PROTOBLOCK INC

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ABSTRACT

Protoblock's tools for speculating on fantasy football solve issues of monetization of fantasy skills and produce the first ever market prices on future fantasy results. Much like a market that does not allow hedging, daily fantasy addresses only half of the total market by only allowing players to monetize the upside of under-valued players, but not the downside of over-valued players. The Protoblock solution utilizes peer consensus, a cornerstone of Blockchain technology, to tokenize pure fantasy skill. By enabling players to monetize all their skill in a Fantasy Futures Exchange, Protoblock creates an efficient market. With the Fantasy Price Ticker generated by Protoblock's expert players, Protoblock is the future of professional fantasy gaming.

1 PROBLEM AND OPPORTUNITY

1.1 Season Long

SEASON LONG Traditional Fantasy Football is a season long game.

ENTRY FEES Before the NFL season, each player pays an entry fee.

DRAFT Fantasy drafts are held before the season.

WAIVERS Free Agents available during season.

CHAMPION Top team wins the money.

SAME SKILL AS GM A fantasy league consists of 12 teams. The fantasy football player plays a similar role to NFL GMs, owners, and coaches.

DRAFTING PLAYERS A fantasy draft consists of 20 rounds, where each team selects 20 NFL players. 240 NFL players are selected from a pool of roughly 600 available players. Once drafted, the NFL player is removed from the pool, and is exclusively owned by a single fantasy team. See Figure .

HEAD 2 HEAD Each week of the season, your fantasy team is pitted against another's. Whomever has the most fantasy points gets a win, while the other team gets a loss. The 4 teams with the most wins make it to the playoffs!

TEAM MANAGEMENT Throughout the season, fantasy players can improve their team by:

1. Adding and Dropping with waivers.
2. Making trades with other owners.
3. Weekly Start/Sit Lineup Decisions.

PLAYOFFS AND CHAMPIONSHIPS The top 4 teams make the playoffs, and play head 2 head for week 15. Week 16 is the championship game. The winning team gets everyones entry fees and makes 5-10 times his bet.

NON MONETARY VALUE For traditional old school players, winning the championship IS the prize, the money is secondary. The sense of accomplishment is immense. Through months of hard work with ups and downs of the season your decisions paid off.

1.2 Growth and Problems

INTERNET AGE As Fantasy Football grew larger, so did the stakes. What started out as a hobby in the 80's grew to a half million players by the late 90's. The Internet enabled more competitive and higher stakes leagues, which required escrow and commissioner services. New startups offered specialized news and information, rankings, daft kits, and magazines.

FEDERAL EXCEPTION A 2006 federal law explicitly exempted fantasy sports from federal gambling laws, and it defined fantasy sports as a game of skill. With two caveats:

1. Fantasy teams must consist of at least 2 players from two different teams.
2. The total prize pool must be predetermined, independent on how many teams actually join the contests.

Fantasy Football, a game of skill and a legal form of betting, with now millions of players should have attracted thousands of professional expert players, who can earn millions playing full-time, just like poker and and stock market professionals. Yet this did not occur.

NO PROS   By 2006 there were over 30 million Fantasy Football players in the US, yet there were only a handful of full time professional players. The 500,000+ skilled fantasy experts found it very difficult to monetize their immense skills and knowledge.

MANY PROBLEMS   Fantasy Football has systemic and fundamental flaws, causing major inefficiencies and lack of real opportunities for even the most skill players.

