Process with Parser.

**Games:**

**GA522 Game 1**

**GA523 Game 2**

**GA525 Game 3a**

**GA526 Game 4**

(GA524 "Game 3" does not appear in Client logs)

gamep <- read.table("game.csv", header = TRUE, sep=",")

#day hour event clientId playerId gameId year

> summary(gamep)

day hour event clientId

Min. :14810 Min. : 6.24 gamep:6224 Min. :3.550e+14

1st Qu.:14811 1st Qu.:12.21 1st Qu.:3.550e+14

Median :14813 Median :13.95 Median :3.550e+14

Mean :14813 Mean :13.81 Mean :3.550e+14

3rd Qu.:14814 3rd Qu.:15.16 3rd Qu.:3.550e+14

Max. :14814 Max. :21.13 Max. :3.550e+14

playerId gameId year

P541 : 237 GA516 : 953 Min. :1900

P544 : 171 GA523 : 794 1st Qu.:1924

P543 : 164 GA525 : 688 Median :1949

P538 : 158 GA514 : 626 Mean :1952

P537 : 136 GA526 : 391 3rd Qu.:1978

P529 : 132 GA510 : 368 Max. :2020

(Other):5226 (Other):2404 NA's : 79

> inc <- (gamep$gameId=='GA522' | gamep$gameId=='GA523' | gamep$gameId=='GA525' | gamep$gameId=='GA526')

> gameId <- factor(gamep$gameId[inc])

> playerId <- factor(gamep$playerId[inc])

> hour <- gamep$hour[inc]

> year <- gamep$year[inc]

> plot(hour,year)



**The clocks appear reasonably well aligned. From this plot it is not really possible to see the implied loss rate(s) (missing years).**

For each player, min year, max year, num diff year.

> minyear <- tapply(year, playerId, min)

> minyear

P568 P569 P570 P571 P572 P573 P574 P575 P576 P577 P578 P579 P580 P581 P582 P583

NA NA NA NA 1961 NA NA NA NA NA NA 1900 NA NA NA NA

P584 P585 P586 P587 P588 P589 P590 P591 P592

NA NA NA 1901 NA NA NA NA NA

> maxyear <- tapply(year[!is.na(year)], playerId[!is.na(year)], max)

> maxyear

P568 P569 P570 P571 P572 P573 P574 P575 P576 P577 P578 P579 P580 P581 P582 P583

1944 2011 2011 2011 2011 2011 2011 2011 2011 2011 2011 2011 2011 2011 2011 2011

P584 P585 P586 P587 P588 P589 P590 P591 P592

2011 2011 2011 2011 2011 2011 1972 1928 2011

> minyear2 <- tapply(year[!is.na(year)], playerId[!is.na(year)], min)

> minyear2

P568 P569 P570 P571 P572 P573 P574 P575 P576 P577 P578 P579 P580 P581 P582 P583

1900 1900 1900 1901 1961 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900

P584 P585 P586 P587 P588 P589 P590 P591 P592

1900 1900 1900 1901 1900 1900 1900 1900 1900

> years <- tapply(seq(1,length(year))[!is.na(year)],playerId[!is.na(year)],length)

> years

P568 P569 P570 P571 P572 P573 P574 P575 P576 P577 P578 P579 P580 P581 P582 P583

11 113 32 59 31 112 98 87 97 112 99 92 90 112 89 100

P584 P585 P586 P587 P588 P589 P590 P591 P592

97 99 89 95 89 105 67 27 98

> summary(years)

Min. 1st Qu. Median Mean 3rd Qu. Max.

11 87 95 84 99 113

P569 (uniquely) receives 2011 twice.

> summary(years / 1.12)

Min. 1st Qu. Median Mean 3rd Qu. Max.

9.821 77.680 84.820 75.000 88.390 100.900

hist(years,breaks=seq(0,115,by=5))



**Most players see most years. A few players miss large numbers of years.**

> hist(years/1.12,breaks=seq(0,105,by=5))



pyears <- years/(maxyear-minyear2+1)

> pyears

P568 P569 P570 P571 P572 P573 P574

0.2444444 1.0089286 0.2857143 0.5315315 0.6078431 1.0000000 0.8750000

P575 P576 P577 P578 P579 P580 P581

0.7767857 0.8660714 1.0000000 0.8839286 0.8214286 0.8035714 1.0000000

P582 P583 P584 P585 P586 P587 P588

0.7946429 0.8928571 0.8660714 0.8839286 0.7946429 0.8558559 0.7946429

P589 P590 P591 P592

0.9375000 0.9178082 0.9310345 0.8750000

> summary(pyears)

Min. 1st Qu. Median Mean 3rd Qu. Max.

