken into

610
00:25:17,590 --> 00:25:15,279
three separate categories kickoff first

611
00:25:19,430 --> 00:25:17,600
choice and virtual until this year every

612
00:25:21,430 --> 00:25:19,440
team received a drive base as part of

613
00:25:23,190 --> 00:25:21,440

their kickoff kit but this year veteran

614

00:25:24,789 --> 00:25:23,200

teams were given an option they were

615

00:25:26,549 --> 00:25:24,799

able to choose between receiving the kit

616

00:25:29,909 --> 00:25:26,559

of parts drive system or a product

617

00:25:32,710 --> 00:25:29,919

donation voucher to andymark for 450

618

00:25:34,549 --> 00:25:32,720

nearly 700 teams chose the voucher

619

00:25:37,110 --> 00:25:34,559

we've added new items to the kickoff kit

620

00:25:39,590 --> 00:25:37,120

from 3m including a variety of adhesives

621

00:25:41,269 --> 00:25:39,600

electrical tape terminals and cabling

622

00:25:42,950 --> 00:25:41,279

we're continuing to add more items to

623

00:25:44,870 --> 00:25:42,960

first choice each year and moving some

624

00:25:47,430 --> 00:25:44,880

of the less frequently used items from

625

00:25:49,350 --> 00:25:47,440

the kickoff kit to first choice for

626
00:25:51,830 --> 00:25:49,360
example this year all of the pneumatic

627
00:25:53,990 --> 00:25:51,840
components are in first choice also new

628
00:25:56,070 --> 00:25:54,000
this year first choice ordering open to

629
00:25:56,950 --> 00:25:56,080
registered and paid teams on december

630
00:25:59,110 --> 00:25:56,960
10th

631
00:26:00,710 --> 00:25:59,120
the virtual kit is also growing we have

632
00:26:01,590 --> 00:26:00,720
product donation vouchers in the kit

633
00:26:03,830 --> 00:26:01,600
again

634
00:26:05,590 --> 00:26:03,840
most of the voucher codes are in tim

635
00:26:07,350 --> 00:26:05,600
just like first choice a majority of

636
00:26:08,870 --> 00:26:07,360
these vouchers were available to teams

637
00:26:10,789 --> 00:26:08,880
on december 10th

638
00:26:12,630 --> 00:26:10,799

and for the first time there are now

639

00:26:15,830 --> 00:26:12,640

three distinct legal motor controllers

640

00:26:17,430 --> 00:26:15,840

for frc the jaguar victor and the new

641

00:26:19,269 --> 00:26:17,440

talon the talon comes from cross the

642

00:26:21,190 --> 00:26:19,279

road electronics it has the smallest

643

00:26:22,470 --> 00:26:21,200

footprint of all three and is the only

644

00:26:24,310 --> 00:26:22,480

one that's sealed

645

00:26:26,390 --> 00:26:24,320

the victor and jaguar are available this

646

00:26:28,070 --> 00:26:26,400

year from innovation first the victors

647

00:26:29,590 --> 00:26:28,080

have been in frc the longest but have

648

00:26:31,190 --> 00:26:29,600

been upgraded this year to have a more

649

00:26:33,190 --> 00:26:31,200

linear response

650

00:26:35,669 --> 00:26:33,200

the jaguars are can capable and the

651
00:26:37,430 --> 00:26:35,679
boards inside are now conformal coated

652
00:26:39,430 --> 00:26:37,440
you won't receive any motor controllers

653
00:26:41,110 --> 00:26:39,440
in the black coat instead you'll receive

654
00:26:43,750 --> 00:26:41,120
a voucher which allows you to choose two

655
00:26:45,430 --> 00:26:43,760
victors or jaguars from innovation first

656
00:26:47,590 --> 00:26:45,440
we're excited to offer two different

657
00:26:49,269 --> 00:26:47,600
types of simulations this year diamond

658
00:26:51,510 --> 00:26:49,279
bullet studios is backed to offer a

659
00:26:52,470 --> 00:26:51,520
virtual 2013 game to help you develop

660
00:26:54,310 --> 00:26:52,480
strategy

661
00:26:56,310 --> 00:26:54,320
in addition national instruments has

662
00:26:58,630 --> 00:26:56,320
developed a crio simulator to help

663
00:27:00,310 --> 00:26:58,640

programmers develop and test code no

664

00:27:02,630 --> 00:27:00,320

more waiting until week six to test your

665

00:27:04,470 --> 00:27:02,640

code the game manual and q a apps are

666

00:27:06,789 --> 00:27:04,480

updated and don't miss the field tour

667

00:27:08,710 --> 00:27:06,799

videos on the frc manual page we're

668

00:27:52,789 --> 00:27:08,720

looking forward to a great season good

669

00:27:58,149 --> 00:27:55,430

welcome to the 2013 first robotics

670

00:28:00,230 --> 00:27:58,159

competition and this year's game

671

00:28:04,789 --> 00:28:00,240

ultimate ascent

672

00:28:07,029 --> 00:28:04,799

foot field

673

00:28:09,029 --> 00:28:07,039

alliances of three teams each operate

674

00:28:11,110 --> 00:28:09,039

their robots from behind alliance walls

675

00:28:13,269 --> 00:28:11,120

at the ends of the field

676
00:28:15,909 --> 00:28:13,279
four scoring goals are located in each

677
00:28:17,190 --> 00:28:15,919
alliance wall located at three different

678
00:28:19,510 --> 00:28:17,200
heights

679
00:28:22,310 --> 00:28:19,520
each alliance wall also has feeder

680
00:28:24,630 --> 00:28:22,320
stations located at the ends of the wall

681
00:28:26,549 --> 00:28:24,640
two large pyramids occupy the middle of

682
00:28:28,149 --> 00:28:26,559
the field about a third of the way from

683
00:28:30,149 --> 00:28:28,159
the alliance walls

684
00:28:32,470 --> 00:28:30,159
each pyramid has three rungs leading up

685
00:28:33,750 --> 00:28:32,480
to the top which can be climbed by the

686
00:28:35,510 --> 00:28:33,760
robots

687
00:28:37,750 --> 00:28:35,520
at the summit of the pyramid is an

688
00:28:39,909 --> 00:28:37,760

additional scoring goal

689

00:28:42,630 --> 00:28:39,919

ultimate ascent is played with standard

690

00:28:45,350 --> 00:28:42,640

flying discs of three different colors

691

00:28:47,430 --> 00:28:45,360

the objective is to score as many disks

692

00:28:49,510 --> 00:28:47,440

as possible in the goals at the far end

693

00:28:52,149 --> 00:28:49,520

of the field the harder the goal is to

694

00:28:53,990 --> 00:28:52,159

hit the more points it's worth

695

00:28:56,149 --> 00:28:54,000

robots can track the reflective vision

696

00:28:58,149 --> 00:28:56,159

targets around each goal allowing them

697

00:29:00,789 --> 00:28:58,159

to target goals from anywhere on the

