Data Analysis Portfolio

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Professional Background:

I have a passion for excellence with a hunger for challenges. My analytical intuition and goal-oriented mindset help me to find creative solutions to any problem.

I work in the banking sector where I handled various job functions as a funds transfer officer, business development manager, risk analyst, customer service specialist and business analyst. I have also learnt soft skills in python programming and excel data visualization. With my bachelor's degree in polymer engineering and professional certification in financial control, I have acquired experience in several diverse fields.

Now I am on a mission to develop my machine learning, data science, and business management skills. Also, I am looking for opportunities to gain a global education to apply and deepen my knowledge. My goal is to build a platform that will provide data-driven business solutions to small and large-scale organizations.

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Udemy Data Analysis

Project Description:

- To better understand the pricing and subscriptions data of Udemy courses (for four different subjects) and identifying trends and patterns

- This will help us to:

  - Identify for which subject more courses should be created
  - Create targeted strategies to increase the company revenue

Key questions:

1. What are the total numbers of subscribers in each subject?
2. How does the average content duration/price/number of students vary across different subjects?
3. How many courses are free and paid for each subject?
4. What is the average price of web development courses at different levels?
5. What are the 20 most popular courses? Also, include the following information:
   - Their level
   - Whether they are free or paid
   - Whether any are free beginner courses,
   - and the duration of the courses.
6. Does content duration impact the price of the course?

Findings & Insights

1. What are the total numbers of subscribers in each subject?

subject	SUM of num_subscribers
Business Finance	1868711
Graphic Design	1063148
Musical Instruments	846689
Web Development	7981935
Grand Total	**11760483**

Subjects vs Number of Subscribers
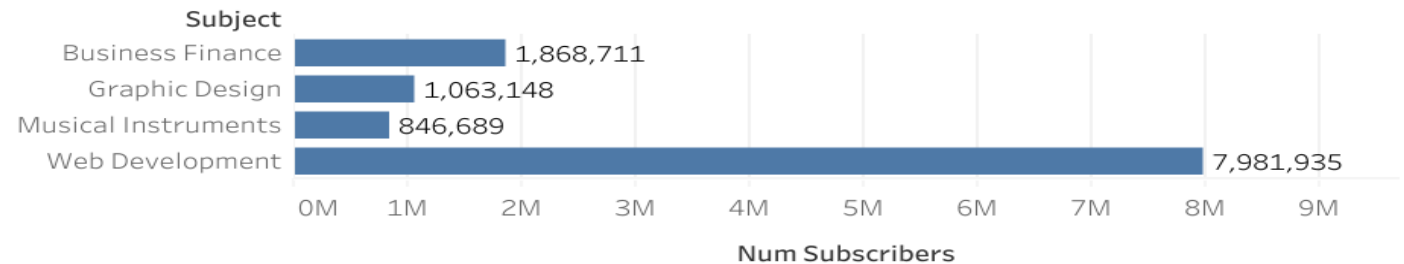
About 68% of customers subscribed for web development while 7% went for musical instruments.

2. How does the average content duration/price/number of students vary across different subjects?

AVERAGE of content_duration vs subject
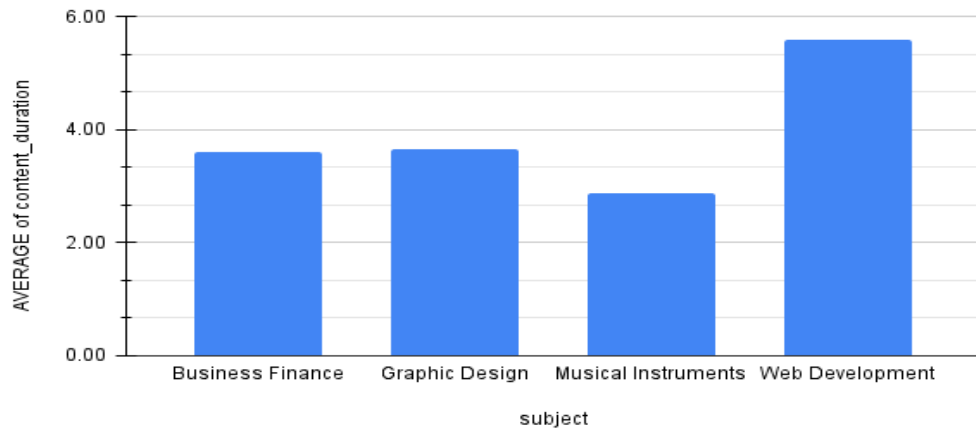
AVERAGE of num_subscribers vs subject
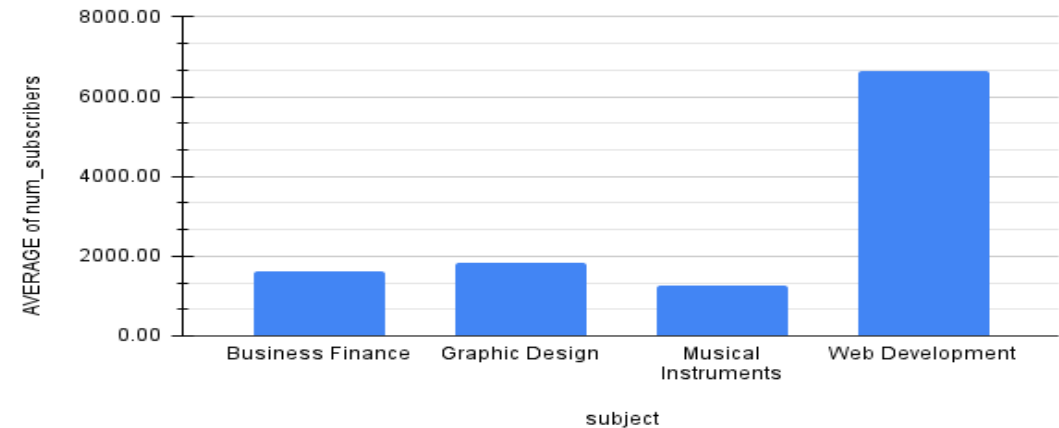
AVERAGE of price vs subject
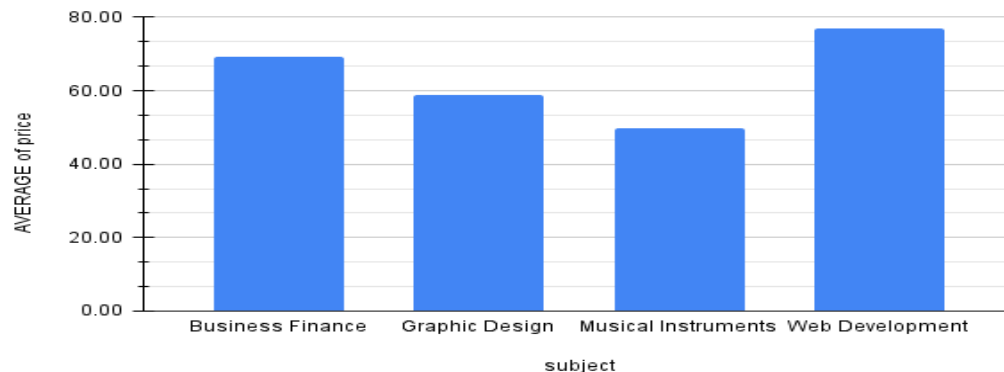
The analysis shows that subjects with high duration content will have higher number of subscribers and price. Web development with the highest content duration have the highest percentage of number of subscribers and price.

