

CS 6300 Visualization Final Project Process Book: The International Tournament of DOTA2

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11/9/2018

Title: Welcome to the International 2018 Dota2 Championship

Group Member: Gang Liu; Mai Li

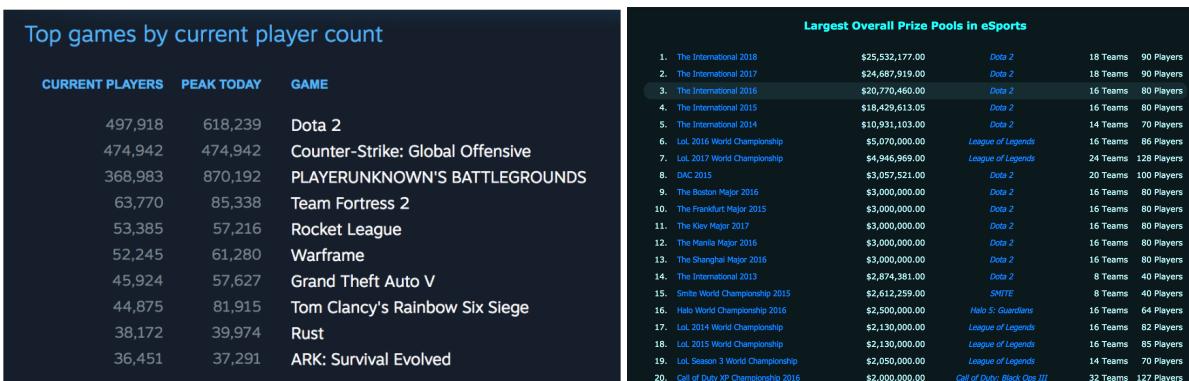
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Project Repository: https://github.com/LLTeamVis/vis_6630

Background and Motivation

DOTA2: Defense of the Ancients 2. Enjoyed by millions for over a decade, Dota2 is a game of strategy momentum and action. Two teams of five players called radiant and dire face-off in a vast battlefield, the first team to destroy the opposing team's ancient will win the match. However there are many strips on the road to the ancient. What is even more surprising is more than half a million people who will play dota2 on steam at the same time all in the whole world every day. Dota 2 is popular because it infused the iconic heroes/gameplay of a groundbreaking War craft 3 custom game with vitality and pioneered the legitimacy of competitive video gaming or e-sports by setting the precedent for tournaments with enormous prize pools.



The International is an annual Dota 2 e-sports tournament hosted by Valve Corporation, the game's developer. Under the temptation of such a huge bonus, a batch of professional players has been born. Every year, a large number of "faith fan" come to this place, and they are keen to pay attention to those professional players. Because 99% of people want to see 1% of people to realize their dreams in dota2. For them, this event is as popular as

the World Cup for those who like soccer. The ti8 that just ended in August this year is undoubtedly a fan's carnival. The appearance of hundreds of heroes in the game brought us a visual feast. However, a large number of games mean generating a large amount of data, which also plays an important role.

Dota 2 is more than just a game; it is also a new profession. Many e-sports teams are planning to employ more data analysts to help players overcome shortcomings and find opponents' weakness, which are ultimate purposes of team coaches and team managers. However, as a fast growing industry, visualizing and analyzing e-sports games has no mature tools and most tools just shows some boring and cumbersome information. As dota2 enthusiasts, we want to develop a visualization tool that is interesting for audience who not familiar with e-sports and informative for players to capture the key to win a game. For this time, we are looking forward to show the data visualization of the international 2018 (TI8) tournament through the multiple features like price pool, matches result, team/player, heroes, etc. We want to help professional players summarize and find strategies more efficiently so that there will be better play in future games. On the other hand, as the die-hard of dota2, we hope that more and more people could have a clearer understanding of this game and tournament, and even love this game.

Project Objectives

Provide the primary questions you are trying to answer with your visualization. What would you like to learn and accomplish? List the benefits

- How much attention Ti8 gets around the world?
- How do I know the matches details about group stage and main event?
- How does Team and Player performance in Ti8?
- How dose hero's performance in Ti8?
- Which match is the most popular in Ti8?
- What the strength or shortcoming for the specific player or hero?
- Which hero is the most frequently appear on ban/pick list?
- etc.

As we said before, we want to develop a visualization tool that is interesting for audience who not familiar with e-sports and informative for players to capture the key to win a game. So the object could be split two parts, one part for normal player or someone who are interested in this game. We would like to show some basic and interesting for them. Another part is professional player; we would like to provide such a useful statics to help them know enemies better. To attain these objectives, we need to first discuss about data we can obtain. For data to visualize the process of TI8, there are some types of data we find after searching.

- Some data that reflects huge influence of Ti. Like price pool, viewers peak stage, team quota of regions, top matches, etc.
Investors and advertisers could find the benefit potential of Ti tournament through these statics.

- League information box; Team information box; Player information box; Hero information box; Group matches and main event etc.
These information's box could help normal player have a basic knowledge about this game and player. They could find the useful information that they are interested.
- Data for Strategies. For example, player's ability graph, hero's bubble graph etc. Professional player could find the strengths and weaknesses of their enemies and other professional player as well by analysis him signature's hero and ability graph. Besides, they also could find the strong or weak heroes on current game version by analysis Hero's bubble graph. It will give them some game advantages in future games.

Data

We will get the dota2 data we need from some statistics website. We found some alternative data sites

- DOTABUFF - Dota 2 Statistics (<https://www.dotabuff.com/>)
- Liquipedia (<https://liquipedia.net/dota2>)
- Datdota (<https://www.datdota.com/>)
- Esports Vistior Statistics (<https://esc.watch/tournaments/dota2/international-2018>)

