March 12, 2019

GENERAL PATENT VALUATION REPORT

EYEGLASS TRACKING SYSTEM AND METHOD

Patent(s) Valuated: 15/933,096

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Disclaimer

The reader or anyone who is relying on this valuation analysis for any purpose is advised that the value outcome is absolutely subjective however based on the analyst's experiences and suggestions. All information contained herein are for reference and discussion only. Further, the valuation is done on the assumption that the reference patent application is approved and granted by the USPTO.

This report contains analysis done on a patent which is not yet issued at the time of writing. The applicant and holder of this report is advised to use caution in disclosing this report prior to the issuance of the patent. Further, the valuation herein is done on the assumption that the reference patent is ultimately approved and granted.

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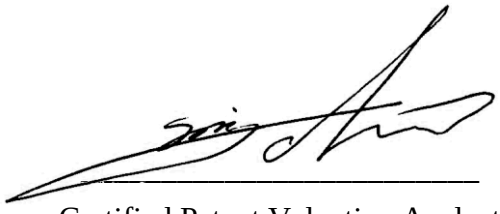


3/12/19 Certified Patent Valuation Analyst

Facts & Figures

Patent Title	EYEGLASS TRACKING SYSTEM AND METHOD
Patent Number	Pending
Original Application Number	15/933,096
Abstract	An eyeglass tracking system includes an eyeglass assembly having a transceiver configured to transmit a signal to an electronic communication device having a software application for locating the eyeglass assembly. The electronics communication device may indicate a geographic location or a proximity to the eyeglass assembly when the software application is initiated. The eyeglass tracking system is useful for locating misplaced eyeglasses.

Dates

Date Patent Was Filed	3/22/2018
Priority Date	10/28/2016
Date Patent Issued	Pending
Years to Expiration (Estimated)	18
Age from Priority Claim	2

Maintenance and Expiration

Expiration Status	Pending
Maintenance Status	Pending

Inventor, Assignees & Individuals

Inventor(s)	Matthew Bronniman
Examiner	PATEL, MAHENDRA R
Current Assignee	None
Assignee Location	-

Introduction

The present invention, Eyeglass Tracking System and Method, is a completely new technological system designed to be built directly into any kind of eyewear for the user to actively and constantly track it as needed. This system utilizes ZigBee protocol of communication which allows for low power and low-bandwidth connections in close proximity. This is perfect for the intended use of ensuring that the user will never again lose their glasses.

Glasses are something that can cost up to hundreds of dollars depending on the frame, lenses, and prescription. Not only is it costly to lose and have to replace one's glasses, it can be extremely and even more cumbersome for those who rely heavily on their glasses for any surmountable use of their sight. For those who have heavy prescriptions, the loss of their glasses could more or less effectively blind them, making it even more difficult to find or replace the lost glasses. Regardless, the process of replacing the glasses could take days or even weeks, during which the inflicted glass-less person must do their best to proceed with everyday life possibly without the ability to drive a car or fully function.

Thus, the ability to track and easily recover one's glasses in the event that they are lost, is an invaluable one that has a clear and present demand.

The following report analyzes the strength of the patent as well as the total market potential and conducts and financial projection in order to determine the estimated value of the patent.