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3. How many courses are free and paid for each subject?

COUNTA of Free or Paid	Free or Paid		
subject	Free	Paid	Grand Total
Business Finance	96	1059	1155
Graphic Design	35	549	584
Musical Instruments	46	623	669
Web Development	134	1069	1203
Grand Total	**311**	**3300**	**3611**

Free and Paid
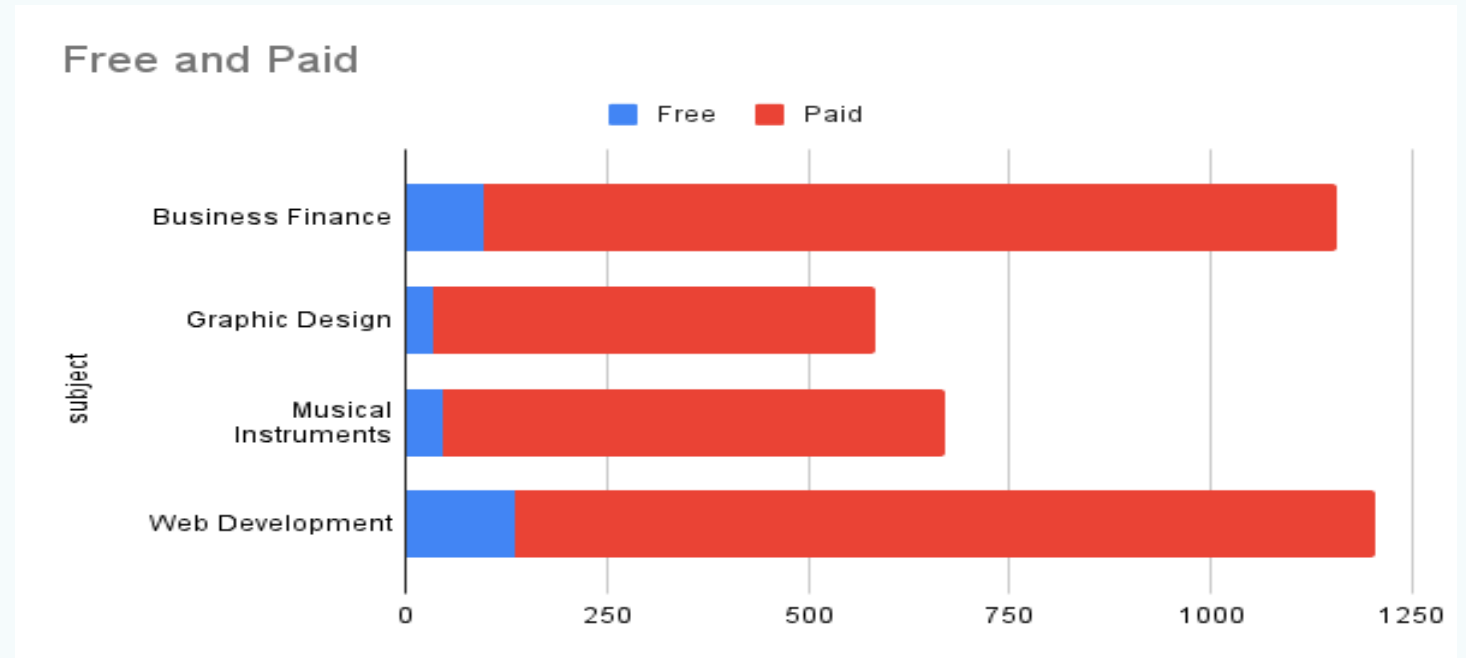
The table shows that 90% of the courses are paid for with web development while graphic design contributed about 32% .