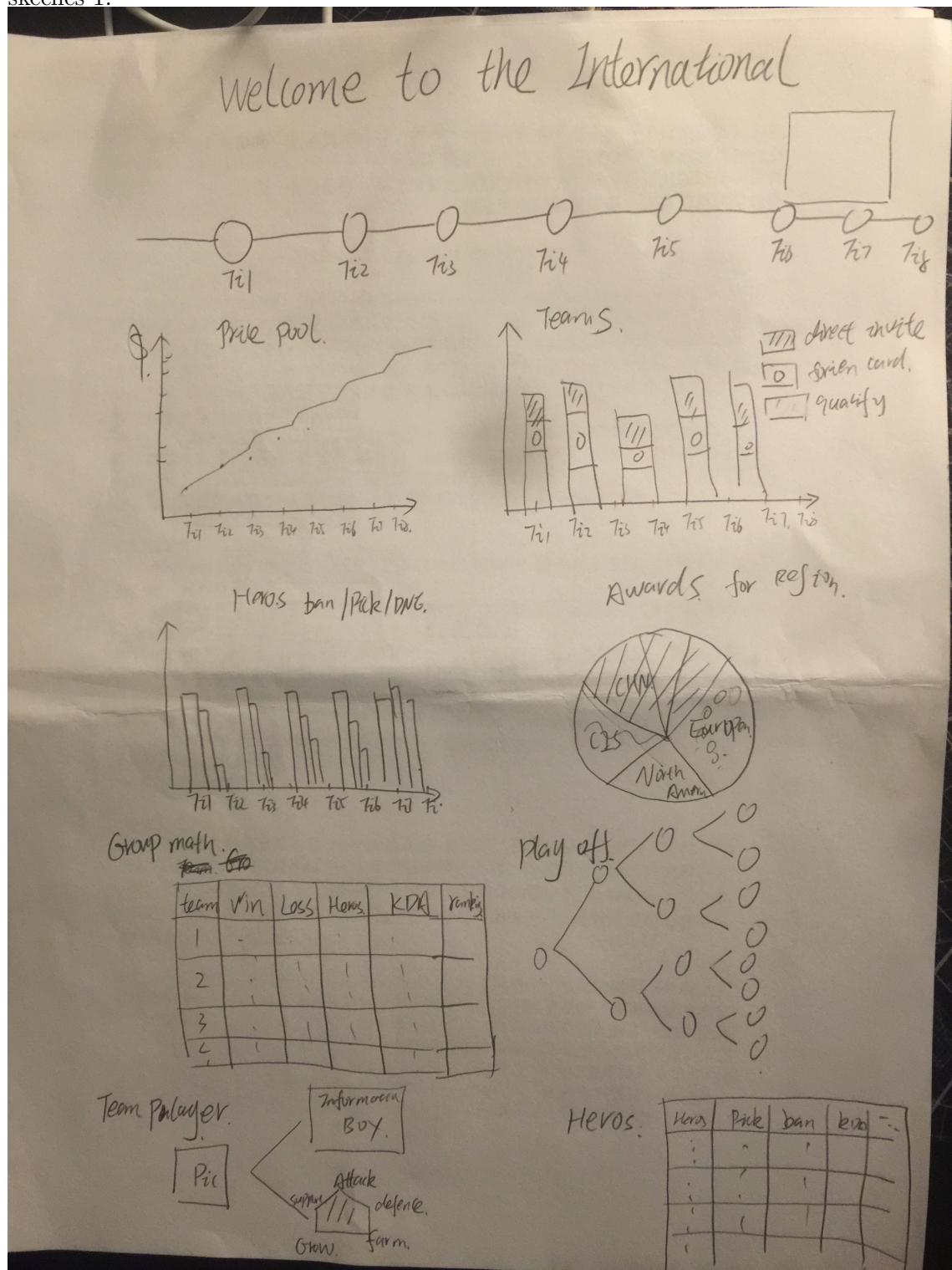
Data Processing

We have to do substantial data cleanup for most of our data since there are some data we don't need. We will need to re-organize some data like game data using Excel and transfer to .csv file eventually. Besides, we might collect some data manually.

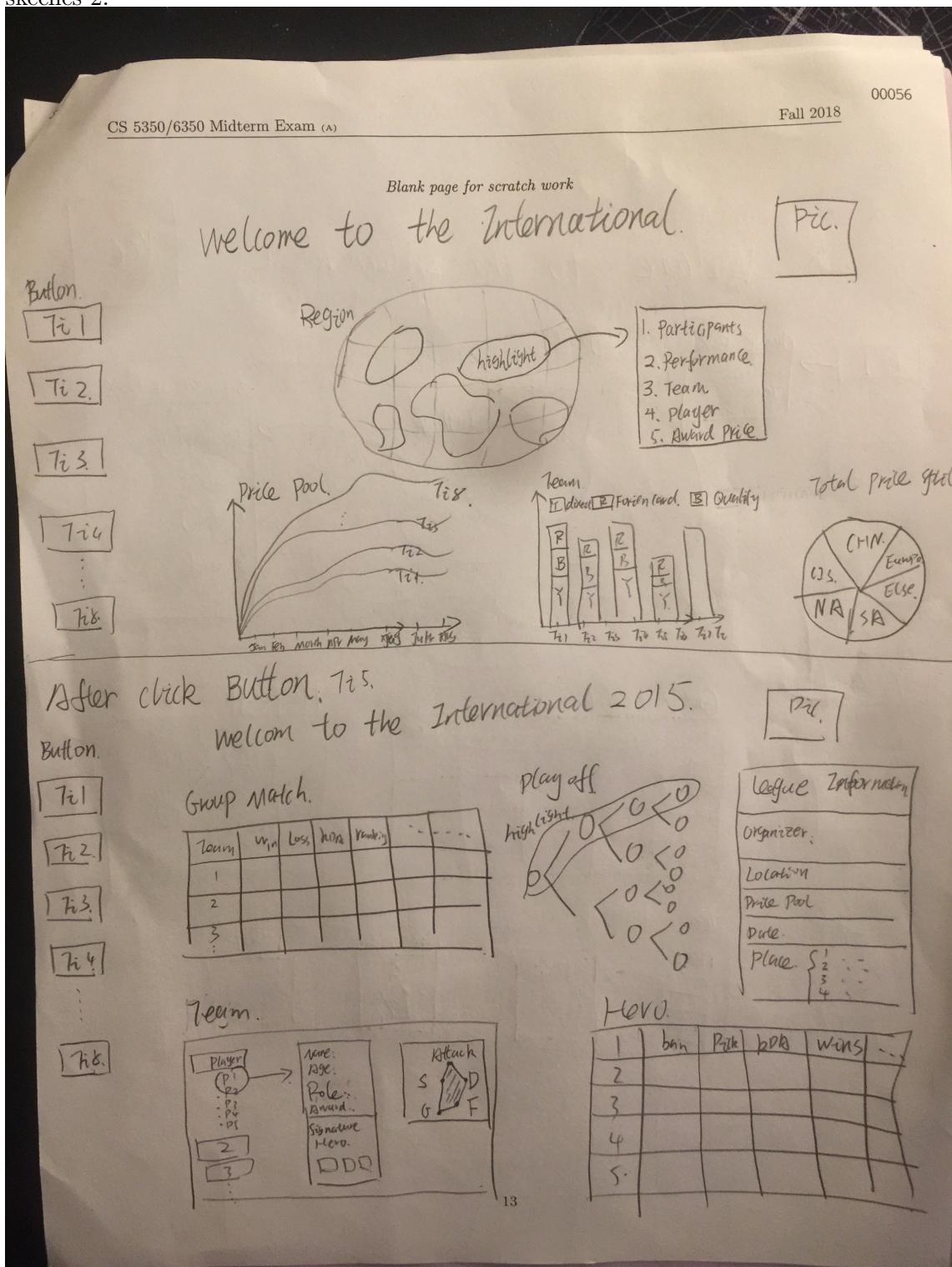
- 2015,2016,2017,2018 Ti daily price pool (120)
- 2018 Price Pool Distribution (12 parts)
- Viewers Peak Stats, 2017 and 2018 (6 to 7 aspects each year)
- Team Quota of Regions (6 regions, 18 teams)
- Total matches (148)
- Team (18) + player(90)
- Hero's Number: more than 100

Sketches and Design

sketches 1:



skeches 2:



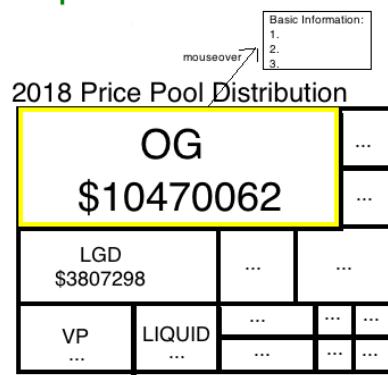
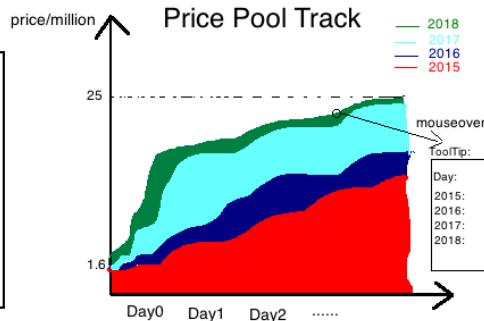
skeches 3:

Final Design:

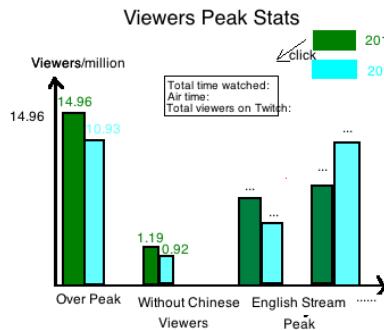


Welcome To The International 2018 Dota2 Championship

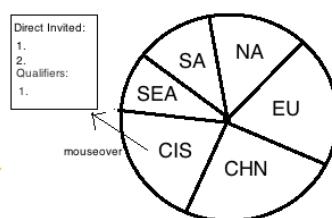
League Information	
Series:	
Organizer:	
Version:	
Location:	
Venue:	
Teams:	
Price Pool:	
Date:	



Top Matches	
#1	LFY vs LIQUID 91283 viewers Video Link: www.....
#2	
#3	
#4	



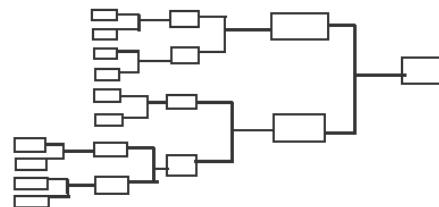
Team Quota of Regions



Group A Stage:	
E	1-1
A	\
B	2-0
C	
A	B
B	C
C	E

Group B Stage:	
X	\
W	0-2
Y	1-1
Z	
X	W
W	Y
Y	Z

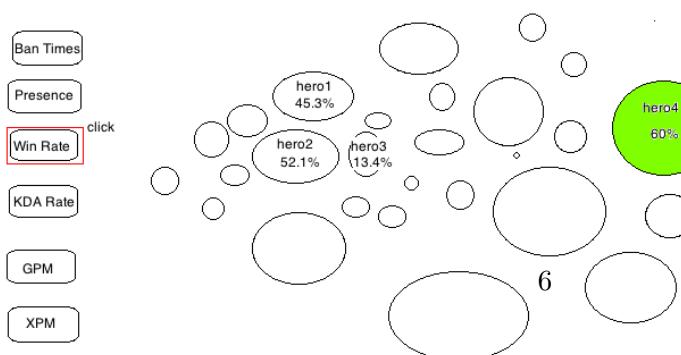
Main Event:



Team A	Team B
Team C	Team d

Team Information: Player Information:

Team Players: 1. 2. click 3. 4. 5. Honors: Interviews: ...	Picture Name: Role: Ability: Attack EPM Defence Support GPM 6
--	--



Hero Information

Strength	Agility	Intelligence
●	●	●
Speed:	Damage:	Attack Point:
...

Description

We can roughly divide this design into four parts:

- Introduction of Basic Information
 - Information Box

People could have a basic knowledge about the Ti8 by these information easily and efficiently. They would not be trapped in the encirclement of data.
 - Price Pool Track;

We will visually reflect the popularity of Ti8 by showing the differences in prize pool compared with the past. Certainly, the price pool will be one of the most important aspect to prove how popularity of Ti8.
 - 2018 Price Pool Distribution

It could help people understand the opportunities of team's bonuses in the Ti8, especially encourage for people who would like to be a professional player. Besides,
 - Viewers Peak States;
 - Team Quota of Regions
- Matches
 - Group Matches;

We will show these information's by table, people could query match result easily. Each rectangular represent one match, which includes integration. Besides, we are going to display match details by showing tooltip box.
 - Main Events and Awards. We will show this information by using tree. Since we could track each team match's schedule.
 -
- Team and Player
 - Team Information It includes team player, achievements, Ti8 interviewers link etc. Help people to understand the team information and characteristics.
 - Player Information Section; Include Name, Birth, Country, Role, Signature Hero, etc. Let people have a basic knowledge about this player.
 - Five-Star map. In order to more intuitively reflect the characteristics of the player, we decided to use a five-star map to represent it. Five aspects of ability: Attack(kill), Defense(death), Support(assist), Farm(GPM: gold per min), Grow(EPM: experience per min).
- Heros
 - Bubble Chart The bubble chart is a good idea for visualizing heroes. We come up with some designs for interaction. Using hover and click in visualization is a good way to show more detailed information with less crowded layout.
 - we are going to use hero image in d3 circle, it will help people to looking specific hero without a mount of time.

- We provide some choice like 'Presence', 'Win Rate', KDA Rate etc. It will help people to compare each hero's performance in Ti8 directly by the size of the circle.
- Hoers Basic Information Box Help people to have a basic information about this hero, which include the type of hero(strength, agility, Intelligence),original damage, attack point etc.

Must have Features

- League Information
- 2018 Price Pool Distribution
- Group matches and Playoff
- Team/Player; For each team, show basic information like team player, achievements etc. We need some information for player as well like ability, role etc.
- Heroes; Basic information such as GPM, XPM, win rate, appearance etc.

Optional Features

- Top Matches Section.
- Viewers Peak State
- Team Quota Regions

Project Schedule

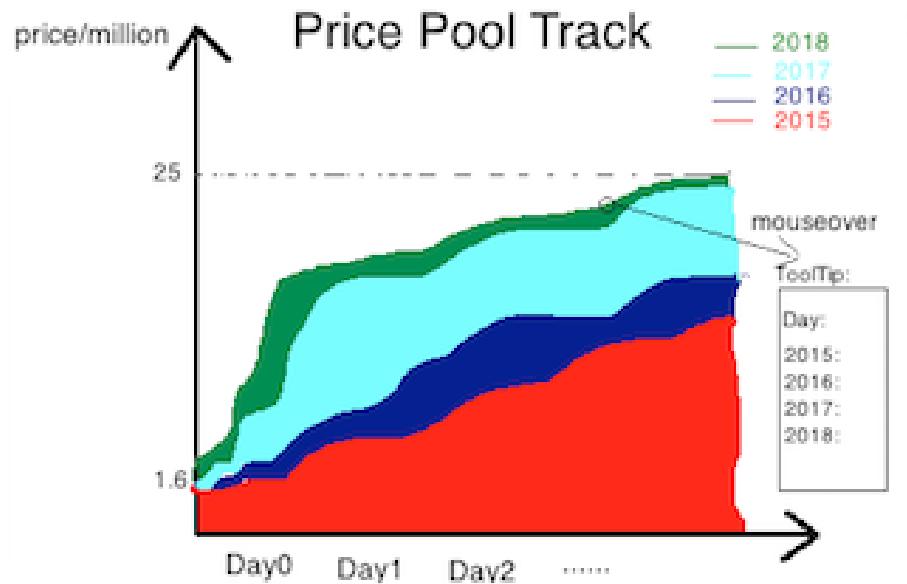
- 10.29 - 11.09 Milestone, prepare all data and finish 'Price Pool Track','2018 Price Pool Distribution' section as possible
- 11.10 - 11.30 Rest of part. Add more section if times allow.

Mileston 1 Current Stage

- data processsing:
 - TI8 infomation
 - * daily price pool from 2015,2016,2017,2018 to make comparision;We collected 110 day's price pool information to show how the Ti development durint these years.

Day	2014	2015	2016	2017	2018
0	1600000	1600000	1600000	1600000	1600000
1	2682056	3527102	4204753	4782066	5669282
2	3412386	4551752	5351325	5939229	6778536
3	3887103	5131860	5942380	6573269	7450646
4	4359369	5599591	6437459	7049884	8004083
5	4751090	5980978	6853407	7422856	8391285
6	5032238	6334299	7158775	7750340	8686008
7	5293739	6621347	7396324	8037183	8958257
8	5556659	6925868	7602951	8329028	9184922
9	5757481	7195787	7789988	8604665	9396175
10	5920247	7385511	7959459	8811893	9600240

We are going to display these information by line chart.