698

00:29:02,789 --> 00:29:00,799

field the match begins with each robot

699

00:29:04,149 --> 00:29:02,799

in contact with the pyramid at the far

700

00:29:06,230 --> 00:29:04,159

end of the field

701

00:29:09,350 --> 00:29:06,240

robots can be pre-loaded with up to

702

00:29:11,269 --> 00:29:09,360

three discs each a 15 second autonomous

703

00:29:13,990 --> 00:29:11,279

period starts the match during the

704

00:29:16,710 --> 00:29:14,000

autonomous period robots can score disks

705

00:29:18,389 --> 00:29:16,720

using pre-programmed instructions every

706

00:29:21,350 --> 00:29:18,399

end goal scored during the autonomous

707

00:29:23,430 --> 00:29:21,360

period scores double points as a bonus

708

00:29:26,070 --> 00:29:23,440

at the end of this period human drivers

709

00:29:28,230 --> 00:29:26,080

step forward to take the controls as the

710

00:29:30,549 --> 00:29:28,240

tele-operated period starts teams

711

00:29:31,990 --> 00:29:30,559

command their robots to score as quickly

712

00:29:34,070 --> 00:29:32,000

as possible

713

00:29:36,710 --> 00:29:34,080

discs can be scored by throwing or

714

00:29:39,029 --> 00:29:36,720

placing them into the goals

715

00:29:40,389 --> 00:29:39,039

robots can hold up to four discs at one

716

00:29:42,389 --> 00:29:40,399

time

717

00:29:45,029 --> 00:29:42,399

after gathering discs they can try to

718

00:29:47,350 --> 00:29:45,039

score from anywhere on the field

719

00:29:49,029 --> 00:29:47,360

human players enter discs onto the field

720

00:29:51,830 --> 00:29:49,039

by passing them through slots in the

721

00:29:54,070 --> 00:29:51,840

feeder stations

722

00:29:55,750 --> 00:29:54,080

robots in the loading zone are protected

723

00:29:58,950 --> 00:29:55,760

from interference by their opponents

724

00:30:01,190 --> 00:29:58,960

while they receive disks

725

00:30:03,350 --> 00:30:01,200

but robots not touching this safe zone

726
00:30:05,269 --> 00:30:03,360
have to deal with defending opponent

727
00:30:07,350 --> 00:30:05,279
robots

728
00:30:09,430 --> 00:30:07,360
near the end of the match human players

729
00:30:10,950 --> 00:30:09,440
can throw discs on the field and try to

730
00:30:13,190 --> 00:30:10,960
score

731
00:30:15,350 --> 00:30:13,200
at the same time robots drive to their

732
00:30:16,950 --> 00:30:15,360
pyramids and start to climb for bonus

733
00:30:20,710 --> 00:30:16,960
points

734
00:30:22,549 --> 00:30:20,720
they will receive

735
00:30:24,470 --> 00:30:22,559
robots can climb up the sides or the

736
00:30:26,470 --> 00:30:24,480
corners of the pyramid but they have to

737
00:30:29,190 --> 00:30:26,480
remain there as the game ends to collect

738
00:30:31,190 --> 00:30:29,200

their bonuses

739

00:30:40,870 --> 00:30:31,200

good luck and we'll see you at the

740

00:30:40,880 --> 00:30:50,870

oh

741

00:31:08,389 --> 00:30:53,110

now here's the code

742

00:32:01,110 --> 00:31:35,190

do

743

00:32:06,070 --> 00:32:03,669

hi everybody back by popular demand i'm

744

00:32:07,430 --> 00:32:06,080

derek mechanical engineering manager

745

00:32:09,110 --> 00:32:07,440

and i'm matt electrical engineering

746

00:32:10,470 --> 00:32:09,120

manager once again we are here to guide

747

00:32:12,470 --> 00:32:10,480

you around the official playing field

748

00:32:14,149 --> 00:32:12,480

for ultimate ascent our first stop is

749

00:32:16,070 --> 00:32:14,159

the pyramid each alliance has one

750

00:32:18,310 --> 00:32:16,080

pyramid that is located adjacent to its

751
00:32:20,070 --> 00:32:18,320
auto line the pyramids are powder coated

752
00:32:22,070 --> 00:32:20,080
red or blue to indicate which alliance

753
00:32:23,590 --> 00:32:22,080
they belong to hopefully your robot will

754
00:32:25,269 --> 00:32:23,600
climb the pyramid for bonus points at

755
00:32:27,110 --> 00:32:25,279
the end of the match the pyramid has

756
00:32:28,630 --> 00:32:27,120
three rungs on each side that the robot

757
00:32:30,789 --> 00:32:28,640
can use to climb

758
00:32:33,350 --> 00:32:30,799
each rung is made of a steel tube the

759
00:32:35,029 --> 00:32:33,360
rungs are located at 30 60 and 90 inches

760
00:32:37,110 --> 00:32:35,039
from the ground the levels are important

761
00:32:38,870 --> 00:32:37,120
to understand for scoring level one goes

762
00:32:40,870 --> 00:32:38,880
from the floor to the top of the first

763
00:32:43,110 --> 00:32:40,880

rung level two goes from the top of the

764

00:32:44,870 --> 00:32:43,120

first rung to the top of the second and

765

00:32:46,950 --> 00:32:44,880

level three goes from the top of the

766

00:32:48,470 --> 00:32:46,960

second rung to the top of the third the

767

00:32:50,389 --> 00:32:48,480

rungs attach at each corner with a

768

00:32:52,630 --> 00:32:50,399

gusset plate to create a knuckle check

769

00:32:54,549 --> 00:32:52,640

out this bump underneath the pyramid is

770

00:32:56,389 --> 00:32:54,559

a set of steel base plates and wood

771

00:32:58,389 --> 00:32:56,399

floor protectors each are covered by

772

00:32:59,909 --> 00:32:58,399

carpet to further protect the floor

773

00:33:01,509 --> 00:32:59,919

together the floor protector and the

774

00:33:03,350 --> 00:33:01,519

carpet create a small lip around the

775

00:33:04,710 --> 00:33:03,360

pyramid there's a goal at the top of the

776

00:33:06,549 --> 00:33:04,720

pyramid that we'll discuss more in the

777

00:33:08,310 --> 00:33:06,559

goals video but be aware of the bottom

778

00:33:09,590 --> 00:33:08,320

of the goal so it isn't in your way

779

00:33:11,110 --> 00:33:09,600

while climbing

780

00:33:14,070 --> 00:33:11,120

that's all for this episode good luck

781

00:33:18,230 --> 00:33:15,990

welcome back everybody i'm derek and

782

00:33:20,070 --> 00:33:18,240

this is matt and these are the goals for

783

00:33:21,909 --> 00:33:20,080

ultimate ascent the big thing to

784

00:33:23,590 --> 00:33:21,919

remember is that your goals the goals

785

00:33:25,590 --> 00:33:23,600

you want to score in are on the opposite

786

00:33:27,909 --> 00:33:25,600