4. What is the average price of web development courses at different levels?

level	AVERAGE of price
All Levels	74.55
Beginner Level	78.54
Expert Level	67.14
Intermediate Level	85.07
Grand Total	**77.04**

Average price of web development at all levels
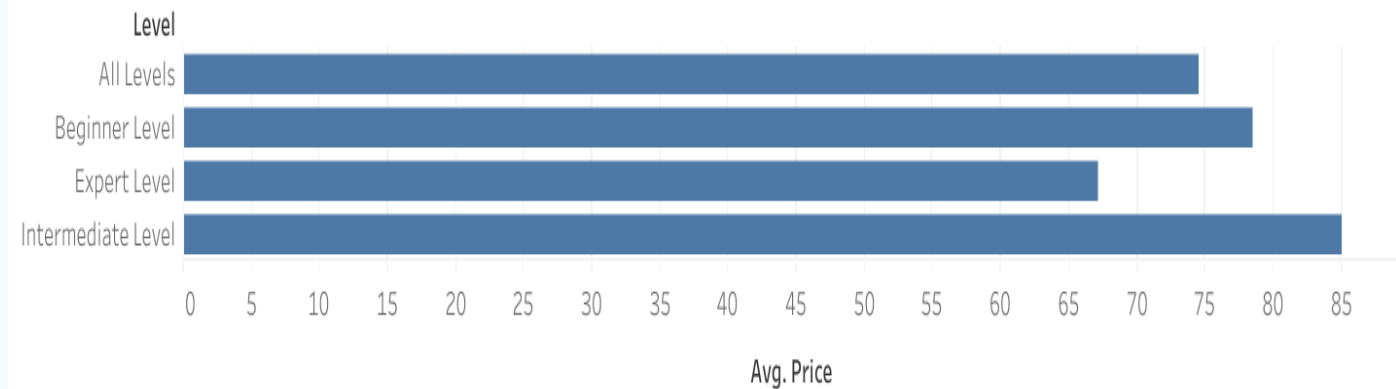
The Intermediate level of Web Development courses with an average price of 85.07 recorded the highest price compared to the other levels .

5. What are the 20 most popular courses?

Top 20 Courses

Course	Num_subscribers
Learn HTML5	268923
	161029
The Web Developer	121584
	120291
The Complete Web	114512
	101154
Web Design for	98867
	84897
Practical PHP:	83737
	79612
Pianoforall -	75499
	73783
Beginner	73110
	72932
HTML and CSS for	70773
	69186
Bitcoin or How I	65576
	64128
Learn Responsive	59639
	59361
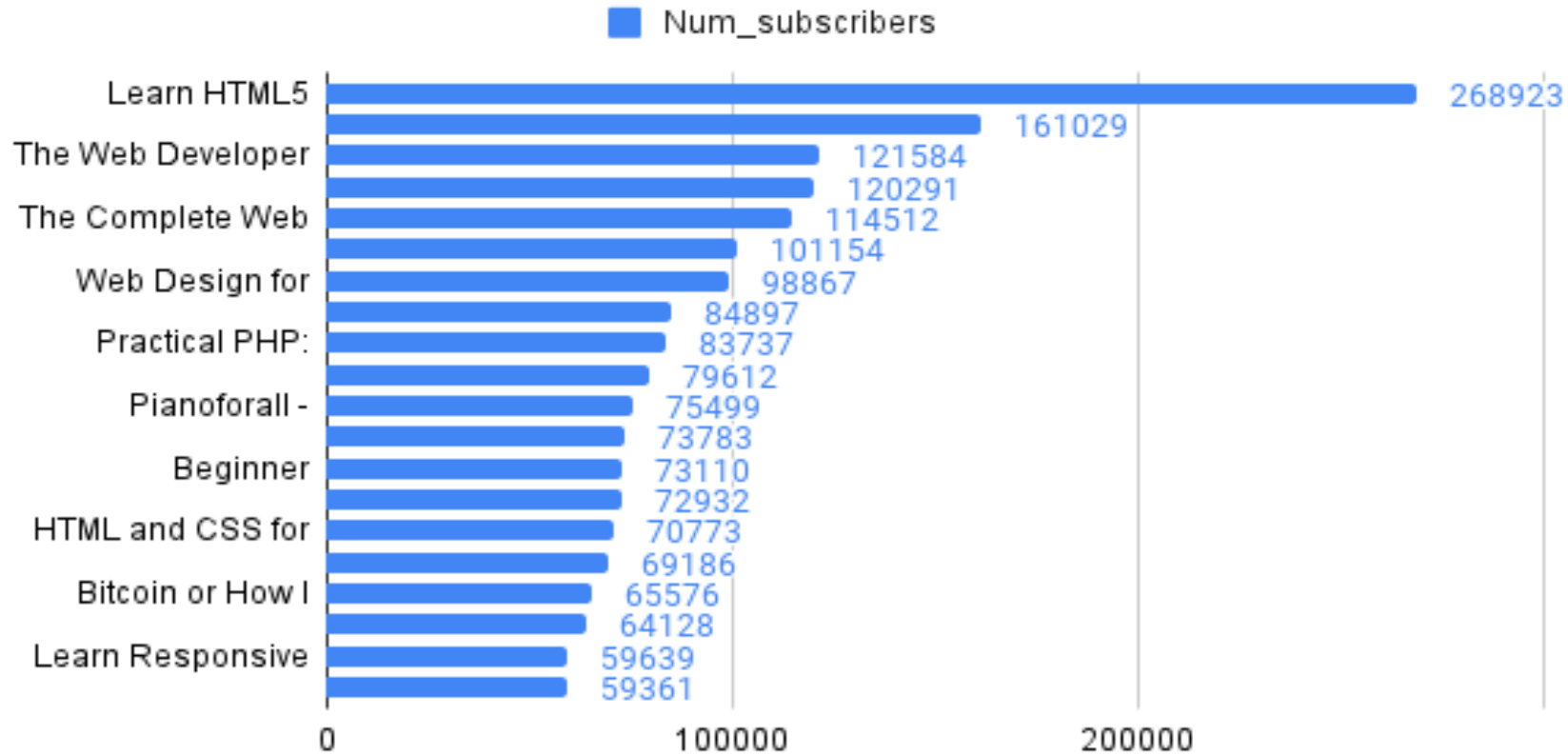
The chart shows that Web Development courses are more popular based on the number of subscribers.