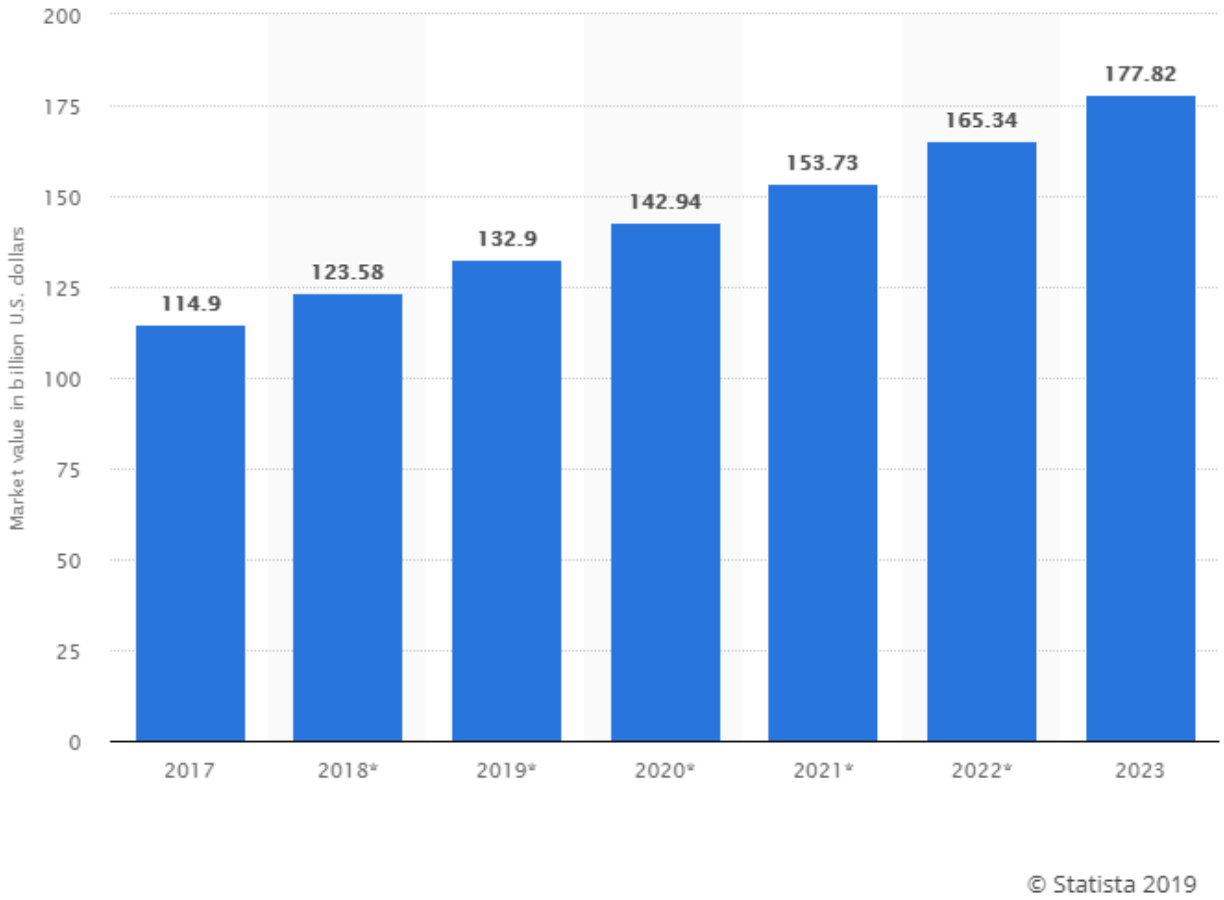
Market and Industry Status

Eyewear has become a steadily increasing market within the United States. The total amount of eyewear sold throughout the country has increased every year since 2009 in the four main categories: prescription (Rx) eyeglasses, plano sunglasses, over-the-counter (OTC) readers, and contact lenses. In 2014, 5.7 million units of plano sunglasses were sold online in the United States. In 2015, plano sunglasses sales generated 218 million U.S. dollars in the United States; with the total vision care market in the United States generating about 34.45 billion U.S. dollars.

Operating 4,628 retail stores throughout North America, Luxottica was the leading optical retailer in the United States with about 2.53 billion U.S. dollars worth of sales in 2015. Luxottica is actually the largest eyewear company in the world, responsible for such brands as Ray-Ban, Persol, Oakley, Burberry, Polo Ralph Lauren, Versace and many others. In 2015, the Luxottica Group had global sales that amounted to approximately 8.84 billion U.S. dollars.

The eyewear market will continue to grow as manufacturers continue to adhere to the constant demands and trends of the consumer. In January 2017, Italy's Luxottica and France's Essilor agreed a 46 billion euro merger to create a global eyewear powerhouse. *(Statista)*

Value of the global eyewear market from 2017 to 2023 (in billion US dollars)



This statistic shows the market value of the eyewear market worldwide from 2017 to 2023. In 2017, the global market value of eyewear was estimated to be worth 114.9 billion U.S. dollars.