- * price pool distribution; We made a .json file to store the infomation about price distribution and region condition.

```

    "value": [
        {
            "team": "OG",
            "place": "1",
            "prize": 11234158,
            "percent": 0.44
        },
        {
            "team": "PSG.LGD",
            "place": "2",
            "prize": 4085148,
            "percent": 0.16
        },
        {
            "team": "Evil Geniuses",
            "place": "3",
            "prize": 2680879,
            "percent": 0.105
        },
        {
            "team": "Team Liquid",
            "place": "4",
            "prize": 1787252,
            "percent": 0.07
        },
        {
            "team": "Team Secret",
            "place": "5",
            "prize": 1148949,
            "percent": 0.045
        },
        {
            "team": "Virtus.pro",
            "place": "6",
            "prize": 1148949,
            "percent": 0.045
        }
    ],
    "year": "2018",
    "condition": [
        {
            "region": "CHN",
            "direct": ["PSG.LGD", "Vici Gaming", "Newbee", "VGJ.Thunder"],
            "qualify": ["Invictus Gaming", "Team Serenity"]
        },
        {
            "region": "EU",
            "direct": ["Team Liquid", "Team Secret"],
            "qualify": ["OG"]
        },
        {
            "region": "NA",
            "direct": ["VGJ.Storm", "Evil Geniuses", "OpTic Gaming"]
        },
        {
            "region": "SA",
            "direct": [],
            "qualify": ["paiN Gaming"]
        },
        {
            "region": "CIS",
            "direct": ["Virtus.pro"],
            "qualify": ["Winstrike Team"]
        },
        {
            "region": "SEA",
            "direct": ["Mineski"],
            "qualify": ["Fnatic", "TNC Predator"]
        }
    ]
}

```

- Hero

- * hero .csv file; We are going to display the hero's performance on Ti8. We collected all these information through some aspects like: appearance rate, winning rate, loss rate, etc and store them in .csv file. We have 116 heroes.

1	Hero	Picks	Picks_Win	Bans	Bans_Win	Combined	Combined_Win	Radiant_vs_Dire	GPM	XPM	KDA
2	Io	49	0.449	363	0.4876	412	0.483	0.3878	273	475	2.58
3	Phantom Lancer	99	0.596	185	0.5243	284	0.5493	0.5859	597	594	4.42
4	Chen	53	0.6226	222	0.4054	275	0.4473	0.434	292	332	2.38
5	Mirana	135	0.6	130	0.5846	265	0.5925	0.4667	520	548	6.24
6	Lycan	57	0.6316	175	0.52	232	0.5474	0.4386	504	500	5.23
7	Bloodseeker	70	0.4714	157	0.5032	227	0.4934	0.4571	503	517	3.82
8	Naga Siren	70	0.4714	141	0.4823	211	0.4787	0.3857	284	339	2.81
9	Windranger	122	0.4344	68	0.4265	190	0.4316	0.5164	365	414	3.06
10	Silencer	73	0.5205	114	0.4825	187	0.4973	0.5616	277	332	2.7

- * hero .json file; We decided to use the tree to display the heroes. So we stored the hero's information in .json file. However, it looks messy if we put all 116 heroes together. We plan to split these heroes in 3 sets, each set has 30 more heroes. Besides, we used three colors to show that. 10+ for strength(red), 10+ for agility(green), 10+ for intelligence(blue).

```

1  {
2      "name": "dota2",
3      "img": "https://encrypted-tbn0.gstatic.com/images?q=tbn:ANd9GcRLI9YT0baVvGP1FTekbgvT4vKYcHA-x70pe3PvHXR_E_SzvIomdSg",
4      "children": [
5          {
6              "name": "strength",
7              "children": [
8                  {
9                      "hero": "EarthShaker",
10                     "name": "strength",
11                     "link": "http://www.dota2.com/hero/earthshaker/",
12                     "img": "http://cdn.dota2.com/apps/dota2/images/heroes/earthshaker_full.png?v=4794286?v=4794286",
13                     "attr": {"picks": "53", "pick_win": "0.5849", "ban": "24", "ban_win": "0.4167", "combined": "77", "combined_win": "0.5325", "RVD": "10.0", "DPS": "7.0", "support": "5.6", "Push": "6.8", "gank": "8.0", "tank": "5.9", "group": "8.0"}, "point": {"DPS": "7.0", "support": "5.6", "Push": "6.8", "gank": "8.0", "tank": "5.9", "group": "8.0"}, "size": 20000
14                 },
15                 {
16                     "hero": "Sven",
17                     "name": "strength",
18                     "link": "http://www.dota2.com/hero/sven/",
19                     "img": "http://cdn.dota2.com/apps/dota2/images/heroes/sven_full.png?v=4794286?v=4794286",
20                     "attr": {"picks": "5", "pick_win": "0.4", "ban": "3", "ban_win": "0.333", "combined": "8", "combined_win": "0.375", "RVD": "0.6", "DPS": "8.7", "support": "4.3", "Push": "8", "gank": "7.4", "tank": "6.2", "group": "7.4"}, "point": {"DPS": "8.7", "support": "4.3", "Push": "8", "gank": "7.4", "tank": "6.2", "group": "7.4"}, "size": 20000
21             }
22         ]
23     }
24 }
```

- Team and Players

Team information:

	Name	Player1	Player2	Player3	Player4	Player5	Coach
1	Virtus.pro	RAMZES666	No[o]ne	9pasha	RodjER	Solo	Artstyle
2	Team Liquid	MATUMBAM	Miracle-	MinD_ContR	GH	KuroKy	Heen
3	PSG.LGD	Ame	SomnusØ%N	Chalice	fy	xNova	QQQ
4	Team Secret	Ace	MidOne	Fata	YapzOr	Puppey	SunBhie
5	OG	ana	Topson	7ckngMad	JerAx	BigDaddyN01	ppasarel
6	Evil Geniuses	Arteezy	SumaiL	s4	Cr1t-	Fly	BuLba
7	OpTic Gaming	Pajkatt	CCnC		33	zai	Peterpandan-
8	VGJ.Storm	YawaR	Resolut1on	Sneyking	MSS	SVG	Clairvoyance
9	Mineski	MuShi-	Moon	iceiceice	Jabz	ninjaboogie	71
10	Team Serenity	zhizhizhi	Zyd	XinQ	Pyw	XCJ	-
11	Vici Gaming	Paparazi	Ori	eLeVeN	LaNm	Fenrir	Mikasa
12	Winstrike Team	Silent	Iceberg	nongrata	Nofear	ALWAYSWAN	Sh4dowehhh
13	Fnatic	EternaLEnVy	Abed	UNiVeRsE	DJ	pieliedie	Aui_2000
14	Newbee	Moogy	Sccc	kpii	Kaka	Faith	SanSheng
15	TNC Predator	Raven	Armel	Sam_H	TIMS	Kuku	1437
16	VGJ.Thunder	Sylar	Freeze	Yang	Fade	ddc	rOtK
17	Invictus Gaming	Agressif	Xxs	Srf	BoBoKa	Q	Lpc
18	paiN Gaming	hFn	w33	tavo	Kingrd	Duster	MISERY
19							

Player information:

Player	Matches	KDA	Kills	Deaths	Assists	LH	DN	GPM	XPM
Resolut1on	12-Apr	6.82	8.63	2.81	10.56	347.94	11.94	607	601
Arteezy	13-Mar	6.03	10.06	3.81	12.94	216.06	15.56	541	592
Suma1L	13-Mar	5.33	10.06	4.38	13.25	251.5	12	585	593
s4	13-Mar	5.09	7.38	4.31	14.56	173.5	10.75	475	554
MinD_ContR	13-Mar	4.96	6.88	4.19	13.88	204.5	11.81	479	546
No[o]ne	10-Jun	6.15	9.06	3.31	11.31	289.63	15.94	583	627
YawaR	12-Apr	4.92	8.81	3.81	9.94	306.38	16	562	578
Miracle-	13-Mar	4.45	12.44	5.13	10.38	283.75	17	608	651
Ramzes666	10-Jun	5.61	9.5	3.88	12.25	291.13	16.19	575	630
9pasha	10-Jun	5.11	6.06	3.56	12.13	184.69	7.63	457	499
Cr1t-	13-Mar	3.91	4.06	5.5	17.44	52.81	3.38	317	449
MATUMBAM	13-Mar	3.77	8.88	5.5	11.88	216.88	7.25	537	574
YapzOr	09-Aug	5.39	5.12	3.88	15.82	75.88	3.76	310	436
Sneyking	12-Apr	3.91	5.06	5.31	15.69	257.75	12.63	499	523
Pajkatt	09-Aug	4.98	6.71	3.29	9.71	258.41	16.59	524	571
Moogy	08-Oct	5.6	7.56	3.5	12.06	298.44	10.5	531	589
Maybe	11-May	3.96	9	4.63	9.31	324.38	11.38	605	619
Ace	09-Aug	4.82	9.41	4	9.88	255.12	12.59	499	523
Chalice	11-May	3.85	6.81	5.25	13.38	204.81	11.06	448	514
gh	13-Mar	3.22	3.88	7.31	19.69	46.75	2.75	304	446
MSS	12-Apr	3.25	3.69	5.5	14.19	71	5.31	328	433
KuroKy	13-Mar	2.88	3	7.38	18.25	66.38	2.19	319	412
RodjER	10-Jun	3.72	4.25	5.31	15.5	54.75	4.75	296	419
Sccc	08-Oct	4.64	9.28	4.28	10.56	337.89	13.28	568	583
Ame	11-May	3.29	7.5	5.19	9.56	304.56	12.63	577	592
Fly	13-Mar	2.75	3.38	7.31	16.75	69.31	4.63	328	408
SVG	12-Apr	2.95	2.81	6.31	15.81	50.56	3.38	292	366
Fata	09-Aug	3.81	6.88	5.06	12.41	223.47	8.59	467	492

– Matches

* We made up matches information of group stage in.csv file

1	Team_A	A_G1	A_G2	Team_B	B_G1	B_G2	Id	Id_ins	Score	G1H1	G1H2	G1H3	G1H4	G1H5	G1H6	G1H7	G1H8	G1H9	G1H10			
2	Team Liquid	1	0	Fnatic	0	0	1	tl-fn	fn-tl	1:01	EarthShaker	Crystal Maid	Broodmothe	Pugna	Spectre	Io	Gyrocopter	Bane	Tiny	Enigma		
3	PSG.LGD	1	0	OG	0	0	1	lgd-og	og-lgd	1:01	Io	Gyrocopter	Wraith King	Lina	Lion	Vengeful Spi	Weaver	Warlock	Monkey King	Skywrath Ma		
4	Evil Geniuses	1	1	VGI.Thunder	0	0	0	eg-vgit	vgit-eg	2:00	Phoenix	Ursa	Crystal Maid	Clinkz	Alchemist	Weaver	Vengeful Spi	Wraith King	Winter Wyve	Bloodseeker		
5	Invictus Gam	1	0	Mineski	0	0	1	ig-mm	mm-ig	1:01	Earthshaker	Mirana	Crystal Maid	Legion Comm	Medusa	Wraith King	Silencer	Necrophos	Vengeful Spi	Terrorblade	Lina	
6	PSG.LGD	0	1	VGI.Thunder	1	0	0	lgd-vgit	vgit-lgd	1:01	Nature's Pro	Wraith King	Disruptor	Ursa	Leshrac	Silencer	Necrophos	Vengeful Spi	Death Prophet	Earthshaker	Clinkz	
7	Mineski	1	1	Winstrike Te	0	0	0	mn-ws	ws-mn	2:00	Wraith King	Crystal Maid	Tiny	Winter Wyve	Bloodseeker	Nature's Pro	Clinkz	Vengeful Spi	Death Prophet	Earthshaker	Phoenix	
8	Invictus Gam	0	1	Evil Geniuses	1	0	0	ig-eg	eg-ig	1:01	Wraith King	Pugna	Crystal Maid	Lifestealer	Storm Spirit	Tiny	Phoenix	Clinkz	Enigma	Spirit Breaker	Enigma	
9	Team Liquid	1	1	OG	0	0	0	tl-og	og-tl	2:00	Nyx Assassin	Chen	Ursa	Bloodseeker	Invoker	Pugna	Enchantress	Earthshaker	Tiny	Monkey King	Tinker	
10	PSG.LGD	1	0	Team Liquid	0	0	1	lgd-tl	tl-lgd	1:01	Earthshaker	Clinkz	Crystal Maid	Lina	Enchantress	Silencer	Io	Bloodseeker	Venomancer	Huskar	Timbersaw	
11	Evil Geniuses	1	1	Mineski	0	0	0	eg-mm	mm-eg	2:00	Weaver	Crystal Maid	Earl Spirit	Bristleback	Io	Gyrocopter	Vengeful Spi	Clinkz	Windranger	Alchemist	Timbersaw	
12	Fnatic	1	1	VGI.Thunder	0	0	0	fn-vgit	vgit-fn	2:00	Enchantress	Wraith King	Spirit	Visage	None	Dread	Lion	Ursa	Dark Willow	Windranger	Alchemist	
13	Invictus Gam	0	0	Winstrike Te	1	0	0	lg-ws	ws-lg	0:02	Wraith King	Windranger	Clockwerk	Doom	Knight	Wraith King	Wraith King	Shadow Shaman	Phantom Lar	Pugna		
14	Fnatic	0	1	Mineski	1	0	0	mn-mm	mm-mn	1:01	Winter Wyve	Necrophos	Windranger	Windranger	Invoker	Treant Prote	Vengeful Spi	Tiny	Pugna	Wraith King	Tinker	
15	Evil Geniuses	1	1	OG	0	0	0	eg-eg	eg-eg	2:00	Necrophos	Crystal Maid	Ursa	Undying	Storm Spirit	Tiny	Oracle	Centaur War	Warden	Windranger	Visage	
16	Invictus Gam	1	0	Team Liquid	0	0	1	ip-tl	tl-ip	1:01	Wraith King	Pugna	Tusk	Necrophos	Alchemist	Vengeful Spi	Clinkz	Chen	Ursa	Lina	PSG.LGD	
17	PSG.LGD	1	1	Winstrike Te	0	0	0	lgd-ws	ws-lgd	2:00	Weaver	Phoenix	Bane	Drow Ranger	Storm Spirit	Earthshaker	Necrophos	Disruptor	Ursa	Lina	PSG.LGD	
18	PSG.LGD	0	0	Evil Geniuses	1	0	1	lgd-eg	eg-lgd	0:02	Vengeful Spi	Clinkz	Pudge	Weaver	Alchemist	Enchantress	Spectre	Lich	Tiny	Tusk	PSG.LGD	
19	Invictus Gam	0	1	Fnatic	1	0	0	ig-fn	fn-ig	1:01	Dark Willow	Tiny	Ancient App	Clinkz	Bloodseeker	Winter Wyve	Necrophos	Wrath King	Templar Ass	Earth Spirit		
20	VGI.Thunder	1	1	Winstrike Te	0	0	0	vgit-ws	ws-vgit	2:00	Silencer	Weaver	Winter Wyve	Necrophos	Lina	Chen	Mirana	Ogre Magi	Wraith King	Templar Ass	Phoenix	
21	Mineski	0	0	OG	1	0	1	mn-eg	eg-mn	0:02	Vengeful Spi	Ursa	Phoenix	Sniper	Alchemist	Enchantress	Venomancer	Shadow Shar	Phantom Lar	Pugna	PSG.LGD	
22	Team Liquid	1	1	Mineski	0	0	0	tl-mm	mm-tl	2:00	Vengeful Spi	Necrophos	Windranger	Windranger	Invoker	Treant Prote	Vengeful Spi	Tiny	Pugna	Wraith King	Tinker	PSG.LGD
23	Fnatic	0	1	OG	1	0	0	fn-og	og-fn	1:01	Windranger	Enigma	Undying	Ursa	Huskar	Chen	Lina	Spectre	Treaty Prote	Invoker	PSG.LGD	
24	Invictus Gam	0	0	VGI.Thunder	1	0	1	ig-vgit	vgit-ig	0:02	Wraith King	Winter Wyve	Dark Willow	Ursa	Alchemist	Silencer	Vengeful Spi	Clinkz	Brewmaster	Storm Spirit	PSG.LGD	
25	Evil Geniuses	1	1	Winstrike Te	0	0	0	eg-ws	ws-eg	2:00	Necrophos	Mirana	Ursa	Silencer	Tusk	Vengeful Spi	Dark Willow	Witch Doctor	Drow Ranger	Storm Spirit	PSG.LGD	
26	Mineski	1	0	VGI.Thunder	0	0	1	mn-vgit	vgit-mn	1:01	Vengeful Spi	Brewmaster	Dark Willow	Bloodseeker	Shadow Fren	Silencer	Necrophos	Windranger	Luna	Wraith King	PSG.LGD	
27	PSG.LGD	1	1	Fnatic	0	0	0	lgd-fn	fn-lgd	2:00	Drow Ranger	Bane	Windranger	Undying	Alchemist	Winter Wyve	Wrath King	Dark Willow	Broodmothe	Lone Druid	PSG.LGD	
28	Invictus Gam	0	0	OG	1	0	1	lg-og	og-lg	0:02	Io	Gyrocopter	Rubick	Lina	Axe	Silencer	Morphling	Dark Willow	Centaur War	Pugna	PSG.LGD	
29	Team Liquid	1	1	Winstrike Te	0	0	0	ts-ws	ws-ts	2:00	Wraith King	Dark Willow	Broodmothe	Dark Willow	Ogre Magi	Brewmaster	Vengeful Spi	Nature's Pro	Tiny	Spectre	Mirana	
30	Evil Geniuses	0	0	Team Liquid	1	0	1	eg-tl	tl-eg	0:02	Tiny	Lich	Ursa	Rubick	Spectre	Vengeful Spi	Phoenix	Venomancer	Clinkz	Drow Ranger	PSG.LGD	
31	Invictus Gam	0	0	PSG.LGD	1	0	1	lg-lgd	lgd-lg	0:02	Necrophos	Silencer	Tusk	Enigma	Templar Ass	Tiny	Winter Wyve	Crystal Maid	Lina	Faceless Void	PSG.LGD	
32	OG	1	1	VGI.Thunder	0	0	0	og-vgit	vgit-og	2:00	Chen	Winter Wyve	Spectre	Treaty Prote	Monkey King	Weaver	Vengeful Spi	Necrophos	Tiny	Phoenix	PSG.LGD	
33	Fnatic	1	1	Winstrike Te	0	0	1	fn-ws	ws-fn	1:01	Wraith King	Winter Wyve	Earth Spirit	Lone Druid	Templar Ass	Ursa	Silencer	Dark Willow	Mirana	Storm Spirit	PSG.LGD	
34	PSG.LGD	1	1	Mineski	1	0	0	lgd-mm	mm-lgd	2:00	Weaver	Undying	Phantom Lar	Tusk	Zeus	Wraith King	Dark Willow	Crystal Maid	Pangolier	Tinker	PSG.LGD	