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6. Does content duration impact the price of the course?

The scatter plot shows that about 80% of the courses have content duration ranging from 1 to 40 and is not dependent on the price.

content_duration vs price
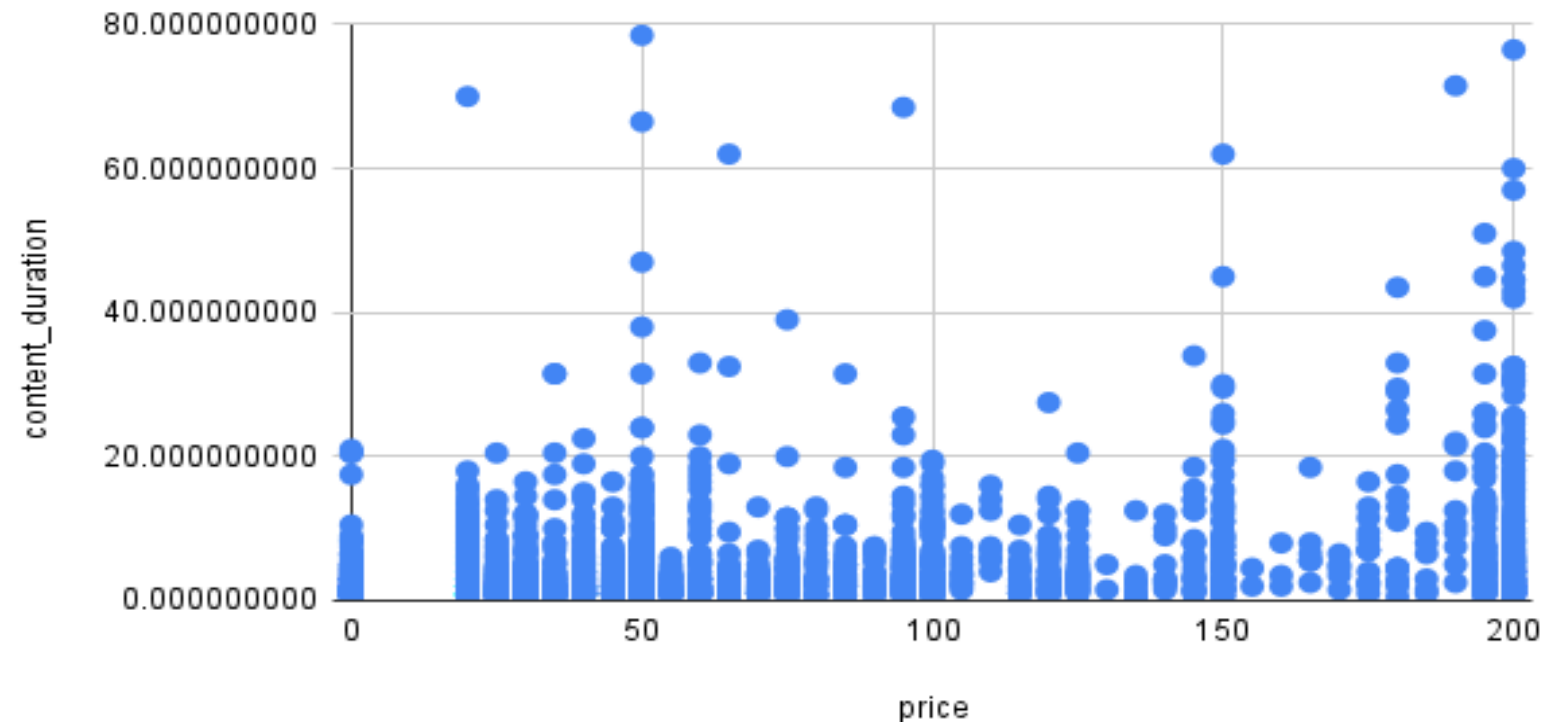
Summary of findings:

- **Top 5 courses:**

  - Almost 68% of subscribers come from Web Development and the top 5 courses are for Web development as well

- **Business Finance vs Web Development:**

  - Business Finance and web development have almost equal number of total courses (1155 vs 1203), but web development course are almost 2x in content duration and have 4x the average subscribers

- **Course Pricing:**

  - Web Development and Business Finance courses are have higher pricing with an average price of
  77.04 and 69.08 respectively

Recommended actions:

Product recommendations:

- Focus on getting more paid course by creators in Web Development courses because of the high demand for them.

Marketing recommendations:

- Our data tells us that our web development courses are most popular and people are willing to pay for it. Marketing and advertising campaigns should therefore focus 80% of their attention on the Web Developmemt target market.

Capstone Project

Project Description:

- The Google Play Store apps has enormous potential to drive app-making businesses to success. Actionable insights can be drawn for developers to identify trends and patterns and capture the Android market.

- This will help us to:

  - Identify which category of apps should be developed more by developers
  - Create targeted strategies to increase the installs for an app

Key questions:

- How many app do we have in each category?

- How many installs do we have in each category?

- Which apps are free and paid?

- Which category have the highest rating and reviews?

- How does price and installs vary across different category?