0.2444 0.7946 0.8661 0.8100 0.9178 1.0090

hist(pyears\*100,seq(0,110,by=5))



**So two players appear to get about 25% of years; two around 60%, the rest about 75%+.**

**This time pre-filter for game(s) of interest…**

cmg@renoir /cygdrive/c/cmg/Horizon/eclipsews/explodingparser

$ head -1 action\_all.csv > action.csv

cmg@renoir /cygdrive/c/cmg/Horizon/eclipsews/explodingparser

$ cat action\_all.csv | grep -e 'GA52[2356]' >> action.csv

> actions <- read.table("action.csv", header = TRUE, sep=",")

> summary(actions)

day hour gametime zone

Min. :14814 Min. :10.59 Min. :-4.513 The Town Centre:6135

1st Qu.:14814 1st Qu.:12.31 1st Qu.:14.519 The Arsenal :2149

Median :14814 Median :12.93 Median :27.159 The Barracks :2101

Mean :14814 Mean :13.35 Mean :28.671 Plumstead :1955

3rd Qu.:14814 3rd Qu.:14.41 3rd Qu.:42.898 Woolwich Common:1314

Max. :14814 Max. :16.17 Max. :80.904 The Marshes :1282

(Other) :1098

lon lat age r

Min. :0.00000 Min. : 0.00 Min. : 0.000 Min. : 1.0

1st Qu.:0.06665 1st Qu.:51.49 1st Qu.: 0.000 1st Qu.: 79.0

Median :0.06795 Median :51.49 Median : 0.000 Median :174.0

Mean :0.06709 Mean :50.85 Mean : 1.556 Mean :216.1

3rd Qu.:0.06929 3rd Qu.:51.49 3rd Qu.: 0.000 3rd Qu.:305.0

Max. :0.07501 Max. :51.50 Max. :302.000 Max. :801.0

NA's :201.0

dist action playerId gameId

Min. : 0.000 move :9558 P588 : 1101 GA522:2535

1st Qu.: 0.000 changeYear :2022 P573 : 999 GA523:6069

Median : 5.000 newMessage :1816 P575 : 864 GA525:4302

Mean : 3.642 CommunitiesButton : 624 P569 : 847 GA526:3128

3rd Qu.: 6.000 CreateMemberButton: 507 P578 : 843

Max. :203.000 createMember.done : 449 P586 : 839

(Other) :1058 (Other):10541

year

Min. : 1900

1st Qu.: 1926

Median : 1954

Mean : 1955

3rd Qu.: 1983

Max. : 2011

NA's :14012

> actionf <- factor(actions$action)

> summary(actionf)

addStory.done addStory.failed carryMember.done

12 6 23

carryMember.failed changeYear changeZone

8 2022 296

CommunitiesButton createMember.done createMember.failed

624 449 85

createMember.started CreateMemberButton CreateStoryButton

14 507 37

move newMessage placeMember.done

9558 1816 169

placeMember.failed placeMember.started ViewMessage

39 2 367

**Members created : 449 (plus 85 failed attempts)**

**Messages viewed : 367**

**Members placed : 169 (plus 39 failed attempts)**

**Members picked up: 23 (plus 8 failed attempts)**

**Stories added : 12 (plus 6 failed attempts)**

> actions$playerId <- factor(actions$playerId)

createMember.done or .failed !

createMemberF <- (actions$action=="createMember.done" | actions$action=="createMember.failed")

createMember <- tapply(seq(1,length(actions$playerId))[createMemberF],actions$playerId[createMemberF],length)

P568 P569 P570 P571 P572 P573 P574 P575 P576 P577 P578 P579 P580 P581 P582 P583

8 25 24 13 20 92 21 18 11 14 43 18 9 7 19 24

P584 P585 P586 P587 P588 P589 P590 P591 P592

15 26 12 5 57 18 11 5 19

> sum(createMember)

[1] 534

> summary(createMember)

Min. 1st Qu. Median Mean 3rd Qu. Max.