• Design

- Our basic project frame:



League Information

- Series: The International
- Organizer: Valve
- Version: 7.19
- Location: Vancouver
- Teams: 18
- Prize Pool: \$25532177
- Start Date: 2018-08-15
- Prize Pool: 2018-08-25

Events

Team/Player

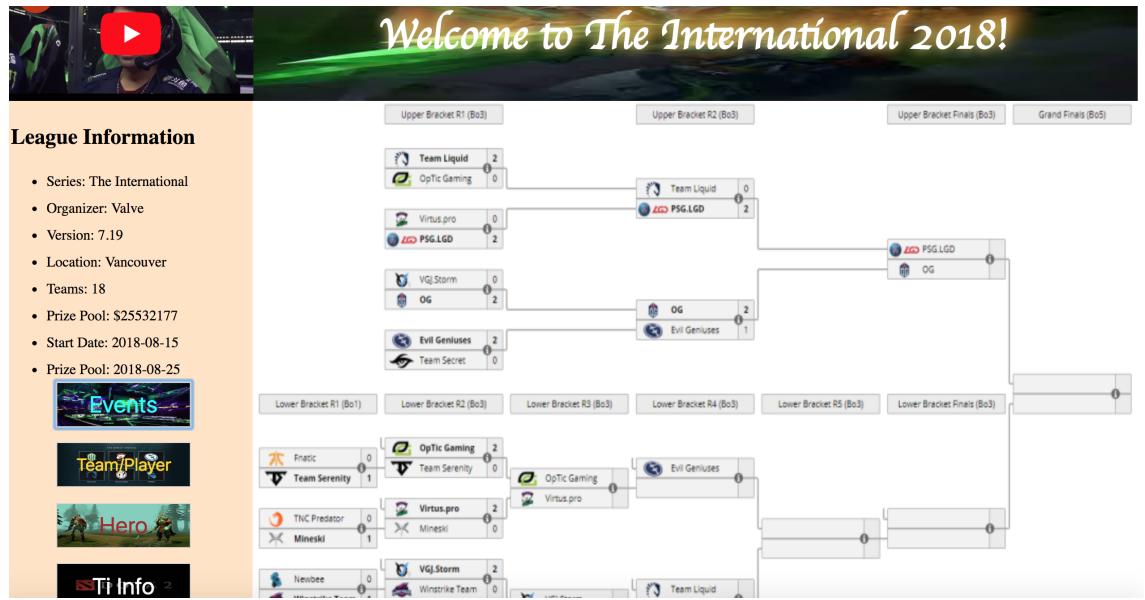
Hero

Ti Info

As we can see, we embeded a introduction video of TI8 at the top. We hope people have straitghtful feeling about Ti8. Besides, we put the league information box on the right of the page. In order to facilitate the interaction between the viewer and the webpage, we have set up four buttons.

* Events

When you click this button, it gonna show the group stage events and main events. Now, I just used the image to be the background. We are going to use d3 to draw graph like that. When you click the team, it will show more details about that match.



- * Team/Player

We are going to show more team and player's information later. The right side will show the information graph. We will add more interaction and coordinate...



Welcome to The International 2018!

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- * Hero

We would like to show hero information by using force tree. It will add more interesting for vistor. However, it will looks messy if 100 more hero appear together. So we will figure out how to show heros more appropriate later.



When you click the hero's head sculpture, it will show some infomation lik name,attributes. We provide hero link if you want to have more specific information. Besides, there are some graph on right side.We will show TI8 performance graph later.



