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Commercial Opportunity and Social Impact

**Commercial Opportunity**

*SmartCaster* possesses two characteristics rare to the sports industry: simplicity and clarity. Sports entertainment draws in fans by stirring fanaticism, drawing support from theatrics and injecting emotion into events to personalize teams. Sports reporting is primarily a self-promotional tool, surrounding primary content with contextual references and prodding the viewer into submerging themselves into the cultural mindset. Fantasy sports acts in tandem with traditional sports entertainment, dependent on it for the data but more interactive and thought-oriented. As part of the entertainment industry, sporting events are meant to stimulate users and participants, provoking attachments and connections to distant faces and icons.

Participating in fandom is not a necessity, but a phenomenon that embraces inclusiveness for the sake of consumerism. Sports fans do not support their teams out of convenience, but rather out of passions inspired by socially imbued intrigue. Going to games, researching team facts, and buying official merchandise is not seen as a burden as much as it is a hobby. Being active in this section of culture turns the means of participation into a game, at the very least another form of entertainment. Everything else attached to the game, advertised as some supplement, such as a research tool or particular news subscription, is an addition. They modify how the field of viewed from the perspective of the user, but rather than replacing tools with greater, all-encompassing ones, they are used together.

*SmartCaster* occupies a niche often overlooked by the sports industry. This area is already saturated with outlets delivering information with the intent of captivating its audience. Rather than competing with these other mediums, *SmartCaster* looks to work alongside them. As opposed to luring the user in and arousing them to consume more content, *SmartCaster* delivers brief updates that inform the user without causing distraction. Its composition is centered around a single coherent thought. What is given is clear and concise, leaving little room for questioning or interpretation. Preferences can be set to include only the teams and players the user wishes to be informed about, serving all from the lukewarm football fan to the avid fantasy team player.

Fantasy sports, more specifically fantasy football, are a growing topic in the United States. In 2014, there were 41.5 participants in fantasy sports in the United States and Canada. In 2015, there were 56.8 million. Of those 56.8 million, 40 million players were involved in fantasy football. In 2016, there is projected to be 75 million fantasy football team owners. On average, each of those participants is expected to spend $107 within their league, primarily in the form of bets. DraftKings and FanDuel, two fantasy sports websites, took in $3 billion in entry fees and lost $400,000 is payouts to winning participants. Aside from being a highly lucrative gambling industry, the entertainment value of playing on a week-to-week basis over an already interactive platform creates a personal emotional investment that nearly trumps the financial side.

Alongside football games, ESPN and the NFL feature fantasy football programs. Reporting includes statistics pertinent to fantasy football calculations, and ties between player performance and fantasy team owner advice become pertinent. NFL RedZone, which features all Sunday football games simultaneously, includes continually updated fantasy player statistics as games progress. Football media and fantasy football have become intertwined in American culture to the point where the relationship is, to some degree, mutually beneficial: football fans are drawn to fantasy football through peer pressure and stay for the entertainment value, and fantasy team owners dive into a sea of information and research to better their chances of winning week-to-week. Both ESPN and the NFL offer means of playing fantasy football online, as well as a live tallying of points during football games. Updates on these sites come through a not-often seen feed, probably unnoticed because of the actual game. Minor alerts pop up in the browser as color highlights and point changes.

*SmartCaster* is another extraneous tool in the world of football, and it risks being overlooked. It is designed to be as small as possible, only alerting the user about the stats they care for. Hesitancy about using a tool that performs such a minute function is expected, and once implemented it acts fairly passively. It can be framed as pure novelty in its capacity.

Once the tool finds usage, users will be receiving non-intrusive updates that can be read within the alert span of a notification or via a feed. The lack of imposition and short-life visibility leaves little room for active monetization, but sponsored content can pave the way for subtle advertising. Logos can flash alongside updates in notifications, and feeds can be flanked by more explicit mediums.

**Societal Impact**

Automated storytelling is the future for small content. Entity extraction and sentiment readers against bodies of text lends understanding to how literary composition should be constructed. In growing the product and development in the field of natural language processing, *SmartCaster* looks to deepen thought around the logic of language structure.

This growing field threatens the role of pushing the creative limits of constructing headlines as the data rolls in. The implications may render small content authors obsolete. As long as grammatical rules are obeyed, and sentence diversity prevails through multiple iterations, the efforts put forth by this venture can bring forth a new wave of reporting where all brief summaries can be reported on instantly through automated means as soon as input is available. This industrial dimension can be applied to mass reporting and information dissemination in a clear, concise form. The informative medium that requires little attention is in high demand in the age of micro-blogging and single-utility applications.

The real issue rises from training sentiments against specific content to generate biases. Along the same thread as Microsoft’s Twitter AI, “Tay”, and even IBM’s “Watson”, machine learning programs utilizing natural language processing can mirror the rhetoric and agenda of the propagator and its audience. Mindless reaffirmation could embed these biases into the AI and pander to communities under the guise of entertainment. What springs forth from being able to identify and set sentiment is potential for misuse and mass misinformation.