1. A skilled players expected returns on their entry fees range from a 25% to 200% profit. The winner-take-all top heavy prize structure creates extreme volatility and long periods of losses, with periodic large wins. These kinds of swings as a primary source of income was just not practical for the average expert. Married and educated males between 38-48 years old make up a majority of fantasy football experts.
2. Compounding this problem is the limited opportunities to take on risk and put fantasy skill to work. With season long fantasy, there is only a single opportunity, the period before week 1, to enter real money fantasy contests.
3. Skilled fantasy players can accurately predict the future performance of all 600+ players in the NFL. Yet, once the season starts, fantasy players, can only monetize their skills on the 20 players on their roster and free-agents. See Figure 2 on page 5 and 3 on page 6 for a glimpse into all the missed opportunities.
4. "Sleepers" are players who are very undervalued and "Busts" are players that are very overvalued. With traditional contents, skilled fantasy players can monetize their skill by identifying and drafting sleepers in later rounds. Sometimes, a single late round pick can win you a title! On the other hand, monetizing busts is practically impossible! The best you can do is to NOT draft overvalued players. This makes at least 50% of your fantasy skill simply not a factor in your overall performance in Fantasy Football.
5. It takes true skill and hard work to make the fantasy playoffs. Yet there is a significant increase in luck from the first playoff game through the championships. Fantasy players have no way to "take something off the table". There is no way to monetize making the playoffs. No way to hedge playoffs risk. See Figure 1 on the next page

1.3 Evolved Solutions

SKILL PUTS YOU IN A POSITION WHERE YOU TAKE ADVANTAGE OF GOOD LUCK
"The law of large numbers is a principle of probability according to which the frequencies of events with the same likelihood of occurrence even out, given enough trials or instances. As the number of experiments increases, the actual ratio of outcomes will converge on the theoretical, or expected, ratio of outcomes."

MORE ACTION   By entering more leagues, your returns will eventually match your skill. Players enter as many leagues as possible.
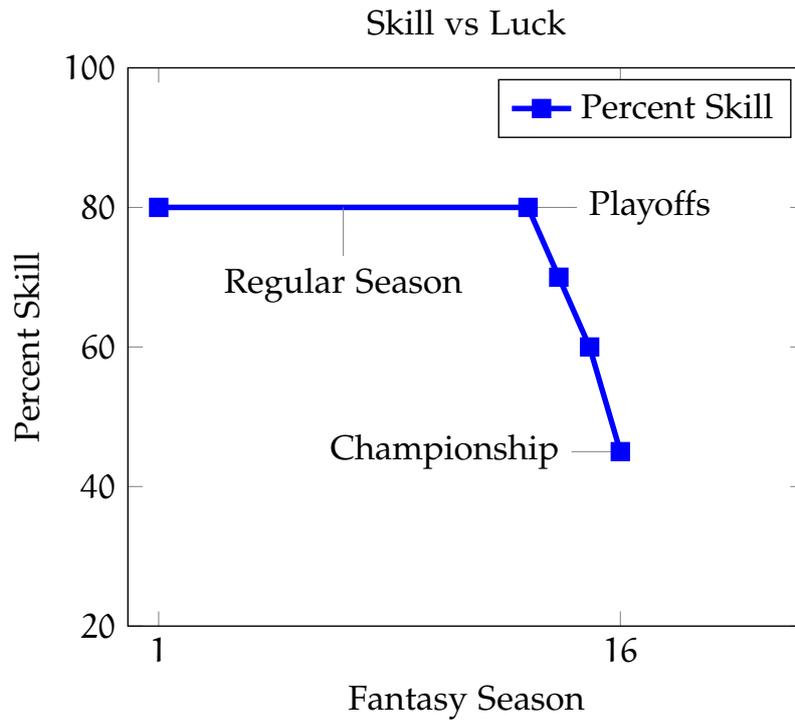
Skill vs Luck

Figure 1: More luck needed to win the playoffs

GAME VARIATIONS   To combat luck, league rules started to evolve. Rules such as; 1) using total points as well as win/loss record to determine play-offs seeds. 2) Draft-Master or best ball formats - where all you need to do is draft before the season, and weekly lineups are generated automatically based on the best combinations after each week. This enables you to enter many more drafts, and recent explosion of "MFL10s" is evidence.

EXPERT SERVICES   Expert players find ways to monetize skill on all NFL players as well as on Busts. They do this by selling expert services via web-sites, newsletters, 1-on-1 coaching etc. Marketing is done via Twitter you-tube and pod-casts.

NON MONETARY VALUE   For skills that could not be monetized, fantasy players receive other values, such as notoriety and celebrity. Players can make calls on Busts via Twitter, blog posts and ranking. Services such as FF-Pros have leader-boards based on the accuracy of expert rankings.

