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Personal Information

Born in Sydney Australia in 1974 and grew up in Cronulla and "The Shire", which meant lot of time in the surf and immersed in Australian beach culture. Strangely enough, I developed a love of all things snow related, especially snowboarding, as skiing is nothing like surfing.

My teen years were spent enrolled at Gymea Technology High School where I completed year 12. And gained my HSC. It was this time I witnessed the birth of the internet and was fortunate enough to get exposure to computing and bulletin boards that might have been called the internet at that time. It was this that grew my interest in IT and computer related activities, although this was succeeded by my love of Aviation when I learnt to fly.

My friends and myself, would regularly gather in the school library to use the new MicroBee and the Amiga computer systems the school had. We would log into local bulletin boards with 9600 baud modems, and trade games and other software, until someone picked up a phone and killed the connection. If my friends and I were not on a computer, we would be playing Dungeons and Dragons campaign or just nerding out over the latest tech news or gadgets.

My love for all things aviation came when I was in my early high school years, my parents took the family to Hong Kong. I was fortunate enough to spend the landing part of the flight sitting in the cockpit as we arrived in Hong Kong. At 16 years of age, I began learning to fly, and quickly attained my private pilot licence, meaning I could fly planes alone before I could drive alone. This was an interesting situation, as I would need to get my parents to drive me to the airport so I could take a light aircraft and fly away by myself.

As I was completing my HSC studies and exams, I had to make a choice, follow my friends working with computers, or follow my love of aviation. As I had my private pilot's licence, and flying is expensive, I followed the aviation path, entering an apprenticeship as a trainee aviation structural engineer with Qantas.

Working as an engineer was interesting, and allowed me to continue with hobbies, mainly flying, snow trips, camping, surfing, keeping up with friends, and new things in tech. My career has allowed me to work on some rather cool and interesting aircraft, From the Concorde to Military fast jets, and military helicopters.

In my mid 20's, I also went on to gain my flight instructors rating and work part time as a flying instructor. As flying was a passionate hobby, I found that working as an instructor dampened that enthusiasm and took the fun out it. Coupled with students occasionally trying to kill me, I gave up the

flight instruction to try to bring that passion back, and the love of being able to fly when and where I wanted.

It was around this time that my employer, funded my desire to continue my education, and I graduated the University of New South Wales, (UNSW) with a Graduate Certificate in Aviation Management, passing with Distinction grades.

Now, in my forties, I have lost the passion for engineering in aviation, combined with climbing in and out of awkward and dangerous places inside aircraft, there is only so many times you can inspect inside a toilet holding tank, or climb into a fuel tank, and the body not getting any younger, I have decided now is an opportune time for a career change. Since I enjoyed playing with computers as a teenager, all my friends and spouse work in IT, along with my continued interest in all things new in tech, I have decided to take on a career in information technology.

Interest in IT

While in year 7, I was introduced to the MicroBee computer system through my high school computing class. At about the same time my father bought home a Commodore 64 computer, this was generally considered a bad move on his part, as I discovered a thing called video games!

Our school begun offering classes in using the MicroBee and Amiga computers in the school library, on using basic word programs and publishing software, which somehow, I found interesting. I was amazed at what could be achieved by a simple word processor, how you could incorporate text and images on a computer.

When I discovered the game called Ultima IV, my best friend and I learnt the meaning of “pulling an all-nighter” trying to beat such an awesome game. I still remember the shock of seeing that sunrise while still trying to find the solution to an in-game puzzle and being nowhere near finished wondering where time had gone. This is where my interest in IT and all things computer related began, on the sunrise of that day, of my first all-nighter computer game session, with my best friend, James beside me, facilitated by my father bringing home our families first computer.

My experience with IT up to today, has essentially been as a user. I have a basic understanding, and knowledge of software packages like CAD, Microsoft Office suite of products, Adobe Premier video editing software, and of course, gaming. Obviously, MS Flight Simulator, MMRPG and virtual reality (VR) with my Oculus Rift setup.