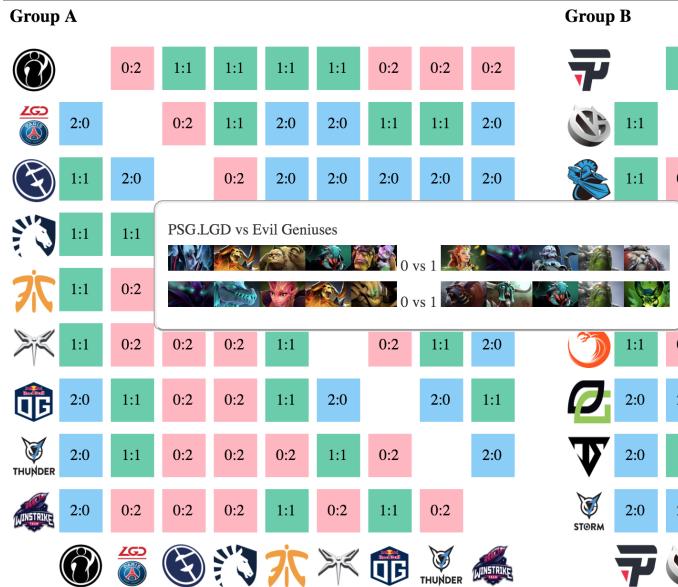
- * Ti8 info We will show some optional feature in this part. Like price pool, comparision with previou year,team of region,etc.

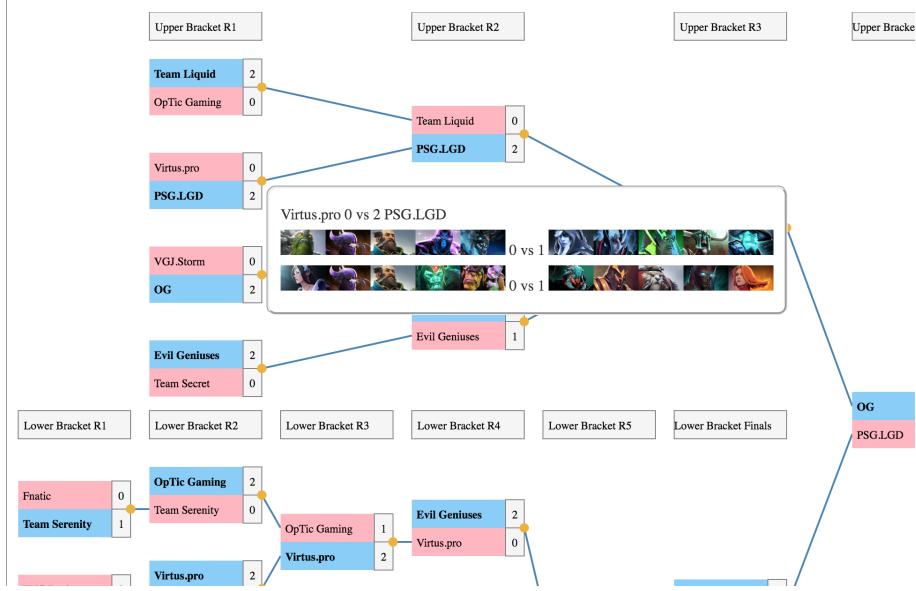


Final Experiment

Basically, we achieved all objectives, which we set at beginning of the project. During the processed still did a lot of job in data processing since most of data, which was collected in milestone, are csv files. After that, we have implemented these information by display multiple graphs, like bar chart, radar graph, force tree, partition box, path area, etc. I would like to say the project we have done is a dota2 Information inquiry website for ti8. No matter you are professional player or just some like who like this game, we really hope this website will make you satisfied. As we originally designed, our project is divided into four parts.

- Event The part of Event is composed of two elements. One of them is stage group, and another one is main event.





We used two-dimension bar to display the match between two teams in group stage matches and tree graph in main event. Then, we used 3 colors to represent the outcome (red=lose; blue=win; green=tie). Not only can you watch the outcome through color, but you can also use the information displayed in the tip box to guide more specific battle details.

- Team

In the TI8 tournament, there are 18 teams and 90 professional players totally. We let the people select the teams they are interested in by showing the team logo.

Name Information

Player 1: Location:

Team Select



Player 2: Region:



Player 3: Manager:



Player 4: Caption:



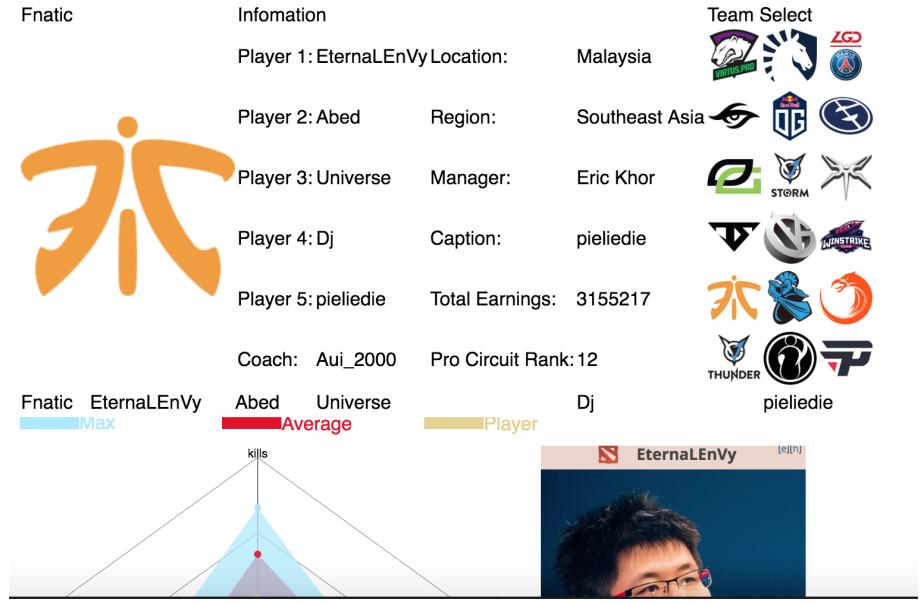
Player 5: Total Earnings:



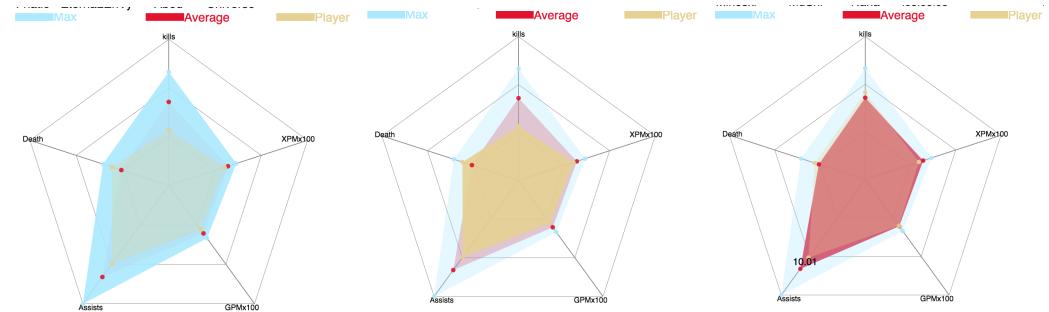
Coach: Pro Circuit Rank:



After pick, we displayed some basic team information and teammate's information by radar chart.



Generally, each side of the game has 5 different characters, and their responsibilities are different which leads to different abilities they show in the game. We show players' abilities in five aspects, such as offensive, defensive, escape, etc. In short, we divide each team into 5 positions. Radar graph display the average and maximum level of all players who from different teams but in same position. Therefore, there are three plots in each radar graph for comparison.