According to the Vision Council of America, approximately 75% of adults use some sort of vision correction. About 64% of them wear eyeglasses, and about 11% wear contact lenses, either exclusively, or with glasses. Over half of all women and about 42% of men wear glasses. Similarly, more women than men, 18% and 14% respectively, wear contacts. Of those who use both contacts and eyeglasses, 62% wear contact lenses more often.

Further, the increasing dependence on electronic gadgets such as mobile phones, television, and computers has led to eyesight problems resulting in the purchase of more eyewear products. The rise in the number of optical deficiencies and growth in the elderly population is expected to augment the eyewear market growth.

The increasing occurrence of myopia has led to an increased demand for the prescription-based eyeglasses. Changes in lifestyle and technological advancements have led to prolonged exposure to electronic devices that have caused strain on eyes. The need among the individuals to protect their eyes is expected to drive the eyewear demand globally.

The rise in disposable income has resulted in the increased purchase of eyeglasses, especially spectacle frames and sunglasses, which are perceived as a fashion accessory. Consumers are likely to buy a new set of eyeglasses or replace the old ones. Furthermore, the growing preferences of luxury and branded sunglasses are contributing significantly to the eyewear demand. Consumers are exhibiting preferences towards the premium product segment and are willing to spend more on these products. Vendors have introduced innovative eyewear products to cater to various needs of the customers. *(Grand View Research)*

In addition to the casual global eyewear market, the smart wear and safety wear industries are two additional important markets where this invention would have use.

Operators in the Protective Eyewear Manufacturing industry manufacture safety glasses, protective goggles and face shields to safeguard eyes from debris, chemicals, radiation and blood-borne pathogens. The National Institute for Occupational Safety and Health reports that an estimated 2,000 employees per day sustain job-related eye injuries that require medical treatment. Furthermore, the American Optometric Association estimates that 90.0% of these injuries could be reduced or prevented with the use of proper eye protection. Workplace eye safety regulations exist to protect employees from injury and infection, reduce unnecessary employer costs and maintain productivity; these regulations largely drive demand for industry products. According to IBISWorld, this industry generates approximately $564 million of annual revenue as of 2018. Other studies show that the Smart Glasses market generates about $340.4 million of annual revenue as of 2017.

Patent Analysis

Invention Summary

An eyeglass tracking system includes an eyeglass assembly having a transceiver configured to transmit a signal to an electronic communication device having a software application for locating the eyeglass assembly. The electronics communication device may indicate a geographic location or a proximity to the eyeglass assembly when the software application is initiated. The eyeglass tracking system is useful for locating misplaced eyeglasses.

Case History

This analysis is based on the Notice of Allowance issued on January 17, 2019, before the patent is officially granted, and assumes the prosecution is closed.

The subject patent application was initially filed on March 22, 2018 with two (2) independent claims and a total of twenty (2) claims, and claims a priority, as a continuation-in-part, to U.S.

15/438,752 filed on February 21, 2017 which claimed a priority to U.S. 62/414,315 filed on October 28, 2016.

The patent examiner issued the first non-final office action on June 14, 2018 rejecting all claims under 35 USC 112(b) and 35 USC 103.

The applicant submitted amendments and responses responsive to the first office action on December 11, 2018.

The applicant submitted supplemental amendments on December 28, 2018.

The patent examiner issued the notice of allowance on January 17, 2019.

Invention alternative searches were performed and found no alternatives.

Applicant submitted the Information Disclosure Statement, and the examiner acknowledged all of the submission. In other words, the examiner admitted none of the submitted prior arts reads on the subject patent and none can be used for rejection purposes.

There was no double patenting rejections issued and therefore there was no terminal disclaimer being filed. The patent term is not jeopardized from the standard patent term and any adjustment made by the United States Patent and Trademark office, if any. At the time when this analysis was prepared, the Notice of Issuance was not available and the patent term adjustment is unknown.

Forward citation searches were performed and found no forward citations.

The prosecution history shows the patent was awarded in a short prosecution cycle by only one office action of rejections. It is obvious the granted claims are non-obvious in view of prior arts.