5.00 11.00 18.00 21.36 24.00 92.00

> hist(createMember,breaks=seq(0,100,by=1))



createMemberF2 <- (actions$action=="createMember.done")

createMember2 <- mapply(function(x) if (is.na(x)) 0 else x, tapply(seq(1,length(actions$playerId))[createMemberF2],actions$playerId[createMemberF2],length))

> createMember2

P568 P569 P570 P571 P572 P573 P574 P575 P576 P577 P578 P579 P580 P581 P582 P583

2 25 4 10 7 92 19 13 8 14 38 16 8 7 18 21

P584 P585 P586 P587 P588 P589 P590 P591 P592

14 26 10 3 42 18 11 5 18

> summary(createMember2)

Min. 1st Qu. Median Mean 3rd Qu. Max.

2.00 8.00 14.00 17.96 19.00 92.00

**Everyone creates at least two members.**

> createMember2/createMember\*100

P568 P569 P570 P571 P572 P573 P574 P575

25.00000 100.00000 16.66667 76.92308 35.00000 100.00000 90.47619 72.22222

P576 P577 P578 P579 P580 P581 P582 P583

72.72727 100.00000 88.37209 88.88889 88.88889 100.00000 94.73684 87.50000

P584 P585 P586 P587 P588 P589 P590 P591

93.33333 100.00000 83.33333 60.00000 73.68421 100.00000 100.00000 100.00000

P592

94.73684

hist(createMember2,breaks=seq(0,100,by=5))



> summary(createMember2/createMember\*100)

Min. 1st Qu. Median Mean 3rd Qu. Max.

16.67 73.68 88.89 81.70 100.00 100.00

hist(createMember2/createMember\*100,breaks=seq(0,100,by=5))



**Most players are successful most of the time they create members; a few players are mostly unsuccessful and/or have to make several attempts to create each member successfully.**

\*\* placeMember

placeMember.done or .failed !

placeMemberF <- (actions$action=="placeMember.done" | actions$action=="placeMember.failed")

placeMember <- tapply(seq(1,length(actions$playerId))[placeMemberF],actions$playerId[placeMemberF],length)

> sum(placeMember)

[1] 208

> summary(placeMember)

Min. 1st Qu. Median Mean 3rd Qu. Max.

1.00 5.00 8.00 8.32 10.00 20.00

> hist(placeMember,breaks=seq(0,20,by=1))



placeMemberF2 <- (actions$action=="placeMember.done")

placeMember2 <- mapply(function(x) if (is.na(x)) 0 else x, tapply(seq(1,length(actions$playerId))[placeMemberF2],actions$playerId[placeMemberF2],length))

> placeMember2

P568 P569 P570 P571 P572 P573 P574 P575 P576 P577 P578 P579 P580 P581 P582 P583

2 6 4 4 4 10 6 8 6 8 9 9 4 9 11 4

P584 P585 P586 P587 P588 P589 P590 P591 P592

8 9 4 1 13 11 6 2 11

> summary(placeMember2)

Min. 1st Qu. Median Mean 3rd Qu. Max.

1.00 4.00 6.00 6.76 9.00 13.00

**Every player places at least one member. No-one places more than 13, though.**

> placeMember2/placeMember\*100

P568 P569 P570 P571 P572 P573 P574 P575

22.22222 100.00000 20.00000 80.00000 80.00000 100.00000 100.00000 100.00000

P576 P577 P578 P579 P580 P581 P582 P583

100.00000 100.00000 90.00000 100.00000 100.00000 100.00000 68.75000 100.00000

P584 P585 P586 P587 P588 P589 P590 P591

80.00000 90.00000 80.00000 100.00000 86.66667 91.66667 85.71429 100.00000

P592

100.00000

hist(placeMember2,breaks=seq(0,20,by=1))



> summary(placeMember2/placeMember\*100)

Min. 1st Qu. Median Mean 3rd Qu. Max.

20 80 100 87 100 100

hist(placeMember2/placeMember\*100,breaks=seq(0,100,by=5))



\*\* carryMember

carryMember.done or .failed !

carryMemberF <- (actions$action=="carryMember.done" | actions$action=="carryMember.failed")

carryMember <- mapply(function(x) if (is.na(x)) 0 else x, tapply(seq(1,length(actions$playerId))[carryMemberF],actions$playerId[carryMemberF],length))

carryMember

P568 P569 P570 P571 P572 P573 P574 P575 P576 P577 P578 P579 P580 P581 P582 P583

0 0 0 0 1 1 1 1 1 0 0 0 1 4 1 0

P584 P585 P586 P587 P588 P589 P590 P591 P592

0 3 1 1 6 4 0 3 2

> sum(carryMember)

[1] 31

> summary(carryMember)

Min. 1st Qu. Median Mean 3rd Qu. Max.