Findings & Insights

1. How many app do we have in each category?

Category	COUNTA of App
ART_AND_DESIGN	59
AUTO_AND_VEHICLES	63
BEAUTY	37
BOOKS_AND_REFERENCE	143
BUSINESS	225
COMICS	48
COMMUNICATION	204
DATING	141
EDUCATION	94
ENTERTAINMENT	64
EVENTS	36
FAMILY	1584
FINANCE	260
FOOD_AND_DRINK	82
GAME	954
HEALTH_AND_FITNESS	196
HOUSE_AND_HOME	50
LIBRARIES_AND_DEMO	62
LIFESTYLE	271
MAPS_AND_NAVIGATION	94
MEDICAL	276
NEWS_AND_MAGAZINES	161
PARENTING	44
PERSONALIZATION	276
PHOTOGRAPHY	224
PRODUCTIVITY	228
SHOPPING	158
SOCIAL	168
SPORTS	232
TOOLS	631
TRAVEL_AND_LOCAL	144
VIDEO_PLAYERS	113
WEATHER	49
Grand Total	**7371**

Apps and Category

VIDEO_PLAYERS 1.5%
TRAVEL_AND_LOCA 2.0%
TOOLS 8.6%
SPORTS 3.1%
SOCIAL 2.3%
SHOPPING 2.1%
PRODUCTIVITY 3.1%
PHOTOGRAPHY 3.0%
PERSONALIZATION 3.7%
NEWS_AND_MAGA 2.2%
MEDICAL 3.7%
MAPS_AND_NAVIG 1.3%
LIFESTYLE 3.7%
LIBRARIES_AND_DE 0.8%
HOUSE_AND_HOME 0.7%
HEALTH_AND_FITN 2.7%
BOOKS_AND_REFER 1.9%
BUSINESS 3.1%
COMMUNICATION 2.8%
DATING 1.9%
EDUCATION 1.3%
ENTERTAINMENT 0.9%
FAMILY 21.5%
FINANCE 3.5%
FOOD_AND_DRINK 1.1%
GAME 12.9%

2. How many installs do we have in each category?

Category	SUM of Installs(+)
ART_AND_DESIGN	99,233,100
AUTO_AND_VEHICLES	43,769,800
BEAUTY	13,416,200
BOOKS_AND_REFERENCE	134,784,155
BUSINESS	491,782,920
COMICS	16,536,100
COMMUNICATION	3,334,915,530
DATING	105,192,410
EDUCATION	207,702,000
ENTERTAINMENT	548,860,000
EVENTS	5,648,300
FAMILY	6,674,811,480
FINANCE	306,586,300
FOOD_AND_DRINK	171,567,750
GAME	26,732,252,717
HEALTH_AND_FITNESS	782,456,220
HOUSE_AND_HOME	51,482,000
LIBRARIES_AND_DEMO	60,983,000
LIFESTYLE	420,519,120
MAPS_AND_NAVIGATION	175,014,560
MEDICAL	35,450,176
NEWS_AND_MAGAZINES	3,204,900,550
PARENTING	23,566,010
PERSONALIZATION	942,042,930
PHOTOGRAPHY	2,380,893,130
PRODUCTIVITY	1,211,302,080
SHOPPING	1,312,231,540
SOCIAL	793,240,475
SPORTS	1,062,411,465
TOOLS	3,519,053,500
TRAVEL_AND_LOCAL	240,638,300
VIDEO_PLAYERS	781,662,200
WEATHER	119,296,500
Grand Total	56,004,202,518