end of the field from your drivers

787

00:33:30,389 --> 00:33:27,919

each alliance has four kinds of goals

788

00:33:31,909 --> 00:33:30,399

low middle high and pyramid your low

789

00:33:33,830 --> 00:33:31,919

goal is between your opponent player

790

00:33:35,669 --> 00:33:33,840

station and feeder station your middle

791

00:33:37,509 --> 00:33:35,679

goals are above the outside player

792

00:33:39,750 --> 00:33:37,519

stations and the high goals are above

793

00:33:41,430 --> 00:33:39,760

the center player station the goals all

794

00:33:42,549 --> 00:33:41,440

have chains to help slow down flying

795

00:33:44,470 --> 00:33:42,559

discs

796

00:33:46,470 --> 00:33:44,480

the pyramid goal is a polycarbonate and

797

00:33:48,230 --> 00:33:46,480

metal framed basket with a post sticking

798

00:33:50,870 --> 00:33:48,240

out of the top to support the chains

799

00:33:53,430 --> 00:33:50,880

each goal is marked by a vision target

800

00:33:55,029 --> 00:33:53,440

baskets help keep the discs in the goal

801
00:33:56,789 --> 00:33:55,039
this year we're using weight sensors to

802
00:33:58,870 --> 00:33:56,799
keep score they're calibrated throughout

803
00:34:00,710 --> 00:33:58,880
the event by the fta officials will

804
00:34:02,149 --> 00:34:00,720
score the pyramid goal manually once a

805
00:34:03,750 --> 00:34:02,159
disc enters the goal it stays there

806
00:34:05,590 --> 00:34:03,760
until the end of the match

807
00:34:08,869 --> 00:34:05,600
that covers it next up behind the

808
00:34:12,470 --> 00:34:10,629
welcome to episode 3 behind the alliance

809
00:34:13,990 --> 00:34:12,480
wall i'm matt and i'm joined by derek to

810
00:34:14,950 --> 00:34:14,000
show you what to expect in the player

811
00:34:16,869 --> 00:34:14,960
stations

812
00:34:18,069 --> 00:34:16,879
each alliance has three identical player

813
00:34:19,750 --> 00:34:18,079

stations

814

00:34:21,990 --> 00:34:19,760

each team gets its own player station

815

00:34:23,669 --> 00:34:22,000

with a shelf for their operator console

816

00:34:26,069 --> 00:34:23,679

the shelf has a two inch strip of hook

817

00:34:27,669 --> 00:34:26,079

and loop tape loop side up centered on

818

00:34:28,869 --> 00:34:27,679

it there's an ethernet cable that

819

00:34:30,470 --> 00:34:28,879

connects you to the field management

820

00:34:32,230 --> 00:34:30,480

system and allows you to control your

821

00:34:34,069 --> 00:34:32,240

robot during the match

822

00:34:35,909 --> 00:34:34,079

the starting line is four feet behind

823

00:34:38,389 --> 00:34:35,919

the alliance wall everyone has to stay

824

00:34:39,909 --> 00:34:38,399

behind it during autonomous mode

825

00:34:41,669 --> 00:34:39,919

there's no back line this year but you

826

00:34:43,990 --> 00:34:41,679

must stay on the carpet during the match

827

00:34:46,069 --> 00:34:44,000

the match starts with 45 white and six

828

00:34:47,909 --> 00:34:46,079

colored discs in each alliance station

829

00:34:50,710 --> 00:34:47,919

the feeder stations are made of clear

830

00:34:52,550 --> 00:34:50,720

polycarbonate outlined in your color

831

00:34:54,389 --> 00:34:52,560

watch out for the scoring equipment for

832

00:34:55,990 --> 00:34:54,399

the low goal each player station has a

833

00:34:58,310 --> 00:34:56,000

string of leds

834

00:35:00,310 --> 00:34:58,320

green lights mean it's safe for people

835

00:35:02,069 --> 00:35:00,320

to enter the field when the lights go

836

00:35:04,150 --> 00:35:02,079

off the match is about ready to begin

837

00:35:06,069 --> 00:35:04,160

and you must exit the field immediately

838

00:35:08,550 --> 00:35:06,079

yellow lights mean your robot's climb

839

00:35:10,470 --> 00:35:08,560

has been ruled invalid by ref now you've

840

00:35:12,150 --> 00:35:10,480

seen behind the alliance wall be sure to

841

00:35:15,270 --> 00:35:12,160

check out all of our other field tour

842

00:35:18,470 --> 00:35:16,870

let's talk about vision targets we're

843

00:35:19,910 --> 00:35:18,480

going to take you on a tour of the retro

844

00:35:21,670 --> 00:35:19,920

reflective parts of the field that can

845

00:35:22,790 --> 00:35:21,680

be used for tracking with a light source

846

00:35:24,630 --> 00:35:22,800

and camera

847

00:35:26,550 --> 00:35:24,640

retro reflective materials reflect light

848

00:35:28,550 --> 00:35:26,560

directly back to the source this tape

849

00:35:30,069 --> 00:35:28,560

doesn't seem reflective to the naked eye

850

00:35:31,910 --> 00:35:30,079

but if your light source is adjacent to

851
00:35:33,190 --> 00:35:31,920
your camera lens it has a dramatically

852
00:35:34,950 --> 00:35:33,200
different appearance

853
00:35:36,870 --> 00:35:34,960
each goal is highlighted by a border of

854
00:35:38,470 --> 00:35:36,880
silver retroreflective tape it was

855
00:35:39,990 --> 00:35:38,480
donated by 3m

856
00:35:42,069 --> 00:35:40,000
you've seen it used on firefighting

857
00:35:44,150 --> 00:35:42,079
apparel it's really similar to the tape

858
00:35:45,829 --> 00:35:44,160
we used last year still we wanted to

859
00:35:48,950 --> 00:35:45,839
make sure you are aware in case your

860
00:35:50,950 --> 00:35:48,960
2013 implementation needs tweaking only

861
00:35:52,630 --> 00:35:50,960
your testing will tell you for sure

862
00:35:54,390 --> 00:35:52,640
this shouldn't be too difficult since

863
00:35:56,230 --> 00:35:54,400

the tape will be in the kit of parts

864

00:35:58,710 --> 00:35:56,240

there's a four inch border around each

865

00:36:01,109 --> 00:35:58,720

low middle and high goal the pyramid

866

00:36:02,870 --> 00:36:01,119

goal has a four inch wide alignment

867

00:36:04,630 --> 00:36:02,880

marks at the center of each opening and

868

00:36:06,390 --> 00:36:04,640

the post is covered with retroreflective

869

00:36:08,710 --> 00:36:06,400

tape the seams between the player

870

00:36:10,390 --> 00:36:08,720

stations have four inch strips of tape

871

00:36:15,750 --> 00:36:10,400

that's it for the vision target tour

872

00:36:19,349 --> 00:36:17,109

we're back and excited to share the