0.00 0.00 1.00 1.24 1.00 6.00

**Most player do pick up a member once, but a significant minority never do.**

> hist(carryMember,breaks=seq(0,10,by=1))



carryMemberF2 <- (actions$action=="carryMember.done")

carryMember2 <- mapply(function(x) if (is.na(x)) 0 else x, tapply(seq(1,length(actions$playerId))[carryMemberF2],actions$playerId[carryMemberF2],length))

> carryMember2

P568 P569 P570 P571 P572 P573 P574 P575 P576 P577 P578 P579 P580 P581 P582 P583

0 0 0 0 1 1 1 0 1 0 0 0 1 4 1 0

P584 P585 P586 P587 P588 P589 P590 P591 P592

0 1 0 1 5 3 0 1 2

> summary(carryMember2)

Min. 1st Qu. Median Mean 3rd Qu. Max.

0.00 0.00 1.00 0.92 1.00 5.00

> carryMember2/carryMember\*100

P568 P569 P570 P571 P572 P573 P574 P575

NaN NaN NaN NaN 100.00000 100.00000 100.00000 0.00000

P576 P577 P578 P579 P580 P581 P582 P583

100.00000 NaN NaN NaN 100.00000 100.00000 100.00000 NaN

P584 P585 P586 P587 P588 P589 P590 P591

NaN 33.33333 0.00000 100.00000 83.33333 75.00000 NaN 33.33333

P592

100.00000

hist(carryMember2,breaks=seq(0,10,by=1))



> summary(carryMember2/carryMember\*100)

Min. 1st Qu. Median Mean 3rd Qu. Max. NA's

0.00 54.17 100.00 75.00 100.00 100.00 10.00

hist(carryMember2/carryMember\*100,breaks=seq(0,100,by=5))



\*\* addStory

addStory.done or .failed !

addStoryF <- (actions$action=="addStory.done" | actions$action=="addStory.failed")

addStory <- mapply(function(x) if (is.na(x)) 0 else x, tapply(seq(1,length(actions$playerId))[addStoryF],actions$playerId[addStoryF],length))

addStory

P568 P569 P570 P571 P572 P573 P574 P575 P576 P577 P578 P579 P580 P581 P582 P583

0 0 0 0 0 0 0 0 1 3 2 6 0 0 0 1

P584 P585 P586 P587 P588 P589 P590 P591 P592

0 1 0 1 0 2 0 0 1

> sum(addStory)

[1] 18

> summary(addStory)

Min. 1st Qu. Median Mean 3rd Qu. Max.

0.00 0.00 0.00 0.72 1.00 6.00

**Most players do not attempt to add a story.**

> hist(addStory,breaks=seq(0,10,by=1))



addStoryF2 <- (actions$action=="addStory.done")

addStory2 <- mapply(function(x) if (is.na(x)) 0 else x, tapply(seq(1,length(actions$playerId))[addStoryF2],actions$playerId[addStoryF2],length))

> addStory2

P568 P569 P570 P571 P572 P573 P574 P575 P576 P577 P578 P579 P580 P581 P582 P583

0 0 0 0 0 0 0 0 1 3 2 1 0 0 0 1

P584 P585 P586 P587 P588 P589 P590 P591 P592

0 0 0 1 0 2 0 0 1

> summary(addStory2)

Min. 1st Qu. Median Mean 3rd Qu. Max.