Besides, We also collected basic information about some players and heroes

Mushi

Player Information

Name: 蔡宣风
Romanized Name: Chai Yee Fung
Birth: November 27, 1990 (age 27)
Country: Malaysia
Status: Active
Alternate IDs: MuShi, MuShi-, FENG
Role(s): Solo Middle
Signature Hero: [hero icons]
Approx. Total Earnings: \$1,018,099
Pro Circuit Rank: #21 (1050 points)

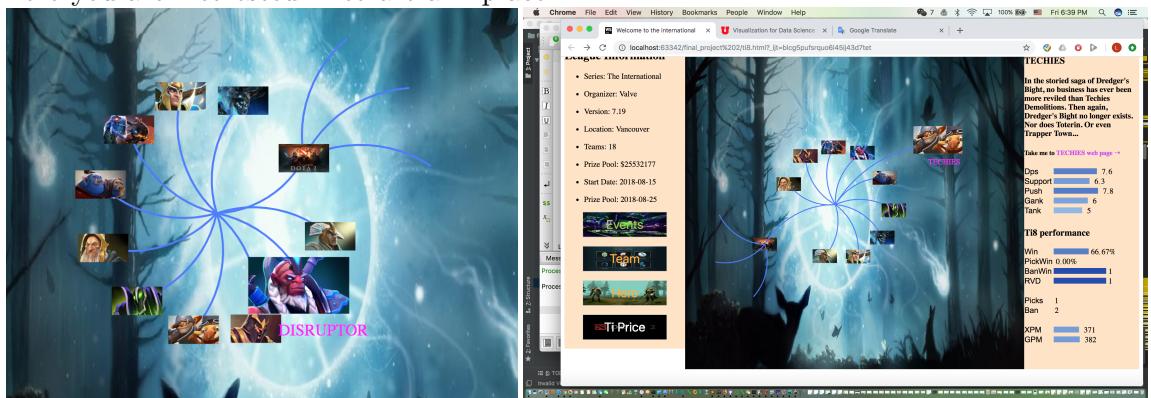
they are good at for reference.

- Hero

In our project, we display more than 100 heroes by using force tree, which split into Strength,Agility,Intelligence. We showing them through some basic attributes and ti8 performance by using dynamic bar.



If you feel it is hard to find the particular hero you want in so many heros, you could us expansion or contraction in force tree, or even you can pull the hero you are interested in to a blank place.

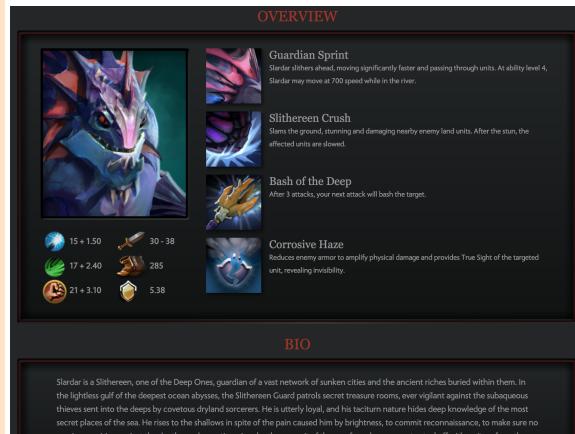


In my mind, each hero presents a story, so we give you a brief introduction about this hero, and we provide website as well if you want to know about him.

SLARDAR

Slardar is a Slithereen, one of the Deep Ones, guardian of a vast network of sunken cities and the ancient riches buried within them. In the lightless gulf of the deepest ocean abysses, the Slithereen Guard...

[Take me to SLARDAR web page →](#)



For the performance and attributes:

Dps	5.7
Support	7.7
Push	7
Gank	6.1
Tank	5.7

Ti8 performance

Win	52.86%
PickWin	59.26%
BanWin	48.84%
RVD	40.74%

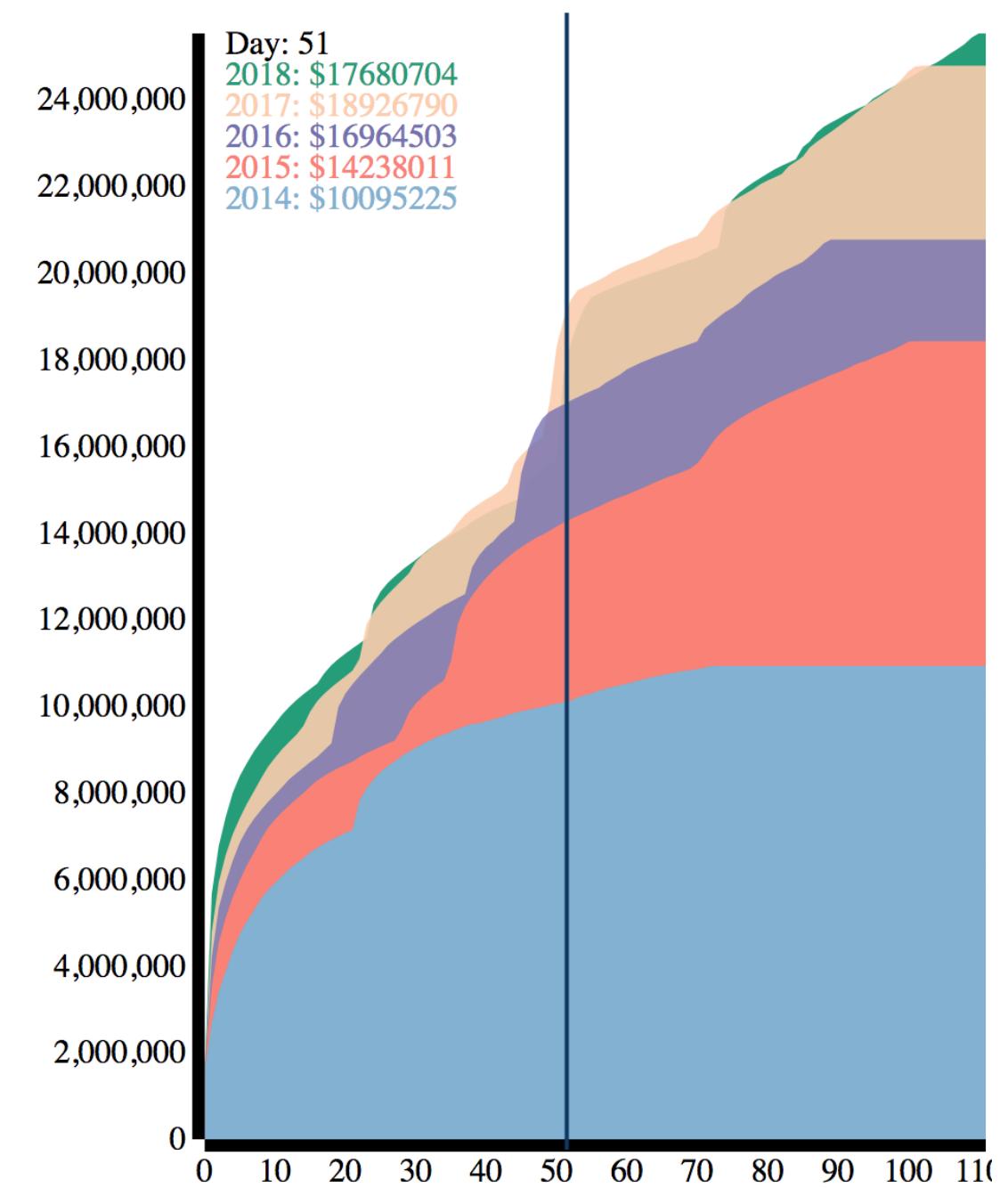
Picks	27
Ban	43

XPM	440
GPM	466

– Ti8 Price

In this part, we have two plots, Ti daily price track and TI8 price pool. Ti daily price track displays the bonus accumulation trend from 2014 to 2018. We can observe the change in the popularity of this event.

Ti Daily Price Track



Ti8 price pool distribution is displayed by the partition box. We can easily find out how many bonuses each team has won in this tournament.