873

00:36:26,069 --> 00:36:19,359

details on field netting with you guys

874

00:36:29,030 --> 00:36:27,510

the net will help keep them on the field

875

00:36:30,950 --> 00:36:29,040

where they belong

876

00:36:33,030 --> 00:36:30,960

the net is made of five-inch black nylon

877

00:36:34,550 --> 00:36:33,040

squares we'll rig it just outside each

878

00:36:36,630 --> 00:36:34,560

guardrail there will be an easily

879

00:36:38,710 --> 00:36:36,640

removable section to help field reset go

880

00:36:40,390 --> 00:36:38,720

smoothly we'll try to set the net three

881

00:36:41,829 --> 00:36:40,400

feet back from the field border but each

882

00:36:43,430 --> 00:36:41,839

venue is different and it might need to

883

00:36:45,430 --> 00:36:43,440

be set as close as a foot and a half

884

00:36:47,030 --> 00:36:45,440

from the field the rules prohibit robots

885

00:36:48,950 --> 00:36:47,040

from contacting anything outside the

886

00:36:50,390 --> 00:36:48,960

field border but this is a new feature

887

00:36:52,069 --> 00:36:50,400

and we want to make sure you're aware of

888

00:36:53,349 --> 00:36:52,079

it as you design your robot getting

889

00:36:55,349 --> 00:36:53,359

caught in the net could result in your

890

00:36:57,750 --> 00:36:55,359

robot being disabled so please take

891

00:36:59,030 --> 00:36:57,760

extra caution to avoid these hazards

892

00:37:01,349 --> 00:36:59,040

that's it for the field netting

893

00:37:05,190 --> 00:37:01,359

discussion next up the field management

894

00:37:09,589 --> 00:37:06,950

hi i'm derek welcome to our tour of the

895

00:37:11,430 --> 00:37:09,599

field management system or fms it's the

896

00:37:13,430 --> 00:37:11,440

backbone of the arena's scoring and

897

00:37:16,150 --> 00:37:13,440

communication system and we hope this

898

00:37:18,230 --> 00:37:16,160

video makes it more transparent to you

899

00:37:20,150 --> 00:37:18,240

all this detail is covered in the fms

900

00:37:22,630 --> 00:37:20,160

white paper released by first and

901
00:37:24,630 --> 00:37:22,640
announced in frank's frc blog last

902
00:37:26,470 --> 00:37:24,640
august the fms encompasses all the

903
00:37:28,790 --> 00:37:26,480
controls for the field creating match

904
00:37:30,710 --> 00:37:28,800
schedules managing all field hardware

905
00:37:32,390 --> 00:37:30,720
scoring the matches in real time posting

906
00:37:33,990 --> 00:37:32,400
information to the audience screen and

907
00:37:36,069 --> 00:37:34,000
posting results to the web controlling

908
00:37:38,630 --> 00:37:36,079
an frc robot requires two core

909
00:37:40,630 --> 00:37:38,640
components a robot with an onboard crio

910
00:37:43,670 --> 00:37:40,640
controller and the operator's netbook

911
00:37:45,910 --> 00:37:43,680
running the frc driver station software

912
00:37:47,510 --> 00:37:45,920
the frc robot control system is built

913
00:37:50,069 --> 00:37:47,520

such that the driver station is the

914

00:37:51,670 --> 00:37:50,079

master controller in other words the

915

00:37:53,670 --> 00:37:51,680

status and actions of the robot are

916

00:37:54,950 --> 00:37:53,680

determined by commands from the driver

917

00:37:59,030 --> 00:37:54,960

station

918

00:38:01,510 --> 00:37:59,040

can go one of three ways using the radio

919

00:38:03,510 --> 00:38:01,520

in the netbook a separate radio like the

920

00:38:05,270 --> 00:38:03,520

access point used on the playing field

921

00:38:07,030 --> 00:38:05,280

or through a tether

922

00:38:08,790 --> 00:38:07,040

on the competition field communication

923

00:38:10,230 --> 00:38:08,800

packets from a driver station are routed

924

00:38:11,910 --> 00:38:10,240

through the managed switches in the

925

00:38:13,910 --> 00:38:11,920

station control cabinet and scorpion

926
00:38:15,670 --> 00:38:13,920
case to the field access point which

927
00:38:17,430 --> 00:38:15,680
then transmits the packets wirelessly to

928
00:38:19,430 --> 00:38:17,440
the appropriate robot

929
00:38:21,430 --> 00:38:19,440
the fms software communicates with each

930
00:38:23,910 --> 00:38:21,440
driver station via the field network and

931
00:38:25,829 --> 00:38:23,920
employs team-specific vlans to isolate

932
00:38:27,910 --> 00:38:25,839
each team's data traffic

933
00:38:30,550 --> 00:38:27,920
the fms software does not communicate

934
00:38:32,230 --> 00:38:30,560
with the robots directly instead fms

935
00:38:34,230 --> 00:38:32,240
gathers data from the driver's station

936
00:38:36,310 --> 00:38:34,240
about the robot status and tells the

937
00:38:38,390 --> 00:38:36,320
driver station which state and mode the

938
00:38:40,790 --> 00:38:38,400

robot should be in as well as the player

939

00:38:42,230 --> 00:38:40,800

station position and alliance color

940

00:38:44,550 --> 00:38:42,240

if you see your team's stack light

941

00:38:46,310 --> 00:38:44,560

flashing during a match that indicates

942

00:38:48,470 --> 00:38:46,320

that fms does not think your driver

943

00:38:49,990 --> 00:38:48,480

station has a connection to your robot

944

00:38:52,230 --> 00:38:50,000

there are two main ways for this

945

00:38:55,270 --> 00:38:52,240

condition to occur the driver station is

946

00:38:57,270 --> 00:38:55,280

not communicating with fms or the driver

947

00:38:59,430 --> 00:38:57,280

station is telling fms that it cannot

948

00:39:01,270 --> 00:38:59,440

communicate with the robot

949

00:39:03,190 --> 00:39:01,280

the fms software configures the managed

950

00:39:04,630 --> 00:39:03,200

switches and access point before each

951
00:39:06,710 --> 00:39:04,640
match to ensure the data and

952
00:39:08,950 --> 00:39:06,720
communications for each team is kept

953
00:39:10,950 --> 00:39:08,960
separate from others specifically each

954
00:39:12,470 --> 00:39:10,960
team has its own vlan within which all

955
00:39:14,310 --> 00:39:12,480
data is passed

956
00:39:16,069 --> 00:39:14,320
the characteristics of a vlan ensure

957
00:39:18,150 --> 00:39:16,079
that the command packets from one team's

958
00:39:19,990 --> 00:39:18,160