Sum Of Installs per Category

- TOOLS 6.3%
- SPORTS 1.9%
- SOCIAL 1.4%
- SHOPPING 2.3%
- PRODUCTIVITY 2.2%
- PHOTOGRAPHY 4.3%
- PERSONALIZATION 1.7%
- NEWS_AND_MAGAZINES 5.7%
- HEALTH_AND_FITNESS 1.4%
- BUSINESS 0.9%
- COMMUNICATION 6.0%
- ENTERTAINMENT 1.0%
- FAMILY 11.9%
- FINANCE 0.5%
- GAME 47.7%
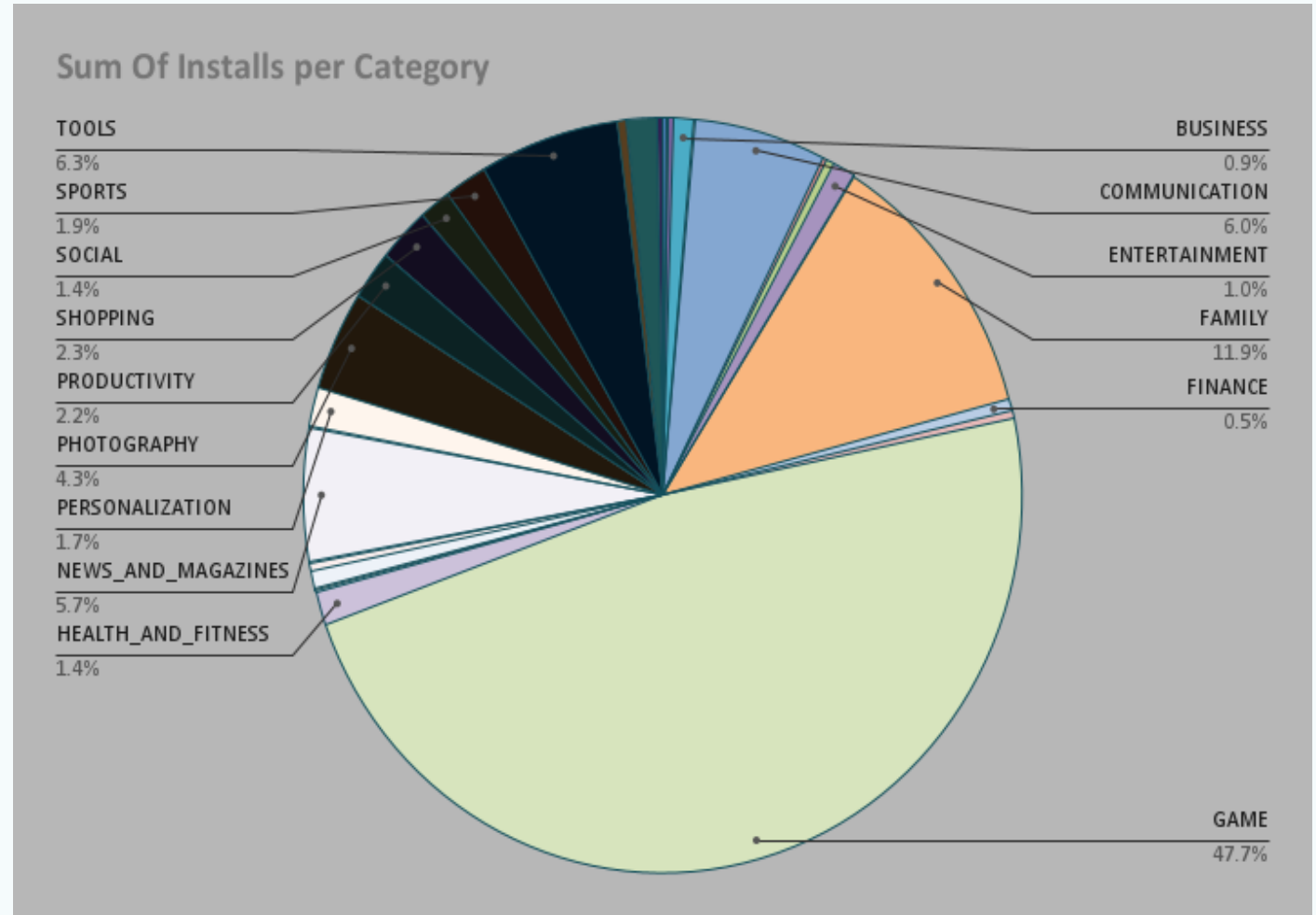
Game apps category recorded the highest installs by 47.7%.

3. Which apps are free and paid?

| COUNTA of Type	Type		
Category	Free	Paid	Grand Total
ART_AND_DESIGN	56	3	59
AUTO_AND_VEHICLES	63		63
BEAUTY	37		37
BOOKS_AND_REFERENCE	136	7	143
BUSINESS	217	8	225
COMICS	48		48
COMMUNICATION	186	18	204
DATING	139	2	141
EDUCATION	90	4	94
ENTERTAINMENT	63	1	64
EVENTS	36		36
FAMILY	1439	145	1584
FINANCE	247	13	260
FOOD_AND_DRINK	81	1	82
GAME	879	75	954
HEALTH_AND_FITNESS	188	8	196
HOUSE_AND_HOME	50		50
LIBRARIES_AND_DEMO	62		62
LIFESTYLE	255	16	271
MAPS_AND_NAVIGATION	90	4	94
MEDICAL	221	55	276
NEWS_AND_MAGAZINES	159	2	161
PARENTING	43	1	44
PERSONALIZATION	213	63	276
PHOTOGRAPHY	211	13	224
PRODUCTIVITY	214	14	228
SHOPPING	156	2	158
SOCIAL	166	2	168
SPORTS	212	20	232
TOOLS	576	55	631
TRAVEL_AND_LOCAL	138	6	144
VIDEO_PLAYERS	112	1	113
WEATHER	43	6	49
Grand Total	6826	545	7371

Free and Paid
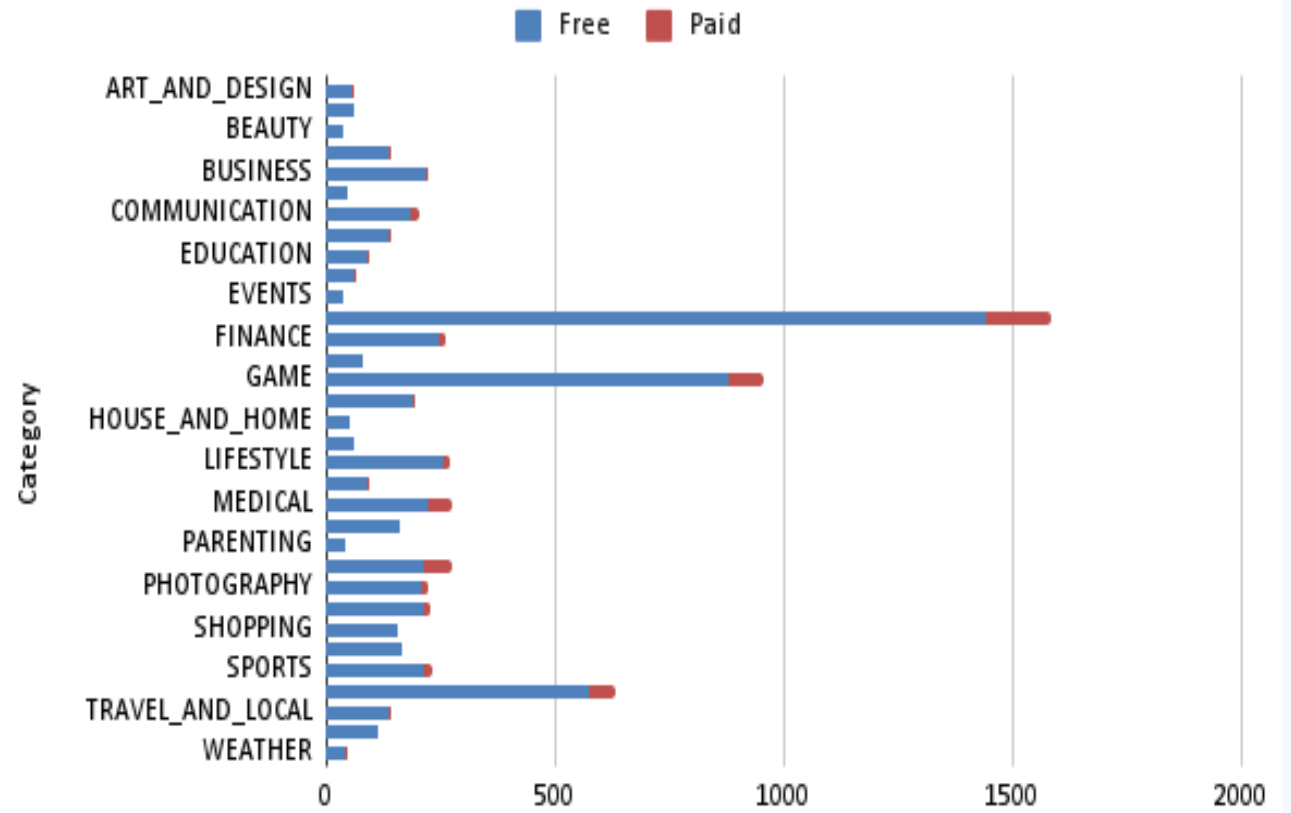
About 93% of apps are paid for.