0.00 0.00 0.00 0.48 1.00 3.00

> addStory2/addStory\*100

P568 P569 P570 P571 P572 P573 P574 P575

NaN NaN NaN NaN NaN NaN NaN NaN

P576 P577 P578 P579 P580 P581 P582 P583

100.00000 100.00000 100.00000 16.66667 NaN NaN NaN 100.00000

P584 P585 P586 P587 P588 P589 P590 P591

NaN 0.00000 NaN 100.00000 NaN 100.00000 NaN NaN

P592

100.00000

hist(addStory2,breaks=seq(0,10,by=1))



> summary(addStory2/addStory\*100)

Min. 1st Qu. Median Mean 3rd Qu. Max. NA's

0.00 100.00 100.00 79.63 100.00 100.00 16.00

hist(addStory2/addStory\*100,breaks=seq(0,100,by=5))



\*\* newMessage / ViewMessage

newMessage or ViewMessage!

newMessageF <- (actions$action=="newMessage")

newMessage <- tapply(seq(1,length(actions$playerId))[newMessageF],actions$playerId[newMessageF],length)

P568 P569 P570 P571 P572 P573 P574 P575 P576 P577 P578 P579 P580 P581 P582 P583

11 107 23 37 26 100 91 73 85 105 86 77 71 105 60 88

P584 P585 P586 P587 P588 P589 P590 P591 P592

81 88 81 81 75 91 61 32 81

> sum(newMessage)

[1] 1816

**Most players get most messages. A few get only about a quarter of the messages.**

> summary(newMessage)

Min. 1st Qu. Median Mean 3rd Qu. Max.

11.00 61.00 81.00 72.64 88.00 107.00

> hist(newMessage,breaks=seq(0,110,by=5))



newMessageF2 <- (actions$action=="ViewMessage")

newMessage2 <- mapply(function(x) if (is.na(x)) 0 else x, tapply(seq(1,length(actions$playerId))[newMessageF2],actions$playerId[newMessageF2],length))

> newMessage2

P568 P569 P570 P571 P572 P573 P574 P575 P576 P577 P578 P579 P580 P581 P582 P583

4 34 13 3 12 11 11 31 14 0 1 29 31 9 7 13

P584 P585 P586 P587 P588 P589 P590 P591 P592

4 11 42 3 12 35 11 10 16

> summary(newMessage2)

Min. 1st Qu. Median Mean 3rd Qu. Max.

0.00 7.00 11.00 14.68 16.00 42.00

> newMessage2/newMessage\*100

P568 P569 P570 P571 P572 P573 P574 P575

36.363636 31.775701 56.521739 8.108108 46.153846 11.000000 12.087912 42.465753

P576 P577 P578 P579 P580 P581 P582 P583

16.470588 0.000000 1.162791 37.662338 43.661972 8.571429 11.666667 14.772727

P584 P585 P586 P587 P588 P589 P590 P591

4.938272 12.500000 51.851852 3.703704 16.000000 38.461538 18.032787 31.250000

P592

19.753086

hist(newMessage2,breaks=seq(0,50,by=2))



**One player never looks at a message. Most players look at about 10. A significant minority look at about 30.**

> summary(newMessage2/newMessage\*100)

Min. 1st Qu. Median Mean 3rd Qu. Max.

0.00 11.00 16.47 23.00 37.66 56.52

hist(newMessage2/newMessage\*100,breaks=seq(0,100,by=5))



plot(newMessage,newMessage2/newMessage)



**Getting more messages doesn’t seem to affect what proportion you actually look at.**

> lm(newMessage2/newMessage ~ newMessage, actions)

Call:

lm(formula = newMessage2/newMessage ~ newMessage, data = actions)

Coefficients:

(Intercept) newMessage

0.440585 -0.002899

> mm <- lm(newMessage2/newMessage ~ newMessage, actions)

> coef(mm)

(Intercept) newMessage

0.440584535 -0.002899366

> deviance(mm)

[1] 0.5438409

> summary(mm)

Call:

lm(formula = newMessage2/newMessage ~ newMessage, data = actions)

Residuals:

Min 1Q Median 3Q Max

-0.25223 -0.08339 -0.04065 0.15929 0.31278

Coefficients:

Estimate Std. Error t value Pr(>|t|)

(Intercept) 0.440585 0.089945 4.898 6e-05 \*\*\*

newMessage -0.002899 0.001164 -2.492 0.0204 \*

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.1538 on 23 degrees of freedom

Multiple R-squared: 0.2126, Adjusted R-squared: 0.1783

F-statistic: 6.209 on 1 and 23 DF, p-value: 0.02036

\*\* changeZone

changeZoneF <- (actions$action=="changeZone")

changeZone <- tapply(seq(1,length(actions$playerId))[changeZoneF],actions$playerId[changeZoneF],length)

changeZone

P568 P569 P570 P571 P572 P573 P574 P575 P576 P577 P578 P579 P580 P581 P582

6 13 16 14 6 18 13 17 16 9 14 15 7 9 16

P583 P584 P585 P586 P587 P588 P589 P590 P591 P592

11 15 9 10 5 27 5 16 1 8

> sum(changeZone)

> summary(changeZone)

Min. 1st Qu. Median Mean 3rd Qu. Max.