driver station do not cause a response

959
00:39:22,310 --> 00:39:20,000
on another team's robot

960
00:39:23,670 --> 00:39:22,320
these vlans exist on both the wired and

961
00:39:25,670 --> 00:39:23,680
wireless side of the playing fields

962
00:39:27,430 --> 00:39:25,680
network this is why for example it's

963
00:39:29,349 --> 00:39:27,440

necessary for a team in blue player

964

00:39:31,109 --> 00:39:29,359

station number one to connect their

965

00:39:33,030 --> 00:39:31,119

driver station into the corresponding

966

00:39:34,630 --> 00:39:33,040

cable for that station

967

00:39:36,630 --> 00:39:34,640

on the wireless side of the network the

968

00:39:39,030 --> 00:39:36,640

v lans are configured in the field access

969

00:39:41,430 --> 00:39:39,040

point by broadcasting an ssid for each

970

00:39:43,430 --> 00:39:41,440

of the six teams on the field each with

971

00:39:45,270 --> 00:39:43,440

its own encryption pass key

972

00:39:47,270 --> 00:39:45,280

these v lans are configured prior to the

973

00:39:49,430 --> 00:39:47,280

start of each match so that only the six

974

00:39:50,470 --> 00:39:49,440

teams assigned in fms may operate on the

975

00:39:52,069 --> 00:39:50,480

field

976
00:39:54,310 --> 00:39:52,079
this is why it's necessary to configure

977
00:39:56,950 --> 00:39:54,320
your d-link radio at the kiosk at each

978
00:39:58,630 --> 00:39:56,960
event your team attends once the process

979
00:40:00,310 --> 00:39:58,640
of setting up all the vlans on the

980
00:40:03,349 --> 00:40:00,320
playing field is complete through a

981
00:40:05,670 --> 00:40:03,359
process frc calls match pre-start the

982
00:40:07,829 --> 00:40:05,680
fms starts sending out command packets

983
00:40:09,589 --> 00:40:07,839
to the six driver stations

984
00:40:11,030 --> 00:40:09,599
when a team plugs their driver station

985
00:40:13,270 --> 00:40:11,040
into the ethernet cable for their

986
00:40:15,430 --> 00:40:13,280
assigned player station the driver

987
00:40:19,510 --> 00:40:15,440
station receives these command packets

988
00:40:21,589 --> 00:40:19,520

from fms and switches over into fms mode

989

00:40:24,390 --> 00:40:21,599

at this point fms connected is displayed

990

00:40:26,230 --> 00:40:24,400

on the driver station operation tab

991

00:40:27,750 --> 00:40:26,240

when in fms mode the driver station

992

00:40:29,990 --> 00:40:27,760

continues to serve as the master

993

00:40:32,710 --> 00:40:30,000

controller for the robot but state and

994

00:40:34,870 --> 00:40:32,720

mode are dictated by the fms the fms

995

00:40:38,150 --> 00:40:34,880

tells the driver station what to do and

996

00:40:40,069 --> 00:40:38,160

the driver station then tells the robot

997

00:40:42,710 --> 00:40:40,079

you can use practice mode at home to

998

00:40:43,829 --> 00:40:42,720

simulate match timing fms mode is used

999

00:40:45,829 --> 00:40:43,839

when you're connected to the field

1000

00:40:47,190 --> 00:40:45,839

network the two modes do have some

1001
00:40:48,790 --> 00:40:47,200
differences but the majority of the

1002
00:40:50,550 --> 00:40:48,800
functions are identical

1003
00:40:51,910 --> 00:40:50,560
both operating modes step through the

1004
00:40:53,670 --> 00:40:51,920
same states which are listed and

1005
00:40:55,030 --> 00:40:53,680
described in more detail in the fms

1006
00:40:56,950 --> 00:40:55,040
white paper

1007
00:40:58,630 --> 00:40:56,960
in practice mode unplugging a joystick

1008
00:41:00,630 --> 00:40:58,640
will result in the robot being switched

1009
00:41:02,390 --> 00:41:00,640
to disabled this is designed to be a

1010
00:41:04,710 --> 00:41:02,400
safety feature as the robot may be

1011
00:41:06,470 --> 00:41:04,720
running in a variety of environments

1012
00:41:08,950 --> 00:41:06,480
that might not be equipped with barriers

1013
00:41:11,349 --> 00:41:08,960

to safely contain the robot

1014

00:41:13,670 --> 00:41:11,359

unplugging a joystick in fms mode will

1015

00:41:15,750 --> 00:41:13,680

not result in the robot being disabled

1016

00:41:17,670 --> 00:41:15,760

if a joystick becomes disconnected

1017

00:41:19,430 --> 00:41:17,680

simply plugging it back in will not

1018

00:41:20,390 --> 00:41:19,440

result in it returning to normal

1019

00:41:22,870 --> 00:41:20,400

operation

1020

00:41:25,510 --> 00:41:22,880

the user must press f1 on the driver

1021

00:41:28,069 --> 00:41:25,520

station to manually rescan the usb

1022

00:41:30,309 --> 00:41:28,079

interface to redetect the joystick more

1023

00:41:31,829 --> 00:41:30,319

details are included in the fms white

1024

00:41:34,069 --> 00:41:31,839

paper

1025

00:41:36,069 --> 00:41:34,079

finally the network port used by the

1026

00:41:37,990 --> 00:41:36,079

driver station to send command packets

1027

00:41:41,270 --> 00:41:38,000

to the robot is different in practice

1028

00:41:44,069 --> 00:41:41,280

mode from the one used in fms mode

1029

00:41:46,150 --> 00:41:44,079

details about network ports open on the

1030

00:41:48,150 --> 00:41:46,160

playing field are included in the fms

1031

00:41:50,069 --> 00:41:48,160

white paper and the arena section of the

1032

00:41:51,589 --> 00:41:50,079

frc game manual

1033

00:41:54,230 --> 00:41:51,599

the practice field at your event isn't

1034

00:41:55,670 --> 00:41:54,240

integrated into the fms at all it uses a

1035

00:41:57,829 --> 00:41:55,680

different access point and doesn't

1036

00:41:59,589 --> 00:41:57,839

employ vlans in fact if you want to

1037

00:42:01,270 --> 00:41:59,599

operate without a tether on the practice

1038

00:42:02,870 --> 00:42:01,280

field you'll need to use a first

1039

00:42:04,630 --> 00:42:02,880

supplied radio that's configured

1040

00:42:06,230 --> 00:42:04,640

specifically to operate with a practice

1041

00:42:07,670 --> 00:42:06,240

field access point

1042

00:42:09,589 --> 00:42:07,680

so far we've been talking about

1043

00:42:11,990 --> 00:42:09,599

infrastructure that's been in place for

1044

00:42:13,510 --> 00:42:12,000

a few years however we want to make you