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4. Which category have the highest rating and reviews?
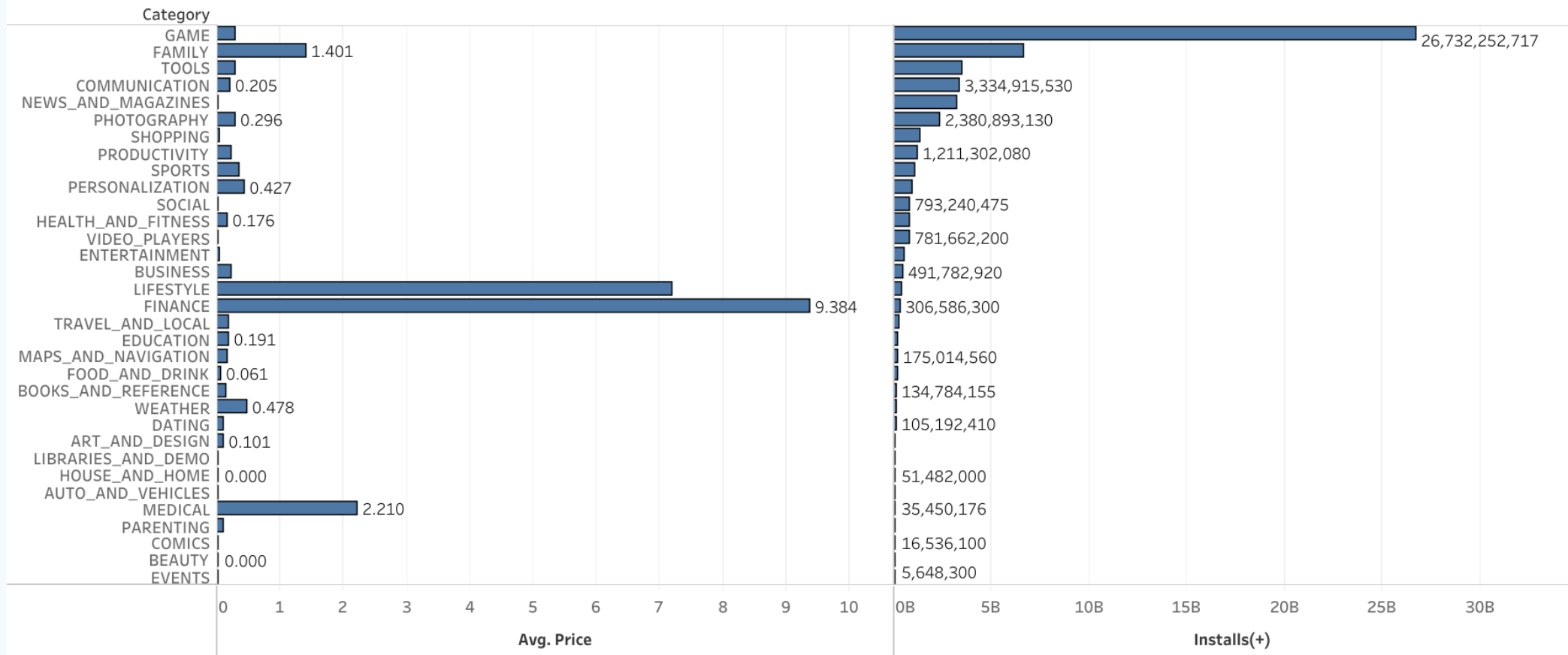