Overall, only a handful of fantasy players successfully make a full-time career out of services, mainly due to in-efficiencies for the public to identity real skill from the best writers and marketers.
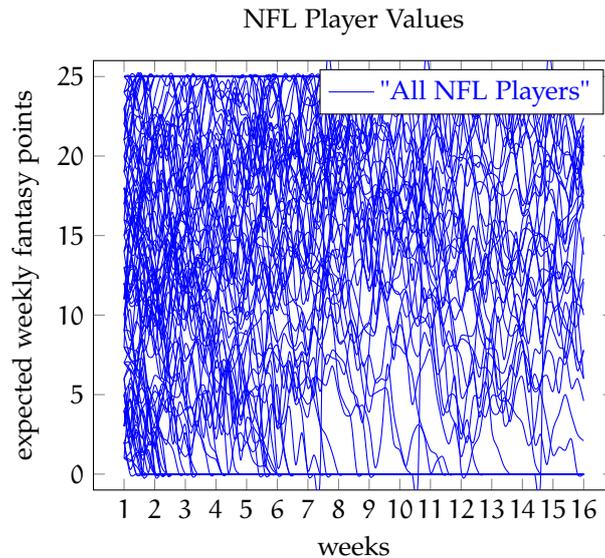
NFL Player Values

Figure 2: All NFL players moves create potential opportunity to monetize skill

2 DFS DISRUPTION

2.1 Daily Fantasy Sports – DFS

Daily Fantasy Sports or DFS is a new format where each week in the NFL season is a like a new season. In traditional fantasy football you place bets once, before the season. With DFS you can place bets again before each week of the 16 week NFL season. In essence, "each week is a new season"

DFS Daily Fantasy Football is in fact a Weekly Fantasy Football Game.

SALARY Each NFL player is assigned a salary each week.

ENTRY FEES New fees each week for new weekly contests.

PAYOUTS Winners get paid immediately after each week.

DRAFTING PLAYERS Lineups are selected from a pool of all NFL players. A Salary Cap is imposed, where the total Salaries of your players must not exceed the cap. There is no exclusivity, and many lineups will contain the same players. See Figure 8 on page 11.

GUARANTEED PRIZE POOLS GPPs are large contests with thousands of entries and extremely top heavy payouts. Winning these contest requires special lineup construction skills such as "stacking" multiple players on the same teams, and predicting and sometimes fading the obvious "chalk" plays.

CASH GAMES Half of the players in cash games will win the same amount. So the skill is to build a solid lineup thats better than average, without the need to take many risks. "Chalk" plays are common components in a good cash game lineup.

2.2 DFS Solution to Season-Long Problems

MORE OPPORTUNITY With more chances to bet, the law-of-large-numbers shows that your profits will converge to your true expected value sooner.
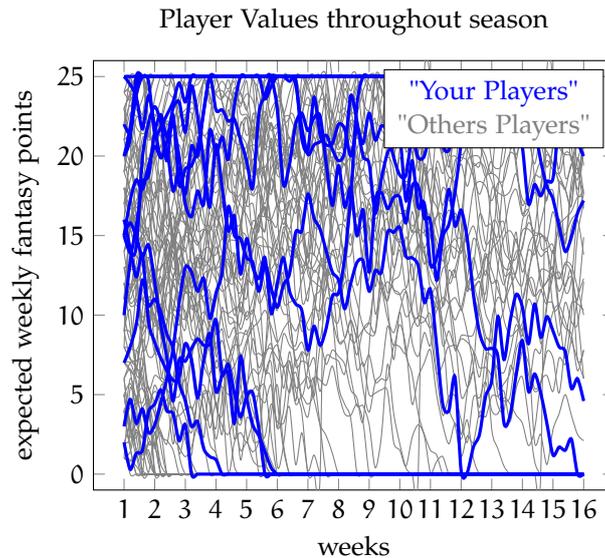
Player Values throughout season

Figure 3: Skilled fantasy players can anticipate NFL player values rising or dropping based on intuition, match-ups, and injuries

Compounding this benefit is the ability to enter many contests at once, due to the minimal team management when compared to season-long.

MONETIZE SKILL   In DFS, all 600 NFL players are available to be be drafted by all players. No exclusivity like season long drafts.