1045

00:42:16,150 --> 00:42:13,520

aware of some differences being

1046

00:42:17,910 --> 00:42:16,160

implemented for the 2013 season first

1047

00:42:19,829 --> 00:42:17,920

we've incorporated bandwidth limiting

1048

00:42:21,349 --> 00:42:19,839

each team has a bandwidth limit of 7

1049

00:42:23,510 --> 00:42:21,359

megabits per second while on the

1050

00:42:24,790 --> 00:42:23,520

competition field we strongly recommend

1051

00:42:26,550 --> 00:42:24,800

that you incorporate this bandwidth

1052

00:42:28,790 --> 00:42:26,560

limit for practice at home to mimic the

1053

00:42:30,309 --> 00:42:28,800

fms environment details on how to do

1054

00:42:33,030 --> 00:42:30,319

this and more information are included

1055

00:42:35,030 --> 00:42:33,040

in the fms whitepaper second the fms now

1056

00:42:37,270 --> 00:42:35,040

gives control and status packets the

1057

00:42:39,109 --> 00:42:37,280

highest priority on the network what

1058

00:42:41,589 --> 00:42:39,119

this means is that even though teams may

1059

00:42:43,349 --> 00:42:41,599

be using more network bandwidth robot

1060

00:42:46,150 --> 00:42:43,359

control and status packets are

1061

00:42:48,470 --> 00:42:46,160

prioritized over other user data like

1062

00:42:50,630 --> 00:42:48,480

camera feeds third we've changed the

1063

00:42:52,550 --> 00:42:50,640

antenna used on the field access point

1064

00:42:54,069 --> 00:42:52,560

the new antenna provides improved signal

1065

00:42:55,430 --> 00:42:54,079

strength and is directionally focused on

1066

00:42:57,030 --> 00:42:55,440

the playing field

1067

00:42:59,190 --> 00:42:57,040

we hope this helps you understand the

1068

00:43:00,390 --> 00:42:59,200

conditions to expect when on the field

1069

00:43:02,870 --> 00:43:00,400

and how they may differ from the

1070

00:43:06,470 --> 00:43:02,880

conditions at home or the practice field

1071

00:43:11,190 --> 00:43:09,030

welcome back to our tour of the 2013 frc

1072

00:43:12,550 --> 00:43:11,200

field i'm matt i'm derek and this is

1073

00:43:14,309 --> 00:43:12,560

colin

1074

00:43:16,309 --> 00:43:14,319

this clip focuses on the belay system

1075

00:43:18,390 --> 00:43:16,319

we'll use to safely lower robots down

1076

00:43:19,990 --> 00:43:18,400

from the pyramid the belay system is

1077

00:43:22,150 --> 00:43:20,000

made up of climbing ropes that connect

1078

00:43:23,270 --> 00:43:22,160

to your robot with carabiners make sure

1079

00:43:24,950 --> 00:43:23,280

you have mounting points for the

1080

00:43:26,710 --> 00:43:24,960

carabiners or someplace to choke the

1081

00:43:28,550 --> 00:43:26,720

line on your robot that are centered and

1082

00:43:30,790 --> 00:43:28,560

accessible robot inspectors will be

1083

00:43:32,550 --> 00:43:30,800

looking for this key safety feature

1084

00:43:34,630 --> 00:43:32,560

only designated field volunteers will

1085

00:43:36,950 --> 00:43:34,640

operate the belay system our goal is

1086

00:43:40,790 --> 00:43:36,960

always to keep people robots and the

1087

00:43:46,150 --> 00:43:43,510

that's the belay system good luck teams

1088

00:43:48,390 --> 00:43:46,160

hi teams i'm kate and i'm colin we're

1089

00:43:50,710 --> 00:43:48,400

the frc kid of parts engineers here's an

1090

00:43:52,069 --> 00:43:50,720

update on the 2013 kit of parts to all

1091

00:43:54,150 --> 00:43:52,079

of you who fill out the kit of parts

1092

00:43:56,710 --> 00:43:54,160

survey after the season we can't thank

1093

00:43:57,990 --> 00:43:56,720

you enough we review all the feedback

1094

00:43:59,910 --> 00:43:58,000

and have incorporated some of your

1095

00:44:02,390 --> 00:43:59,920

suggestions this season

1096

00:44:04,870 --> 00:44:02,400

thank you to our 2013 suppliers your

1097

00:44:06,870 --> 00:44:04,880

generosity is key to first

1098

00:44:08,790 --> 00:44:06,880

the kit distribution model continues to

1099

00:44:11,109 --> 00:44:08,800

evolve it's broken into three separate

1100

00:44:12,150 --> 00:44:11,119

categories kickoff first choice and

1101

00:44:13,829 --> 00:44:12,160

virtual

1102

00:44:15,990 --> 00:44:13,839

until this year every team received a

1103

00:44:18,069 --> 00:44:16,000

drive base as part of their kickoff kit

1104

00:44:19,349 --> 00:44:18,079

this year veteran teams had an option

1105

00:44:21,270 --> 00:44:19,359

they were able to choose between

1106

00:44:23,109 --> 00:44:21,280

receiving the kind of parts drive system

1107

00:44:25,030 --> 00:44:23,119

or a product donation voucher to andy

1108

00:44:27,750 --> 00:44:25,040

mark for 450

1109

00:44:29,349 --> 00:44:27,760

nearly 700 teams chose the voucher

1110

00:44:30,950 --> 00:44:29,359

thanks to our partnership with andymark

1111

00:44:33,109 --> 00:44:30,960

and gates we were able to change the

1112

00:44:35,670 --> 00:44:33,119

drive system from chains to belts this

1113

00:44:37,349 --> 00:44:35,680

year you'll also notice that the 2013

1114

00:44:39,349 --> 00:44:37,359

drive system allows the robot to be

1115

00:44:41,430 --> 00:44:39,359

configured in two different ways to meet

1116

00:44:43,910 --> 00:44:41,440

the new robot size requirements there

1117

00:44:45,829 --> 00:44:43,920

are many new items to the kickoff kit 3m

1118

00:44:48,230 --> 00:44:45,839

donated a variety of adhesives

1119

00:44:50,710 --> 00:44:48,240

electrical tape terminals cabling and

1120

00:44:52,390 --> 00:44:50,720

retroreflective material rookie teams

1121

00:44:54,550 --> 00:44:52,400

received enough fabric to make their

1122

00:44:57,030 --> 00:44:54,560

bumpers and veteran teams received

1123

00:44:58,550 --> 00:44:57,040

samples also new this year is the radio

1124

00:44:59,589 --> 00:44:58,560

you'll use to communicate with your

1125

00:45:01,069 --> 00:44:59,599

robot

1126

00:45:04,230 --> 00:45:01,079

you all received a

1127

00:45:06,950 --> 00:45:04,240

dap-1522 rev b in your kickoff kit the

1128

00:45:09,510 --> 00:45:06,960

rev a is no longer welcome on the field

1129

00:45:11,270 --> 00:45:09,520