Average Rating and Reviews
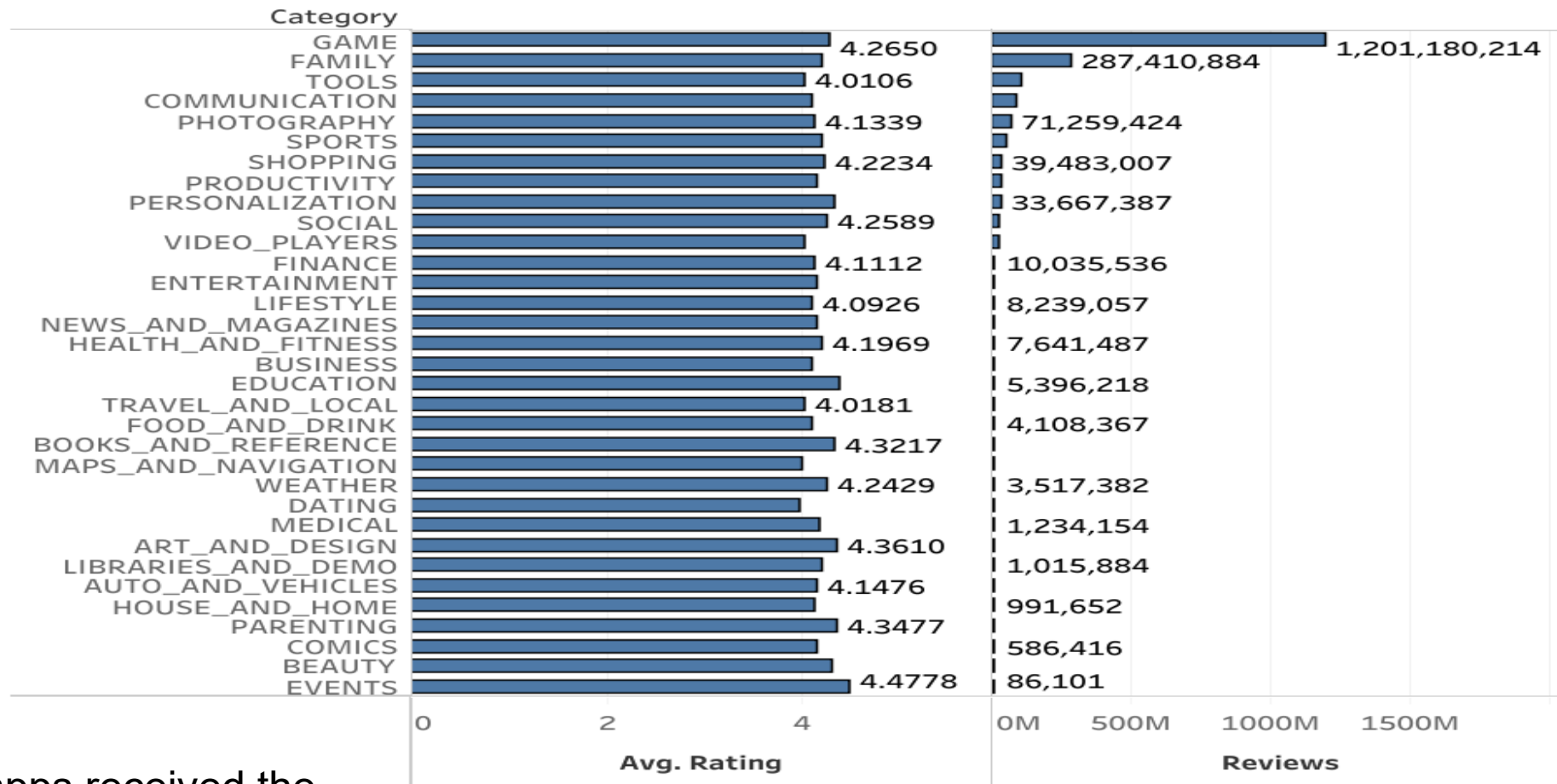
Game apps received the
highest number of reviews.

5. How Does Price And Installs Vary Across Different Category?

Average Price and Installs

Category	Avg. Price	Installs(+)
GAME		26,732,252,717
FAMILY	1.401	
TOOLS		
COMMUNICATION	0.205	3,334,915,530
NEWS_AND_MAGAZINES		
PHOTOGRAPHY	0.296	2,380,893,130
SHOPPING		
PRODUCTIVITY		1,211,302,080
SPORTS		
PERSONALIZATION	0.427	
SOCIAL		793,240,475
HEALTH_AND_FITNESS	0.176	
VIDEO_PLAYERS		781,662,200
ENTERTAINMENT		
BUSINESS		491,782,920
LIFESTYLE		
FINANCE	9.384	306,586,300
TRAVEL_AND_LOCAL		
EDUCATION	0.191	
MAPS_AND_NAVIGATION		175,014,560
FOOD_AND_DRINK	0.061	
BOOKS_AND_REFERENCE		134,784,155
WEATHER	0.478	
DATING		105,192,410
ART_AND_DESIGN	0.101	
LIBRARIES_AND_DEMO		
HOUSE_AND_HOME	0.000	51,482,000
AUTO_AND_VEHICLES		
MEDICAL	2.210	35,450,176
PARENTING		
COMICS		16,536,100
BEAUTY	0.000	
EVENTS		5,648,300

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Summary of findings:

- **Top Apps based on Category:**

  ○ Almost 22% of Apps are in the Family category and the Events category recorded about 0.5% which is the lowest number of Apps.

- **Top Apps Installs :**

  ○ The Game category recorded the highest number of installs(47.7%), followed by Family, which recorded 11.92%. The two categories also recorded the highest reviews of 58.57% and 14.01% respectively.

- **Price Vs Installs:**

  ○ There is an inverse relationship between the average price of apps in each category and the installs.Games which have a low average price of 0.288 recorded the highest installs while Finance with the highest average price of 9.384 recorded very low installs.

Recommended actions:

Product recommendations:

- App developers should focus on creating economically priced apps in the Games and Family categories.

Marketing recommendations:

- The Google store App data tells us that Games and Family apps are more popular. Therefore App developers should advertise more of those products.

Thank you!