1.00 8.00 13.00 11.84 16.00 27.00

hist(changeZone,breaks=seq(0,30,by=2))



> zoneF <- factor(actions$zone)

> summary(zoneF)

Charlton Plumstead The Arsenal

408 403 1955 2149

The Barracks The Dust Hole The Marshes The Town Centre

2101 287 1282 6135

Woolwich Common

1314

> tapply(zoneF[changeZoneF],actions$playerId[changeZoneF],summary)

$P568

Charlton Plumstead The Arsenal

0 0 3 0

The Barracks The Dust Hole The Marshes The Town Centre

0 0 0 2

Woolwich Common

1

$P569

Charlton Plumstead The Arsenal

0 1 2 1

The Barracks The Dust Hole The Marshes The Town Centre

3 0 1 5

Woolwich Common

0

$P570

Charlton Plumstead The Arsenal

0 0 6 0

The Barracks The Dust Hole The Marshes The Town Centre

2 0 0 3

Woolwich Common

5

$P571

Charlton Plumstead The Arsenal

0 2 5 0

The Barracks The Dust Hole The Marshes The Town Centre

2 1 0 3

Woolwich Common

1

$P572

Charlton Plumstead The Arsenal

0 0 3 0

The Barracks The Dust Hole The Marshes The Town Centre

0 0 0 3

Woolwich Common

0

$P573

Charlton Plumstead The Arsenal

0 0 5 0

The Barracks The Dust Hole The Marshes The Town Centre

4 0 2 2

Woolwich Common

5

$P574

Charlton Plumstead The Arsenal

0 1 4 0

The Barracks The Dust Hole The Marshes The Town Centre

2 0 0 3

Woolwich Common

3

$P575

Charlton Plumstead The Arsenal

0 0 5 0

The Barracks The Dust Hole The Marshes The Town Centre

3 0 2 4

Woolwich Common

3

$P576

Charlton Plumstead The Arsenal

0 1 4 0

The Barracks The Dust Hole The Marshes The Town Centre

4 0 0 5

Woolwich Common

2

$P577

Charlton Plumstead The Arsenal

0 0 3 1

The Barracks The Dust Hole The Marshes The Town Centre

1 0 1 3

Woolwich Common

0

$P578

Charlton Plumstead The Arsenal

0 1 2 1

The Barracks The Dust Hole The Marshes The Town Centre

1 1 2 6

Woolwich Common

0

$P579

Charlton Plumstead The Arsenal

0 0 3 4

The Barracks The Dust Hole The Marshes The Town Centre

1 0 3 3

Woolwich Common

1

$P580

Charlton Plumstead The Arsenal

0 0 1 1

The Barracks The Dust Hole The Marshes The Town Centre

0 0 1 3

Woolwich Common

1

$P581

Charlton Plumstead The Arsenal

0 0 3 0

The Barracks The Dust Hole The Marshes The Town Centre

1 0 0 3

Woolwich Common

2

$P582

Charlton Plumstead The Arsenal

0 0 4 1

The Barracks The Dust Hole The Marshes The Town Centre

1 1 1 6

Woolwich Common

2

$P583

Charlton Plumstead The Arsenal

0 0 3 1

The Barracks The Dust Hole The Marshes The Town Centre

0 0 2 4

Woolwich Common

1

$P584

Charlton Plumstead The Arsenal

0 0 4 2

The Barracks The Dust Hole The Marshes The Town Centre

0 0 4 5

Woolwich Common

0

$P585

Charlton Plumstead The Arsenal

0 0 3 1

The Barracks The Dust Hole The Marshes The Town Centre

0 0 2 3

Woolwich Common

0

$P586

Charlton Plumstead The Arsenal

0 1 0 2

The Barracks The Dust Hole The Marshes The Town Centre

1 0 1 5

Woolwich Common

0

$P587

Charlton Plumstead The Arsenal

0 0 1 0

The Barracks The Dust Hole The Marshes The Town Centre

1 0 0 2

Woolwich Common

1

$P588

Charlton Plumstead The Arsenal

0 0 1 0

The Barracks The Dust Hole The Marshes The Town Centre

13 0 0 10

Woolwich Common

3

$P589

Charlton Plumstead The Arsenal

0 0 2 1

The Barracks The Dust Hole The Marshes The Town Centre

0 0 1 1

Woolwich Common

0

$P590

Charlton Plumstead The Arsenal

0 0 5 1

