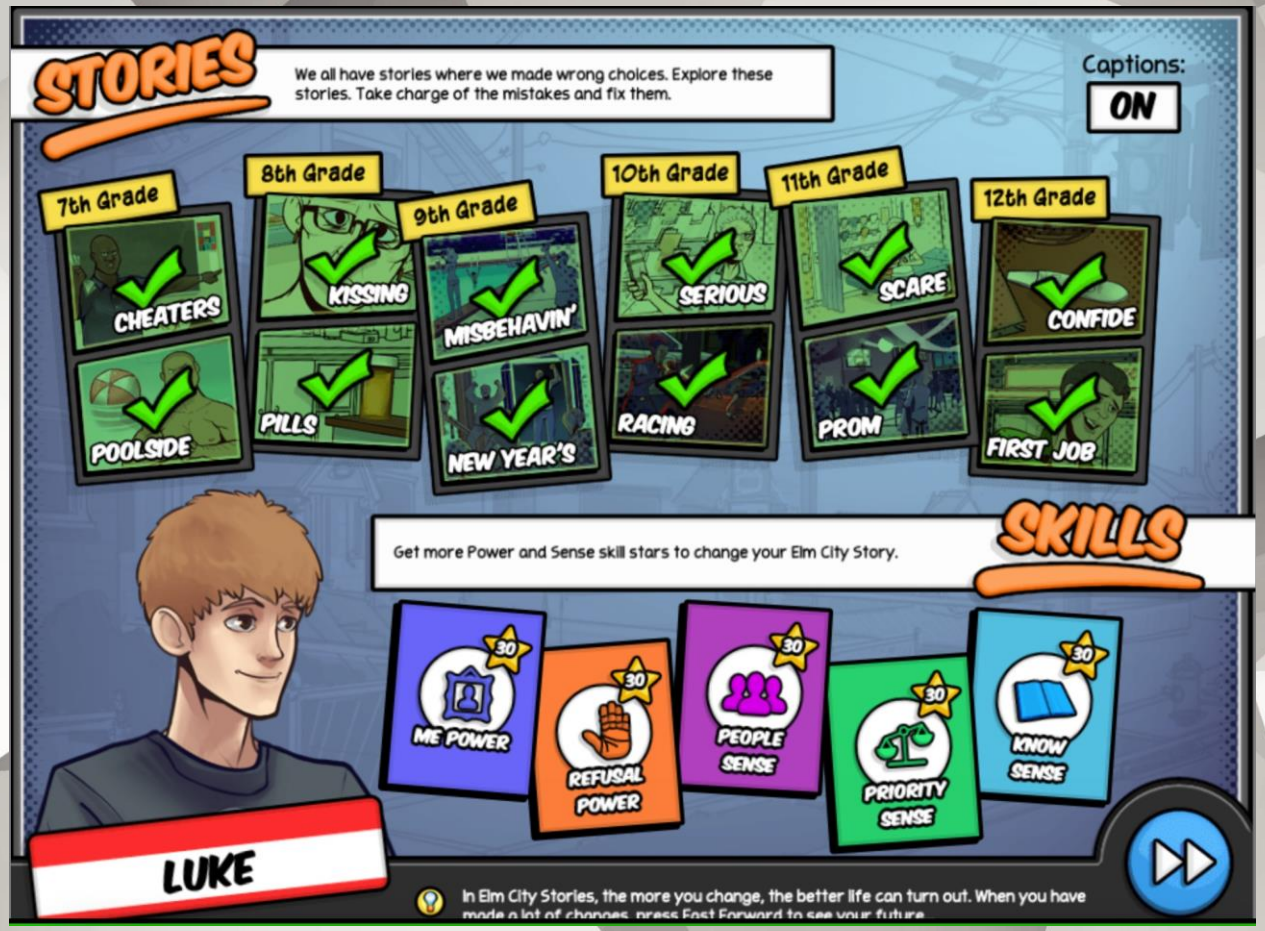
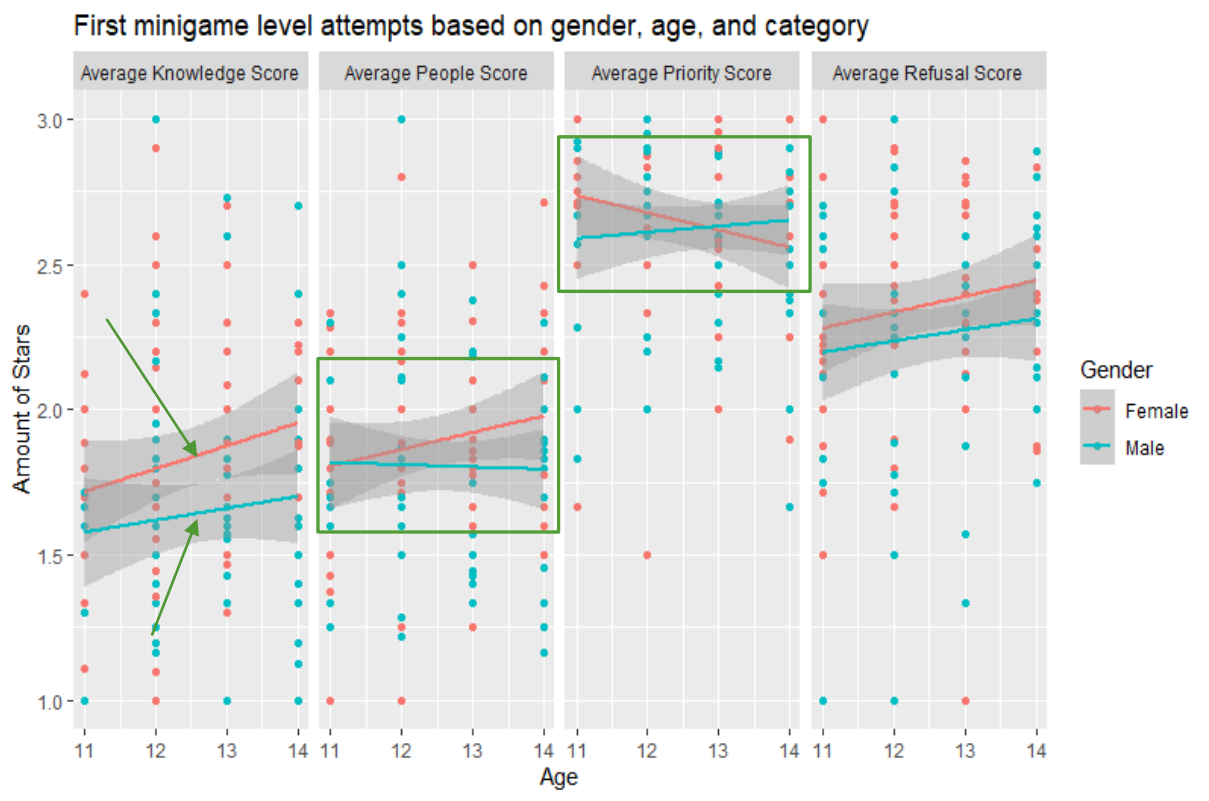
Team Outliers Datafest 2022 @ EKU