also when you use your radio make sure

1130

00:45:13,589 --> 00:45:11,280

you use the converter and plug it into

1131

00:45:15,510 --> 00:45:13,599

the 12 volt regulated port on the power

1132

00:45:17,510 --> 00:45:15,520

distribution board there are new motors

1133

00:45:19,910 --> 00:45:17,520

in the kit this year innovation first

1134

00:45:21,990 --> 00:45:19,920

donated a new mini sim and bag motor to

1135

00:45:24,069 --> 00:45:22,000

your kickoff kit in first choice

1136

00:45:26,309 --> 00:45:24,079

andymark added two different varieties

1137

00:45:27,990 --> 00:45:26,319

of the pg gear motor automotive

1138

00:45:29,670 --> 00:45:28,000

recyclers association members from

1139

00:45:32,069 --> 00:45:29,680

across the country have donated window

1140

00:45:34,309 --> 00:45:32,079

motors for teams to use and we've added

1141

00:45:36,150 --> 00:45:34,319

some sim motors to first choice

1142

00:45:38,230 --> 00:45:36,160

in the virtual kit you now have even

1143

00:45:39,990 --> 00:45:38,240

more options from the bainbots voucher

1144

00:45:42,230 --> 00:45:40,000

when choosing which motor best suits

1145

00:45:44,230 --> 00:45:42,240

your robot we've added even more items

1146

00:45:46,069 --> 00:45:44,240

to first choice this year and moved less

1147

00:45:48,470 --> 00:45:46,079

frequently used items from the kickoff

1148

00:45:50,550 --> 00:45:48,480

kit to first choice for example this

1149

00:45:53,030 --> 00:45:50,560

year all pneumatic components are in

1150

00:45:54,870 --> 00:45:53,040

first choice clippard recognized that

1151
00:45:57,109 --> 00:45:54,880
many teams were using plastic air tanks

1152
00:46:00,069 --> 00:45:57,119
instead of metal ones so they designed

1153
00:46:02,309 --> 00:46:00,079
and donated a plastic tank for frc other

1154
00:46:05,030 --> 00:46:02,319
new items include color sensors and

1155
00:46:07,270 --> 00:46:05,040
donated parts from igis rueland and

1156
00:46:09,589 --> 00:46:07,280
triangle manufacturing

1157
00:46:11,589 --> 00:46:09,599
new this year first choice ordering

1158
00:46:14,150 --> 00:46:11,599
opened to registered and paid teams on

1159
00:46:15,829 --> 00:46:14,160
december 10th the virtual kit is also

1160
00:46:17,829 --> 00:46:15,839
growing we have product donation

1161
00:46:19,829 --> 00:46:17,839
vouchers in the kit again most of the

1162
00:46:21,430 --> 00:46:19,839
voucher codes are in tims just like

1163
00:46:23,190 --> 00:46:21,440

first choice a majority of these

1164

00:46:25,190 --> 00:46:23,200

vouchers were available to teams on

1165

00:46:26,630 --> 00:46:25,200

december 10th for the first time there

1166

00:46:29,670 --> 00:46:26,640

are three distinct legal motor

1167

00:46:31,990 --> 00:46:29,680

controllers for frc the jaguar victor

1168

00:46:33,990 --> 00:46:32,000

and the new talon the talon comes from

1169

00:46:36,069 --> 00:46:34,000

cross the road electronics and a limited

1170

00:46:37,910 --> 00:46:36,079

number were donated to first choice it

1171

00:46:39,190 --> 00:46:37,920

has the smallest footprint and it's

1172

00:46:41,030 --> 00:46:39,200

sealed

1173

00:46:43,270 --> 00:46:41,040

the victor and jaguar are available this

1174

00:46:44,870 --> 00:46:43,280

year from innovation first the victors

1175

00:46:46,390 --> 00:46:44,880

have been in frc the longest but have

1176

00:46:49,030 --> 00:46:46,400

been upgraded this year to have a more

1177

00:46:50,950 --> 00:46:49,040

linear response the jaguars are can

1178

00:46:53,349 --> 00:46:50,960

capable and the boards inside are now

1179

00:46:55,430 --> 00:46:53,359

conformal coated you didn't receive any

1180

00:46:57,190 --> 00:46:55,440

motor controller in the black tote

1181

00:46:59,030 --> 00:46:57,200

instead you received a voucher that will

1182

00:47:01,270 --> 00:46:59,040

allow you to choose two victors or

1183

00:47:03,030 --> 00:47:01,280

jaguars from innovation first we are

1184

00:47:05,109 --> 00:47:03,040

excited to offer two different types of

1185

00:47:07,510 --> 00:47:05,119

simulations this year diamond bullet

1186

00:47:09,990 --> 00:47:07,520

studios is back with the virtual version

1187

00:47:11,990 --> 00:47:10,000

of the 2013 game national instruments

1188

00:47:14,309 --> 00:47:12,000

has developed a c rio simulator to help

1189

00:47:16,069 --> 00:47:14,319

programmers develop and test code no

1190

00:47:18,230 --> 00:47:16,079

more waiting until week six to test your

1191

00:47:20,630 --> 00:47:18,240

code for more information on the kit

1192

00:47:22,150 --> 00:47:20,640

please visit the kit of parts homepage

1193

00:47:24,710 --> 00:47:22,160

good luck teams

1194

00:47:27,030 --> 00:47:24,720

hi teams i'm kate and i'm colin we're

1195

00:47:29,349 --> 00:47:27,040

the frc kid of parts engineers here's an

1196

00:47:30,710 --> 00:47:29,359

update on the 2013 kit of parts to all

1197

00:47:32,790 --> 00:47:30,720

of you who fill out the kit of parts

1198

00:47:35,349 --> 00:47:32,800

survey after the season we can't thank

1199

00:47:36,630 --> 00:47:35,359

you enough we review all the feedback

1200

00:47:38,549 --> 00:47:36,640

and have incorporated some of your

1201
00:47:41,030 --> 00:47:38,559
suggestions this season

1202
00:47:43,430 --> 00:47:41,040
thank you to our 2013 suppliers your

1203
00:47:45,430 --> 00:47:43,440
generosity is key to first

1204
00:47:47,430 --> 00:47:45,440
the kit distribution model continues to

1205
00:47:49,750 --> 00:47:47,440
evolve it's broken into three separate

1206
00:47:52,069 --> 00:47:49,760
categories kickoff first choice and

1207
00:47:53,510 --> 00:47:52,079
virtual until this year every team

1208
00:47:55,990 --> 00:47:53,520
received a drive base as part of their

1209
00:47:57,589 --> 00:47:56,000
kickoff kit this year veteran teams had

1210
00:47:59,270 --> 00:47:57,599
an option they were able to choose

1211
00:48:01,430 --> 00:47:59,280
between receiving the kit of parts drive

1212
00:48:03,589 --> 00:48:01,440
system or a product donation voucher to

1213
00:48:06,390 --> 00:48:03,599

andy mark for 450