Weight Adjustment

a. Status

- Active patent
- Valuation weight adjustment index: **1**

b. Patent Term:

- 18 years
- Valuation weight adjustment index: **1.5**

c. Claims Scope:

- medium
- Valuation weight adjustment index: **1**

d. Reasons for Allowance:

- narrow
- Valuation weight adjustment index: **1**

e. Terminal Disclaimer

- None
- Valuation weight adjustment index: **1**

f. Invention Alternatives

- none
- Valuation weight adjustment index: **1**

g. Claim Embodiments

- Two embodiments (system, method)

- Valuation weight adjustment index: **1.2**

h. Forward Citation

- None
- Valuation weight adjustment index: **1**

i. Information Disclosure Statement

- Yes
- Valuation weight adjustment index: **1.5**

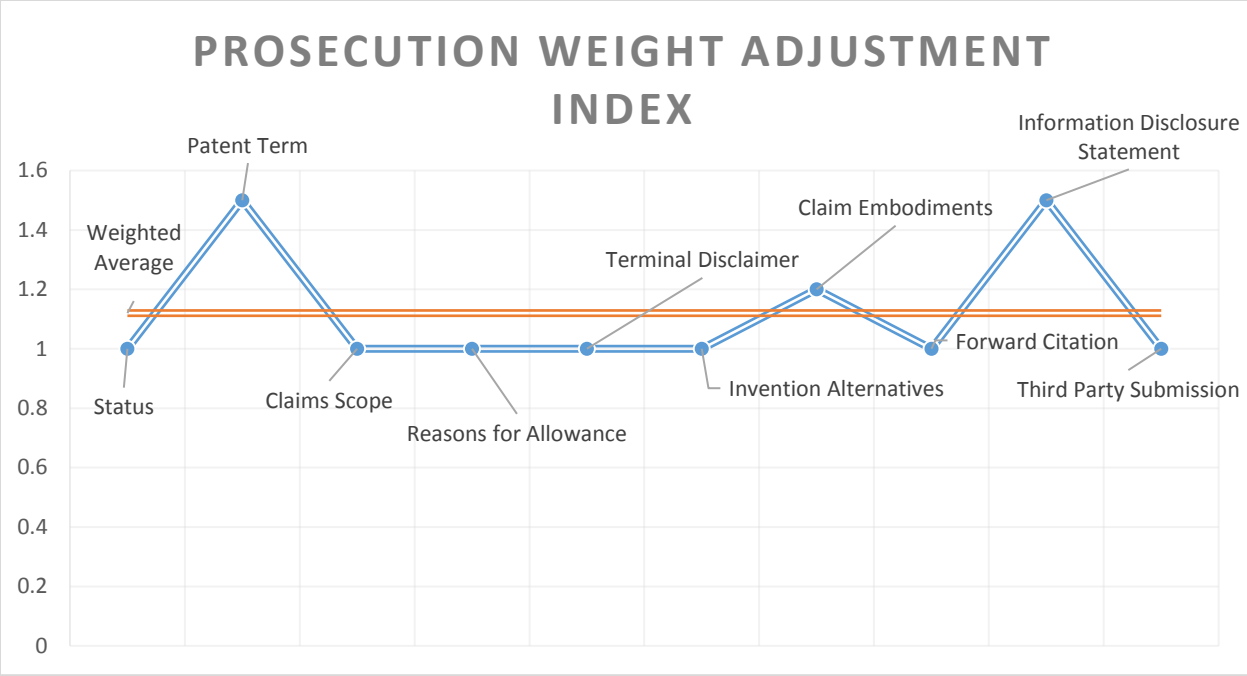
j. Third party Submission

- No
- Valuation weight adjustment index: **1**

In view of the legal analysis, weight factors for adjusting the value of the current patent have been assigned to different valuation factors as described previously. The adjustment to the valuation by these different weight factors from the legal analysis point of view follows.