As with all culture its media, communities need to be held accountable for the transgressions of its own creation. The overseer of AI can do as they please to reflect and validate their own beliefs, but it falls upon the community to be knowledgeable enough to discern passive propagation from human-composed content.

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Elevator Pitch

**The Customer. Describe the expected customer for the innovation. What customer needs or market pain points are you addressing?**

*SmartCaster* serves the average-to-avid sports fan and fantasy football players. Relaying information from live games to users is difficult without actually viewing the game, audio-only commentators (such as radio announcers) bog down statistics and play details with semi-relevant references and input, and hard statistical updates are not often used or even viewed in the same manner. *SmartCaster* constructs brief updates free of extraneous content lined with some tone set to pander to the user’s preferences.

**The Value. What are the benefits to the customer of your proposed innovation? What is the key differentiator of your company or technology?**

*SmartCaster* allows users to receive updates on the players and teams they care about. In the same sentiment, the content presented is built around their preferences. Sports columnists inject their biases into their rhetoric, and commentators over-inform viewers with constant narration and sidetracking. Through natural language processing, tone can accompany small content. The wordiness of commentary can be eliminated to emphasize the important of stats and core information, and readability can complement plain statistical fact. In this comfortable medium, the update provides a single clear thought that is comprehensible, concise, and informative.

**The Innovation. Succinctly describe your innovation. This section can contain proprietary information that could not be discussed in the Project Summary. What aspects are original, unusual, novel, disruptive, or transformative compared to the current state of the art?**

Automated storytelling is the future of reporting, especially when it comes to small, informative content and news updates. The time and effort put into constructing mere headlines and summaries is less imperative when expressing fact trumps creativity. Diversity in sentence structure and simple word usage is easily trained when the length of the content is constrained. The moment an event occurs during a football game, straight data can be delivered in the form of a brief multi-sentence update.

Rather than piling on utilities into an all-in-one tool, or confusing users with extensive features, *SmartCaster* stands alone as a reporting tool. The delivered content consists of a single thought easily understood by the user. It is non-intrusive in its accessibility, and hopes to give as little distraction as possible. Rather than overstimulating the user with massive amounts of content, *SmartCaster* provides a fast and easy way of staying informed without distracting from the theatrics of the game and its media.

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Project Summary

*SmartCaster* automatically generates football updates. It falls into the realm of information technologies. This approach retrieves the live feed of sports games provided by NFL Game Center, constructing headlines, potential tweets, and brief updates based on the data. This project requires knowledge of natural language processing, as well as machine learning to better derive tone and rhetoric from other sports news authors. A dictionary and thesaurus must be provided for the sake of readability. The composition, in the eyes of the reader, must be nearly indistinguishable from the work of a sports columnist. A grammar must also be developed to ensure generated sentences follow the rules of English linguistics. The program itself takes also articles, headlines, and updates as input, reads the frequency of words used in certain contexts, and make judgments on its own word choice based on these detectable nuances.

This Small Business Innovation Research Phase I project gives insight into how humans understand language. The process of coding a program to construct short multi-sentence updates, mimicking the styles of typically published sports updates and articles, coupled with the programmer’s own interpretation of the English language, can be likened to teaching. The difference arises when the “teacher” must set aside subjective teaching practices and conform to a logical process that forces the programmer to evaluate their own understanding of English. It becomes difficult when diversified word choice for the sake of eliminating redundancy arises, but the program should produce content that is informative while refraining from repetitiveness for the sake of emphasis. Words cannot be overused, but when implementing the thesaurus, the program must also be aware that synonymy does not equate interchangeability. If “bad” or poorly written content is mistakenly fed through the program as input, the “habits” and biases, groomed through processing “good” articles, should rectify any undesired deviations. Interpreting data is also an extremely complicated task, especially in the field of sports where a multitude of variables must be accounted for when trying to evaluate any given player and predicting their future performance. *SmartCaster* will bring a greater cognizance in the understanding of language, as well as providing insight into the motivations behind how authors choose to compose their work. Aside from being a practical reporting tool, the program will essentially be a reflection of the human thought process.

Rather than having analysts construct headlines and updates over the course of a football game, *SmartCaster* produces outputs of similar quality the instant an event occurs. Post-game summaries will provide accurate data, free of the biased commentary of sports columnists, while still retaining a sentiment and an option of pandering to a specific audience within a particular team’s culture. Ultimately, the goal is to guide an understanding of language from the bottom-up, where words are known by rigid definitions and sentences are composed according to the established grammatical framework. The program will become a technical tool in tracing how sentences relate to one another as subjects are placed in greater context. As a method of exploring and cataloging the complexity of language and rhetoric, this program has the potential to map the evolution of an individual’s understanding in a “lead by example” format, with human-composed articles formatting its parameters.