1214

00:48:07,990 --> 00:48:06,400

nearly 700 teams chose the voucher

1215

00:48:09,589 --> 00:48:08,000

thanks to our partnership with andymark

1216

00:48:11,670 --> 00:48:09,599

and gates we were able to change the

1217

00:48:12,470 --> 00:48:11,680

drive system from chains to belts this

1218

00:48:14,549 --> 00:48:12,480

year

1219

00:48:16,470 --> 00:48:14,559

you'll also notice that the 2013 drive

1220

00:48:18,309 --> 00:48:16,480

system allows the robot to be configured

1221

00:48:20,470 --> 00:48:18,319

in two different ways to meet the new

1222

00:48:22,950 --> 00:48:20,480

robot size requirements there are many

1223

00:48:25,510 --> 00:48:22,960

new items to the kickoff kit 3m donated

1224

00:48:27,750 --> 00:48:25,520

a variety of adhesives electrical tape

1225

00:48:29,990 --> 00:48:27,760

terminals cabling and retro-reflective

1226

00:48:32,230 --> 00:48:30,000

material rookie teams received enough

1227

00:48:34,630 --> 00:48:32,240

fabric to make their bumpers and veteran

1228

00:48:36,230 --> 00:48:34,640

teams received samples also new this

1229

00:48:38,150 --> 00:48:36,240

year is the radio you'll use to

1230

00:48:41,670 --> 00:48:38,160

communicate with your robot

1231

00:48:44,150 --> 00:48:41,680

you all received a dap-1522 rev b in

1232

00:48:45,589 --> 00:48:44,160

your kickoff kit the rev a is no longer

1233

00:48:48,150 --> 00:48:45,599

welcome on the field

1234

00:48:49,910 --> 00:48:48,160

also when you use your radio make sure

1235

00:48:52,150 --> 00:48:49,920

you use the converter and plug it into

1236

00:48:54,150 --> 00:48:52,160

the 12 volt regulated port on the power

1237

00:48:56,150 --> 00:48:54,160

distribution board there are new motors

1238

00:48:58,470 --> 00:48:56,160

in the kit this year innovation first

1239

00:49:00,549 --> 00:48:58,480

donated a new mini sim and bag motor to

1240

00:49:02,710 --> 00:49:00,559

your kickoff kit in first choice

1241

00:49:04,470 --> 00:49:02,720

andymark added two different varieties

1242

00:49:06,390 --> 00:49:04,480

of the pg gear motor

1243

00:49:07,990 --> 00:49:06,400

automotive recyclers association members

1244

00:49:10,470 --> 00:49:08,000

from across the country have donated

1245

00:49:12,950 --> 00:49:10,480

window motors for teams to use and we've

1246

00:49:14,790 --> 00:49:12,960

added some sim motors to first choice

1247

00:49:16,870 --> 00:49:14,800

in the virtual kit you now have even

1248

00:49:18,630 --> 00:49:16,880

more options from the bainbots voucher

1249

00:49:20,790 --> 00:49:18,640

when choosing which motor best suits

1250

00:49:22,870 --> 00:49:20,800

your robot we've added even more items

1251
00:49:24,630 --> 00:49:22,880
to first choice this year and moved less

1252
00:49:27,109 --> 00:49:24,640
frequently used items from the kickoff

1253
00:49:29,109 --> 00:49:27,119
kit to first choice for example this

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year all pneumatic components are in

1255
00:49:33,510 --> 00:49:31,599
first choice clippard recognized that

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00:49:35,670 --> 00:49:33,520
many teams were using plastic air tanks

1257
00:49:38,470 --> 00:49:35,680
instead of metal ones so they designed

1258
00:49:40,790 --> 00:49:38,480
and donated a plastic tank for frc

1259
00:49:43,670 --> 00:49:40,800
other new items include color sensors

1260
00:49:45,910 --> 00:49:43,680
and donated parts from igis rueland and

1261
00:49:48,230 --> 00:49:45,920
triangle manufacturing

1262
00:49:50,230 --> 00:49:48,240
new this year first choice ordering

1263
00:49:52,790 --> 00:49:50,240

opened to registered and paid teams on

1264

00:49:54,390 --> 00:49:52,800

december 10th the virtual kit is also

1265

00:49:56,470 --> 00:49:54,400

growing we have product donation

1266

00:49:58,470 --> 00:49:56,480

vouchers in the kit again most of the

1267

00:50:00,069 --> 00:49:58,480

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1268

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1271

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1272

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controllers for frc the jaguar victor

1273

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and the new talon the talent comes from

1274

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cross the road electronics and a limited

1275

00:50:16,549 --> 00:50:14,720

number were donated to first choice it

1276

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has the smallest footprint and it's

1277

00:50:19,670 --> 00:50:17,839

sealed

1278

00:50:21,829 --> 00:50:19,680

the victor and jaguar are available this

1279

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year from innovation first the victors

1280

00:50:25,030 --> 00:50:23,520

have been in frc the longest but have

1281

00:50:26,390 --> 00:50:25,040

been upgraded this year to have a more

1282

00:50:28,549 --> 00:50:26,400

linear response

1283

00:50:31,030 --> 00:50:28,559

the jaguars are can capable and the

1284

00:50:32,870 --> 00:50:31,040

boards inside are now conformal coated

1285

00:50:35,030 --> 00:50:32,880

you didn't receive any motor controller

1286

00:50:36,710 --> 00:50:35,040

in the black tote instead you received a

1287

00:50:38,950 --> 00:50:36,720

voucher that will allow you to choose

1288

00:50:41,030 --> 00:50:38,960

two victors or jaguars from innovation

1289

00:50:43,030 --> 00:50:41,040

first we are excited to offer two

1290

00:50:45,190 --> 00:50:43,040

different types of simulations this year

1291

00:50:47,589 --> 00:50:45,200

diamond bullet studios is back with the

1292

00:50:49,430 --> 00:50:47,599

virtual version of the 2013 game

1293

00:50:51,190 --> 00:50:49,440

national instruments has developed a c

1294

00:50:53,430 --> 00:50:51,200

rio simulator to help programmers

1295

00:50:55,589 --> 00:50:53,440

develop and test code no more waiting

1296

00:50:57,510 --> 00:50:55,599

until week six to test your code for

1297

00:50:59,190 --> 00:50:57,520

more information on the kit please visit