The Barracks The Dust Hole The Marshes The Town Centre

2 1 0 4

Woolwich Common

3

$P591

Charlton Plumstead The Arsenal

0 0 1 0

The Barracks The Dust Hole The Marshes The Town Centre

0 0 0 0

Woolwich Common

0

$P592

Charlton Plumstead The Arsenal

0 0 4 0

The Barracks The Dust Hole The Marshes The Town Centre

0 0 0 2

Woolwich Common

2

> summary(zoneF[changeZoneF])

Charlton Plumstead The Arsenal

0 7 77 17

The Barracks The Dust Hole The Marshes The Town Centre

42 4 23 90

Woolwich Common

36

\*\* jump

NONE

\*\* move

moveF <- (actions$action=="move")

move <- tapply(seq(1,length(actions$playerId))[moveF],actions$playerId[moveF],length)

move

P568 P569 P570 P571 P572 P573 P574 P575 P576 P577 P578 P579 P580 P581 P582

162 523 403 460 146 514 448 547 540 405 502 278 293 108 444

P583 P584 P585 P586 P587 P588 P589 P590 P591 P592

357 403 460 585 148 749 408 382 13 280

> sum(move)

> summary(move)

[1] 9558

**Note: these are just the individual “steps” in the log file.**

dist <- tapply(actions$dist[moveF],actions$playerId[moveF],max)

> dist

P568 P569 P570 P571 P572 P573 P574 P575 P576 P577 P578 P579 P580 P581 P582

36 16 40 56 34 24 69 28 46 82 23 34 143 82 74

P583 P584 P585 P586 P587 P588 P589 P590 P591 P592

84 51 32 23 39 201 18 203 27 60

> summary(dist)

Min. 1st Qu. Median Mean 3rd Qu. Max.

16 28 40 61 74 203



tdist <- tapply(actions$dist[moveF],actions$playerId[moveF],sum)

tdist

P568 P569 P570 P571 P572 P573 P574 P575 P576 P577 P578 P579 P580 P581 P582

991 2864 2249 2798 881 3063 2756 3114 3132 2622 2893 1576 1703 965 2789

P583 P584 P585 P586 P587 P588 P589 P590 P591 P592

2075 2627 2554 3495 1010 5582 2232 2687 86 1654

summary(tdist)

Min. 1st Qu. Median Mean 3rd Qu. Max.

86 1654 2622 2336 2864 5582

**On average people walk about 2.5km.**

hist(tdist, seq(0,6000,by=500))



r <- tapply(actions$r[moveF],actions$playerId[moveF],max)

> r <- tapply(actions$r[moveF],actions$playerId[moveF],max)

> r

P568 P569 P570 P571 P572 P573 P574 P575 P576 P577 P578 P579 P580 P581 P582

202 387 241 597 207 453 505 362 409 363 571 314 366 92 625

P583 P584 P585 P586 P587 P588 P589 P590 P591 P592

713 798 801 475 142 245 627 573 47 429

> summary(r)

Min. 1st Qu. Median Mean 3rd Qu. Max.

47.0 245.0 409.0 421.8 573.0 801.0

> hist(r,seq(0,900,by=50))



**Some people appear to stay very close to the venue throughout. Most people travel about 500m (up to 800m) from the venue.**

plot(tdist,r)



**In general people who travel further in total are also those who get further from the venue. But this trend appears not to continue: those who travelled the furthest tended to travel less far from the venue.**

vars <- data.frame(createMember=createMember,tdist=tdist,addStory=addStory,carryMember=carryMember,newMessage=newMessage,viewMessage=newMessage2)

pairs(vars)



**There are few visible correlations between the main activities that players undertake. So there does not appear to be much large-scale impact of one activity on another, or hard choice between one kind of activity and another.**

**Those who add stories tend to get a lot of messages (reliable?), but not to read such a large proportion of them (with one exception).**

Time… 5 minutes slots

slot <- floor(actions$gametime/5)

> summary(slot)

Min. 1st Qu. Median Mean 3rd Qu. Max.