During my employment in the aviation industry, I have watched the industry move from paper-based record keeping systems to computer-based record keeping, along with technical drawing and design software development. This has mainly been because paper-based data is difficult to track and maintain, while it quite easy to maintain and track important data in a digital format and requires far less physical space to retain the same amount of data. Digitisation has made its way onto the flight decks and cabins of passenger airliners, and over the past decade has started to emerge in light aircraft. With improvements in augmented reality (AR) and VR systems, I can see many areas where this and other computer technology can enhance aviation safety. AR/VR can improve situational awareness for flight crews by providing features such as airspace overlays, other aircraft positions, or even air traffic control flight path direction displayed directly to crew as they look outside the windows.

My decision to choose RMIT to study for my Bachelor in ITC, was based on a few factors:

- the requirement to be entirely conducted online, as I am working full time, on campus classes would be very difficult, so this narrowed the choices to institutions that delivered courses online.
- I was aware of the reputation of RMIT for quality courses and graduates particularly in technology related fields, and engineering, so this became the obvious choice when I discovered that RMIT were offering the bachelor in IT 100% online.

While studying at RMIT, Bachelor of ITC, I hope to gain a broad but deep enough understanding of the various disciplines within the IT industry, so that I may become employable in an area of my choosing. I am interested in AI and machine learning, I drive a car that is heavily reliant on AI for its driver aids, but math has never been my strong point. I am also interested in learning a lot more about AR and VR so that I can apply what I learn and find opportunities to apply AR technologies in the aviation and flight safety industry.

Ideal Job

Aviation Business Development Manager - Garmin

Aviation Business Development Manager in Olathe, Kansas | Garmin International, Inc.

AVIATION BUSINESS DEVELOPMENT MANAGER

Req ID: 6767
Location Olathe, Kansas
Shift Core Business Hours
Position Type Regular Full-Time

Overview

We are seeking a full-time **Aviation Business Development Manager** for our headquarters in the greater Kansas City area. In this role, you will be responsible for developing relationships in the areas of data content, technology, and strategic business partnerships for our Aviation division.

Responsibilities

Essential Functions

- Team with Garmin's executive, engineering and marketing leadership in the development of relationships with providers offering key components, content, technologies, and intellectual property which are required for certain product development activities
- Negotiate business terms and expectations for the relationship with these providers and coordinate with administration, engineering, marketing, and legal stakeholders leading to the completion of formal agreements with the providers
- Coordinate with other departments within Garmin to ensure the requirements of these relationships are metManage the fulfillment of obligations relating to strategic agreements and facilitate sharing of information to others responsible for fulfilling those obligations
- Capture key messages associated with new products and ensure they are assimilated in the marketing effort including product packaging, advertising, web pages, and other collateral
- Gain understanding and apply detailed knowledge of Garmin processes and procedures

- Identify content that will enhance usability of Garmin products, enable new applications for the products, and differentiate Garmin as the leader in each market we serve
- Identify new technologies which are critical to the future success of Garmin products
- Identify collaborative business partners who can further enhance Garmin's success and market leadership
- Monitor the activities of competitors and contribute to the definition of new products which will delight customers and lead the competition
- Visualize new business and product opportunities which have potential to enhance company growth and market leadership

Qualifications

Basic Qualifications

- Bachelor's Degree in Computer Science, Computer, Electrical, Mechanical, Industrial or Software Engineering, Business, Marketing or related field AND a minimum of 10 years relevant experience OR an equivalent combination of education and experience
- Excellent academics (cumulative GPA greater than or equal to 3.0 as a general rule)
- Demonstrated strong and effective verbal, written, and interpersonal communication skills
- Detail oriented with the ability to prioritize and manage multiple tasks as well as possessing strong negotiating, analytical, and organizational skills
- Excellent computer skills using Microsoft Project, Excel, Word, Visio, PowerPoint, and Access

Desired Qualifications

- Detailed knowledge of Garmin's overall product line and customers
- Personal participation in and passion for Garmin's key market segments (marine, aviation, recreation/outdoor, and automotive)
- Outstanding academics (cumulative GPA greater than or equal to 3.5)

Role Description

Essentially the role is to discover new product lines through identifying new technologies, collaborating with internal and external stakeholders, along with identifying other businesses, new ways to improve current aviation-based products, and develop new products to keep the company innovative, and differentiate the company from its competitors. Additionally, this role will help the company enhance market growth and keep the company at the forefront of new aviation technology, this will include monitoring competitor's products, and using their developments to find ways to improve the company's products and help maintain a lead of the competition.

You are also required to manage business negotiations with technology partners and suppliers, and management of marketing and other advertising related functions, such as social media campaigns and finding new business and product opportunities.