Steven Morgeson, Stephen McQueen, Jordyn Nickens



Introduction

- The question posed to us was how can we use the game in understanding real life behavior of students ages 11 to 14.
- We decided to look specifically at the minigames which users would have to make correct decisions in order to earn up to a 3-star rating.



Model and Analysis

- At the 5% significance level we have evidence to conclude that gender is a useful predictor when looking at the amount of stars earned on the first attempt of levels in each category of the minigames. However, we found that age is not a significant predictor of this.

```
Call:
lm(formula = value ~ avatar_age + type + avatar_gender, data = dfTest)

Residuals:
     Min       1Q   Median       3Q      Max
-1.37487 -0.24547  0.04348  0.25500  1.33124

Coefficients:
                      Estimate Std. Error t value Pr(>|t|)
(Intercept)            1.44078    0.18931   7.611 1.08e-13 ***
avatar_age             0.02774    0.01490   1.861  0.06321 .
typeskill_people_mean  0.11060    0.04479   2.469  0.01381 *
typeskill_priority_mean 0.90123   0.04479  20.122  < 2e-16 ***
typeskill_refusal_mean 0.57348    0.04479  12.804  < 2e-16 ***
avatar_genderMale     -0.10489    0.03187  -3.291  0.00106 **
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.3879 on 594 degrees of freedom
Multiple R-squared:  0.4747,    Adjusted R-squared:  0.4703
F-statistic: 107.4 on 5 and 594 DF,  p-value: < 2.2e-16
```

The takeaway from our model and analysis is that females, ages 11-14, have higher average scores in all categories. We also see that students typically score higher in certain minigame categories.