-1.000 2.000 5.000 5.235 8.000 16.000

slotF <- ordered(slot)

> tapply(seq(1,length(slotF)),slotF,length)

-1 0 1 2 3 4 5 6 7 8 9 10 11 12 13

132 761 1608 1674 1656 1539 1435 1179 1285 1309 1282 1309 735 127 2

16

1

createMemberSlot <- tapply(seq(1,length(slotF))[createMemberF],slotF[createMemberF],length)

> createMemberSlot

-1 0 1 2 3 4 5 6 7 8 9 10 11 12 13 16

15 27 34 40 53 49 40 58 57 55 43 50 13 NA NA NA

plot(createMemberSlot,type=’l’)

placeMemberSlot <- tapply(seq(1,length(slotF))[placeMemberF],slotF[placeMemberF],length)

> placeMemberSlot

-1 0 1 2 3 4 5 6 7 8 9 10 11 12 13 16

1 11 35 41 36 19 23 14 16 3 9 NA NA NA NA NA

newMessageSlot <- tapply(seq(1,length(slotF))[newMessageF],slotF[newMessageF],length)

> newMessageSlot <- tapply(seq(1,length(slotF))[newMessageF],slotF[newMessageF],length)

> newMessageSlot

-1 0 1 2 3 4 5 6 7 8 9 10 11 12 13 16

4 209 250 177 167 256 153 69 87 75 108 223 38 NA NA NA

> plot(newMessageSlot)

> plot(newMessageSlot,type='l')



**There are more messages in the first half of the game plus at the end.**

> viewMessageSlot <- tapply(seq(1,length(slotF))[newMessageF2],slotF[newMessageF2],length)

> viewMessageSlot

-1 0 1 2 3 4 5 6 7 8 9 10 11 12 13 16

1 25 44 48 43 39 26 15 25 18 31 35 15 1 1 NA

plot(viewMessageSlot,type='l')



> plot(viewMessageSlot/newMessageSlot,type='l')

> viewMessageSlot/newMessageSlot

-1 0 1 2 3 4 5

0.2500000 0.1196172 0.1760000 0.2711864 0.2574850 0.1523438 0.1699346

6 7 8 9 10 11 12

0.2173913 0.2873563 0.2400000 0.2870370 0.1569507 0.3947368 NA

13 16

NA NA

> summary(viewMessageSlot/newMessageSlot)

Min. 1st Qu. Median Mean 3rd Qu. Max. NA's

0.1196 0.1699 0.2400 0.2292 0.2712 0.3947 3.0000



**People tend to view the same proportion of messages throughout the game.**

addStorySlot <- mapply(function (x) if (is.na(x)) 0 else x, tapply(seq(1,length(slotF))[addStoryF],slotF[addStoryF],length))

-1 0 1 2 3 4 5 6 7 8 9 10 11 12 13 16

NA NA NA NA NA NA 2 3 1 4 1 2 4 1 NA NA



**Stories were added in the second half of the game (they cannot be added until certain community characteristics are obtained).**

> updateZoneSlot <- mapply(function (x) if (is.na(x)) 0 else x, tapply(seq(1,length(slotF))[changeZoneF],slotF[changeZoneF],length))

> updateZoneSlot

-1 0 1 2 3 4 5 6 7 8 9 10 11 12 13 16

14 20 53 22 26 22 13 28 20 12 22 25 16 3 0 0

> plot(updateZoneSlot,type='l')

>



> rSlot <- mapply(function (x) if (is.na(x)) 0 else x, tapply(actions$r[moveF],slotF[moveF],max))

> rSlot

-1 0 1 2 3 4 5 6 7 8 9 10 11 12 13 16

151 220 469 585 649 779 801 670 625 598 574 597 475 241 9 17

> plot(rSlot,type='l');



**The furthest people went from the tramshed was in the middle of the game.**

tdistSlot <- mapply(function (x) if (is.na(x)) 0 else x, tapply(actions$dist[moveF],slotF[moveF],sum))

> tdistSlot

-1 0 1 2 3 4 5 6 7 8 9 10 11 12 13

389 1918 6327 6323 6011 5263 5449 4258 4457 4935 4450 4275 3602 706 5

16

30

plot(tdistSlot,type="l")



**People tended to move a little further during the early stages.**