2.3   Exponential Growth and Market Validation

DISRUPTION   DFS truly disrupted the industry and experienced exponential growth. Season long fantasy football has been growing for nearly 30 years. Yet in just 4 short years, DFS grew to more than double the size of season-long!

BRAND NEW MARKET   DFS did not take market share away from season long. On the contrary, traditional Fantasy Football has experienced unprecedented growth, due in large part to the fresh money pouring into DFS.

- There are now over 60 million fantasy players in the US.

- More revenue is generated in Fantasy than from the entire NFL.

- 11 billion in revenue from fees alone.

This growth is validation of the real problems with Fantasy Football. DFS growth also clearly shows the markets appetite for new and innovative solutions.

2.4   DFS Problems

MANY PROBLEMS   DFS has structural and fundamental flaws, and its exponential growth has only exasperated these problems. Rather than finally solving the problem of monetizing Fantasy Football skill, DFS has created even bigger problems. *This has created an opportunity to once again bring new and innovative solutions to the market.*
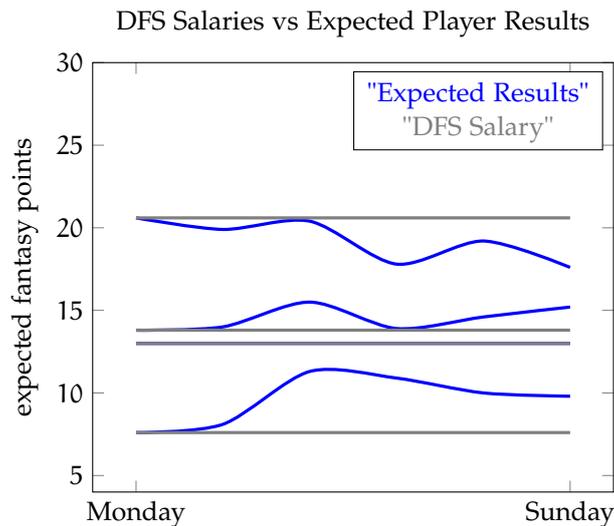
DFS Salaries vs Expected Player Results

Figure 4

Figure 5: DFS high Capacity low Skill

1. **Salaries** - Player salaries are created by the DFS game providers themselves, (DraftKings, FanDuel). These salaries do not represent an accurate value of the NFL player. Even worse, these salaries are locked on Monday and do not change as the players values change over the next 7 days.

   If a starting RB with a much higher salary then his backup, gets injured and is ruled "out", the salaries remain the same! Now the new starting RB has a salary of a backup! This is what they call a "Chalk Play"

   Static salaries may make the games easier and attractive to wider audience, but many amateurs still assume that higher salary players have a general expectation of better performance, which is not the case. Static salaries, in effect, replace pure fantasy football skill with something else altogether when determining winning or losing in DFS. 4.

2. **Ownership Percentages** - DFS requires more Luck and less Fantasy Football Skill than Season-Long. This is evident by the wide use of ownership percentages when setting lineups. As an example, when playing the lottery, you get higher Expected Value by picking numbers that are the least common. By using ownership percentages you are implicitly playing the probabilities, and your poker skills come in more handy than your fantasy football skills. See Figure 5
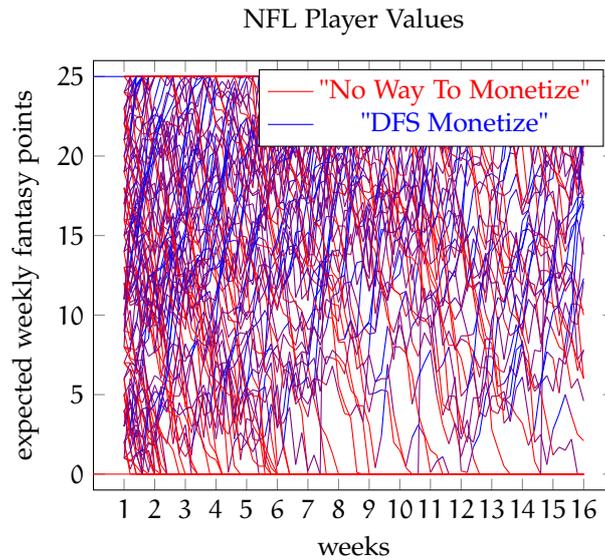
NFL Player Values

Figure 6: Only able to monetize upside Sleepers and not downside Busts

3. **Sleepers Only** - Players Values are dynamic and constantly changing, yet just like Season-Long, in DFS you can only directly monetize under-valued Sleepers. There is still no way to directly monetize your Busts! 50% of the market is still not being serviced by DFS. See Figure 6.