Overall Weight Adjustment Index (see Appendix I)

$$[(1 + 1.5 + 1 + 1 + 1 + 1 + 1.2 + 1 + 1.5 + 1) / 10] = 1.12$$


PROSECUTION WEIGHT ADJUSTMENT INDEX
Patent Term
Information Disclosure Statement
Claim Embodiments
Weighted Average
Terminal Disclaimer
Forward Citation
Status
Claims Scope
Invention Alternatives
Third Party Submission
Reasons for Allowance
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0

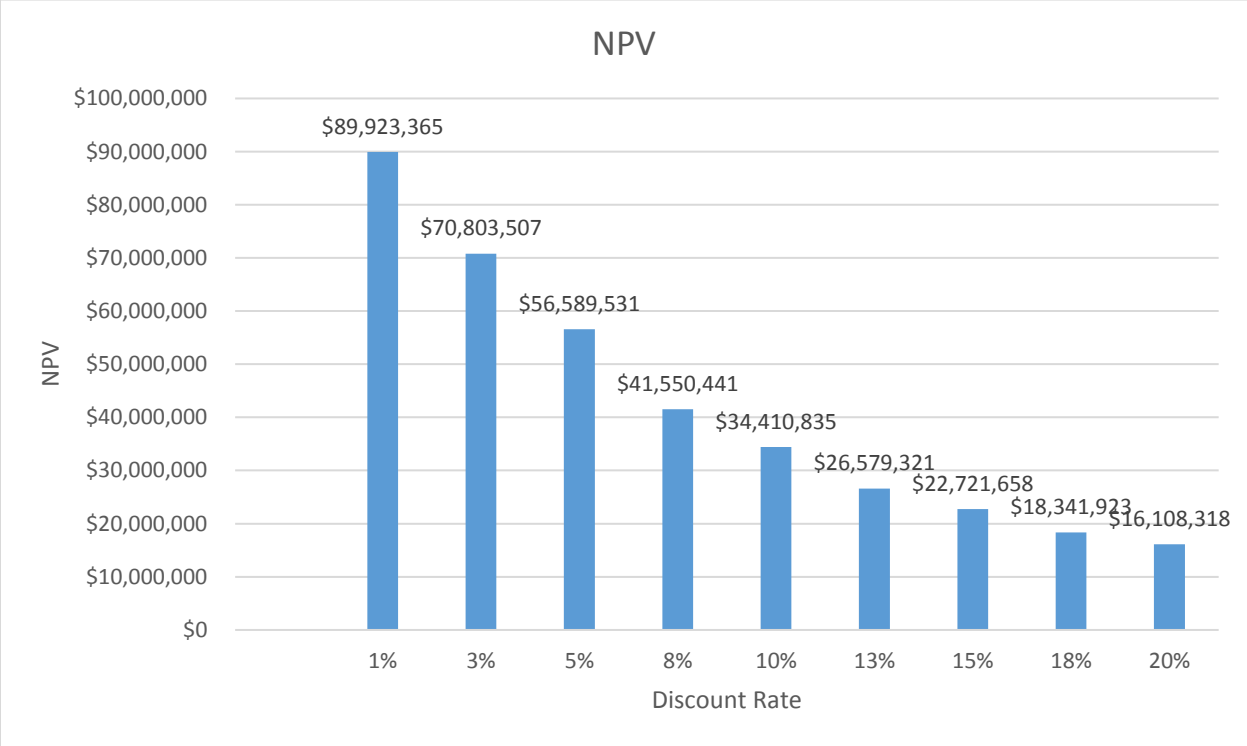
Patent Valuation

Based on the industry data included in the report, the following is a financial projection. As the total approximate global industry revenue of all the relevant markets and industries is $115.8 billion, it is assumed that the patent holder will be able to capture an optimistically conservative 0.01% of the total US market to begin with in year 1 which would generate an annual revenue of approximately $2.78 million. According to quotes and analyses from the patent holder, the cost of goods sold would be approximately $0.05 per thousand units. Assuming a 35% gross profit operating costs, EBITDA would be $1.78 million in year 1 and is projected to grow at an average 10% each year, in line with industry trends and accounting for market saturation. For the remaining estimated 18-year life of the patent and a discount rate of 20%, the NPV of the patent is $16,108,318 after applying the prosecution weight adjustment and considering the investment required to market and penetrate the industry. Factoring a 5% variance, the following is the final valuation range.