3 PROTOBLOCK DISRUPTION AND SOLUTION

3.1 Pure Fantasy Skill

Protoblock is now disrupting Fantasy Football with the ultimate solution for monetizing fantasy football skill; A Fantasy Football Futures Exchange, where players can hedge and speculate on individual fantasy player performances directly, 365 days a year!

Protoblock solves many problems with fantasy for all levels of Fantasy players by:

A. Compensating players for skill acquired over past 20 years.

B. Providing 60 million Fantasy Players with experts knowledge indirectly through Fantasy Ticker Feeds.

C. Enabling hedging of season-long and DFS risk.

D. Enabling monetization of all skills, including Busts, 365 days a year continuously.

3.2 Projections Game

BLOCKCHAIN TECHNOLOGY Our in game currency, Fantasybits, are minted by NFL players playing football. Each fantasy point scored will mint 100 Fantasybits. These Fantasybits then get distributed via Proof-of-Skill. The projections game identifies and rewards pure fantasy football skill.

"There is no such thing as a free lunch"

CONSENSUS CREATES VALUE With Protoblock, skilled players earn valuable Fantasybits without taking any risk. Its "free" lunch for the experts, who get rewarded for their skills acquired over the past 20 years. Consensus and value is created when 60 Million amateur players recognize and identify the skilled players.

3.3 Trading Game

FUTURES EXCHANGE A gamified futures exchange utilizes Fantasybits. Skilled players can hedge risk, or make speculative leveraged bets on individual fantasy player results. Bets can be made on the upcoming week, the current season, or future seasons.

NATURAL HEDGERS Futures Exchanges exist for the purpose of hedging risk. With fantasy football there are millions of natural hedgers that need to hedge. Usually only 1 percent of futures contracts are traded by hedgers, while the other 99 percent are speculators who are compensated for providing liquidity to the hedgers. Protoblock will enable professional commodity traders to make markets and provide liquidity to our fantasy football experts.

"WHATS THE PROTOBLOCK?" Protoblock publishes trades into the Fantasy Ticker, making it the first and only, real-time, streaming market based prices for fantasy players expected future value. Much like the question "Whats the Bloomberg?", is asked when discussing bond prices, pretty soon, "What's the Protoblock?", may be used when discussing fantasy player values!