Final Patent Valuation Range

Between

$15.3 million - $16.9 million



NPVs based on different Discount Rates

Appendix I – Weight Factors

Various legal factors from the patent prosecutions have been analyzed and considered as described above. Each factor is assigned with a valuation weight index for adjusting the final value. The factors, significance, and its weight index are listed as follow.

Prosecution Factor	Weight Index	Significance
Patent Term (remaining)	• > 12 years: 1.5 • > 8 years: 1 • > 4 years: 0.5 • 1 – 3 year: 0	The more remaining term the more value of the patent. The closer to the end of the patent term, the less value will be because other parties may wait for the term to be expired for producing the same.
Claim Scope	• broad: 1.5 - (< 50 limitations) • medium: 1 - (50 – 100 limitations) • Narrow: 0.5 - (> 100 limitations)	The number of limitations represents the scope of the claim of a patent. The lesser limitations of a patent the broader of the scope of a patent which covers more by the patent.
Reason for Allowance	• Broad: 1.5 - more than 1 claim of allowable subject matters • Narrow: 1 - specific 1 claim of allowable subject matter	When determining the allowability of the patent application, the Examiner will indicate the allowable subject matter(s) by indication one or more claims to be allowable subject matters. The more allowable subject matters are specified the more novelties are identified for the invention.
Terminal Disclaimer	• Yes: subject to the remaining patent term • No: 1	When the Terminal Disclaimer is filed on the record, the subject patent is essentially same as the copending patent or patent application and its patent term ends at the same time with the copending patent. Therefore, when a Terminal Disclaimer is filed the subject patent itself has no additional value and is subject to the value of the copending patent.

Invention Alternative by end result	• None: 1 • Same result with different features: 0.5	Different inventions may produce the same result by implementing different mechanism or processes. From a user's point of view, the end result may be the only requirement and do not care about the mechanism or processes unless the mechanism or process becomes a requirement.
Claim Embodiments	• Three (3) embodiments: 1.5 • Two (2) embodiments: 1.2 • One (1) embodiments: 1	Different embodiments may be included in a design patent.
Forward Citation	• None: 1 • Yes: 1.25	A "forward citation" means the subject patent is cited by the patent examiner as a reference during prosecutions of another patent application. It represents the significance of the subject patent in the industry.
Information Disclosure Statement	• Yes: 1.5 • None: 1	The Information Disclosure Statement is a requirement for the applicant to submit all known prior arts that may materially affecting the patentability of the subject patent applicant. The examiner will consider the submitted prior arts and "acknowledge" if none of the submission can be cited for rejections. It is an evidence, when the examiner acknowledges of considering the submissions, that examiner acknowledges these submissions are not prior arts.
Third Party Submission	• None: 1 • Yes (survive): 1.5	The Third Party Submission is a procedure for a third party to submit possible prior arts to the examiner for the purpose of rejecting the patent application. It is an intent to disqualify the patent application being patentable.

Appendix II – Limitation Tree

* Embodiment I – Apparatus Claims

- an eyeglass tracking system
  - an eyeglass assembly
    - ♦ an eyeglass frame
    - ♦ a first concealed low-power, low-duty low data-rate IEEE 802.15.4/ZigBee transceiver
      - ⅄ concealedly-attached to said eyeglass frame
      - ⅄ configured to transmit a wireless signal
      - ⅄ configured to transmit said wireless signal autonomously for months without recharging
  - a mobile communication device
    - ♦ a processor
      - ⅄ executing instructions retrieved from a memory
    - ♦ a second low-power, low-duty low data-rate IEEE 802.15.4/ZigBee transceiver
      - ⅄ configured to receive a said wireless signal
    - ♦ a display device
    - ♦ wherein when executed the said instructions control the said processor to process the said wireless signal transmitted/received by a first concealed low-power, low-duty low data-rate IEEE 802.15.4/ZigBee transceiver/second low-power, low-duty low data-rate IEEE 802.15.4/ZigBee transceiver, to create a navigational display on the said display device, and to cause electronic information determined from the said wireless signal by the said processor to indicate the a geographic location of said eyeglass assembly on the said navigational display