	BUTTER's BUNC	Lousy	Fat Frankie Inc #	BX52	The Best Decisio	Cocontango	Crak Rok	SR	ALL4GABE	Long and Straigh	Honey Funchess	Protoblock
1	Antonio Brown	Julio Jones	Odell Beckham	A.J. Green	David Johnson	DeAndre Hopkins	Todd Gurley	Allen Robinson	Keenan Allen	Mike Evans	Rob Gronkowski	Le'Veon Bell
2	Jordy Nelson	Brandin Cooks	Devonta Freeman	Brandon Marshall	Dez Bryant	Alshon Jeffery	Jordan Reed	Amari Cooper	Adrian Peterson	Ezekiel Elliott	Lamar Miller	C.J. Anderson
3	LeSean McCoy	Mark Ingram	Kelvin Benjamin	Jarvis Landry	Sammy Watkins	Donte Moncrief	Greg Olsen	T.Y. Hilton	Randall Cobb	Jeremy Maclin	Demaryius Thomas	Cam Newton
4	Latavius Murray	Michael Floyd	Larry Fitzgerald	Travis Kelce	Doug Baldwin	Jamaal Charles	Julian Edelman	DeMarco Murray	Doug Martin	Golden Tate	Eddie Lacy	Eric Decker
5	Delanie Walker	Carlos Hyde	Gary Barnidge	Marvin Jones	Jordan Matthews	Josh Gordon	Matt Forte	Jeremy Langford	Coby Fleener	Sterling Shepard	Aaron Rodgers	John Brown
6	Allen Hurns	Martellus Bennett	Matt Jones	Russell Wilson	Ryan Mathews	Thomas Rawls	DeSean Jackson	Melvin Gordon	Giovani Bernard	Arian Foster	Danny Woodhead	Antonio Gates
7	Julius Thomas	Zach Ertz	DeAngelo Williams	Charles Sims	Tyler Lockett	Stefon Diggs	Michael Crabtree	Travis Benjamin	Duke Johnson	Derrick Henry	Emmanuel Sanders	Willie Snead
8	Theo Riddick	Ben Roethlisb...	Tavon Austin	Rashad Jennings	Frank Gore	Spencer Ware	Drew Brees	Andrew Luck	Christine Michael	Tyler Eifert	Jeremy Hill	Michael Thomas
9	Jonathan Stewart	T.J. Yeldon	Torrey Smith	Ameer Abdullah	Dwayne Allen	Jimmy Graham	Bilal Powell	LeGarrette Blount	Kevin White	Jay Ajayi	Tajae Sharpe	Justin Forsett
10	Blake Bortles	DeVante Parker	Chris Ivory	Tevin Coleman	Tom Brady	Eli Manning	Isaiah Crowell	Jason Witten	Jared Cook	Devin Funchess	Vincent Jackson	Corey Coleman
11	Markus Wheaton	Eric Ebron	Kyle Rudolph	Mohamed Sanu	DeAndre Washington	Dion Lewis	Kenny Stills	Will Fuller	Tyler Boyd	Zach Miller	James White	Rishard Matthews
12	Mike Wallace	Jerick McKinnon	Devontae Booker	Alfred Morris	Vance McDonald	Darren Sproles	Anquan Boldin	Jameis Winston	Carson Palmer	Philip Rivers	*James Starks	Terrelle Pryor
13	Clive Walford	Phillip Dorsett	Matthew Stafford	Charles Clay	Derek Carr	Javorius Allen	Kirk Cousins	Jesse James	Tyrod Taylor	C.J. Prosise	Marshawn Lynch	Chris Johnson
14	Andy Dalton	Eli Rogers	Josh Doctson	Tim Hightower	Shaun Draughn	Shane Vereen	Chris Hogan	Steve Smith	Pierre Garcon	Virgil Green	Kamar Aiken	Kenneth Dixon
15	Robert Kelley	Benny Cunningham	Sammie Coates	Defense ARI	Tyrell Williams	Kenjon Barner	Terrance West	Chris Thompson	Jordan Cameron	Ryan Tannehill	Zach Miller	Austin Seferian-...
16	Davante Adams	Defense CAR	Charcandrick West	C.J. Spiller	Tyler Ervin	Cameron Brate	Defense DEN	Stephen Gostkowski	Laquon Treadwell	Jordan Howard	Defense SEA	Breshad Perriman
17	Defense HOU	Steven Hauschka	Danny Amendola	D.J. Foster	Defense NE	Jacquizz Rodgers	Jacob Tamme	Victor Cruz	Robert Woods	Jeremy Kerley	Paul Perkins	Robert Griffin
18	Dan Bailey	*Robert Turbin	Marcus Mariota	Graham Gano	Dorial Green-Bec...	Defense PHI	Kenyan Drake	Defense MIN	Justin Tucker	Defense KC	Matt Ryan	Mason Crosby
19	Charles Johnson	*Chris Conley	Defense LA	Terrance Williams	Braxton Miller	Reggie Bush	*Ladarius Green	Mike Gillislee	Defense CIN	Chandler Catanzaro	*Alfred Blue	Crockett Gillmore
20	Lance Dunbar	*Isaiah Pead	Brandon McManus	Quinton Patton	Chris Boswell	Caleb Sturgis	*Adam Vinatieri	Hunter Henry	Nelson Agholor	Zach Zenner	*Blair Walsh	Defense TEN

Figure 7: Example Draft Board

Figure 8: Example DFS Lineup