I find this role attractive to me as it appeals to my desire to constantly want to see new technologies implemented in the Aviation industry, and to see constant change, coupled with my will to find solutions. My training and experience in aircraft engineering and maintenance, with hard deadline customers and contractual pressures, mean I must find ways to fix issues. In many cases, those issues are unique to each situation. Requiring drawing on experiences from different trades and skillsets, civilian staff and military to come up with safe solutions. I also understand the power and influence that can be gained from social media, marketing and searching for feedback from your customers; and how these can help in improving your product or content.

Qualifications and Experience

Base qualifications for this position are a degree, but that can be a degree in quite a few disciplines, ranging from computer sciences, IT, industrial and engineering to business and marketing fields.

Fortunately, I already possess over 30 years' experience in the Aviation maintenance engineering, and flight operations fields, and hold a degree in Aviation Management, making me suitable for this role. With regards to aviation product development, I have gained over 1000 hours flight experience as pilot in command. Being a pilot, I already have high levels of experience using quite a few Garmin related products, and know what features would be desirable to pilots, and those features and products which are less used buy pilots and flight crew.

The position requires the usual skills for a management position, dealing with various stakeholders requiring strong communications skills, both written and verbal, negotiating experience, and office computer skills.

My degree in Aviation Management from UNSW, and 17 years working within a military environment, as a civilian, means I am well versed in managing the requirements and the merging of 2 vastly different workforces, to achieve a desired outcome for the customer. I am comfortable communicating with staff and people from all levels of an organisation, be it civilian or military.

At this point I do not posses a degree in a computer related field and feel this degree I am currently studying from RMIT, will add to my employability in this role. Through developing an understanding of the broad area that is IT, this will give me the skills the role. These new skills will allow me to identify new technologies in IT and communications that will aid my ability to determine the suitability of new technology to create new and improve existing products. This role would see the merging of my two lifelong interests, I will bring a lifelong held passion and excitement to the role, and a desire to continually explore new developments from IT and technology brought together in an aviation environment.

My current studies in IT, via this course with RMIT, and further studies into the future, leaning towards AR, VR and possibly machine learning, with the aim of achieving the highest academic scores possible, means I will gain the formal qualifications and complete the merging of my interests into an exciting new career developing cool new products and technology and bringing them into new markets.

Personality Profile

16Personalities

The results of your personality test are in. Here they are:

Personality type: Adventurer (ISFP-A)
Traits: Introverted – 76%, Observant – 54%, Feeling – 56%, Prospecting – 69%, Assertive – 71%
Role: Explorer
Strategy: Confident Individualism

According to the personality test done via 16Personalities (NERIS Analytics Limited 2022) I would have to agree, their insights are quite accurate, showing I am introverted and observant.

I am most productive in the evening, and loved working night shift, 3pm to 11pm. I'm a night owl that's for sure.

I would not agree with picking music related hobbies, yes, I love music, loud, and new, always looking for new music to listen to, but I wouldn't call my hobbies, which are flying, social media, and computers, to be particularly relate to music.

I do feel better helping others and support other people to help them achieve their aims, and don't seek to be powerful. I would agree that I am very democratic, everyone has an equal right to their views, beliefs and actions, if it doesn't impact negatively on others. And Tuesdays, I hate Tuesdays, Mondays I'm ok with.

76% Introverted. Agree, I prefer spending time alone, or with close friends and family than being in public. Previous personality testing results classified me as a "social introvert" which I would agree

with, as much as I prefer time alone or working by myself, I am comfortable in public and busy social scenes, though it's not my preferred situation. I am, however, capable of being social and not standing on the side-lines.

54% Observant. Yes, I am one to try my best to look at all possible outcomes in a situation and rely on data and evidence to form an opinion. I try to find solutions that will help the most people or have the most beneficial outcome. Unfortunately, taking time to think about a situation, and seek more data can be seen as a bad thing, and many take it as not being able to think quickly, or acting to slowly. Though I can make decisions quickly based on limited information if needed, though I am not comfortable doing it.

56% Feeling. Or Emotional, more empathetic, my decisions are usually based on how I make others feel, and I can easily empathise with others and their emotional states, and care deeply for my close friends and family, even when going months or years without contact. I always wonder how they are doing and will happily go out of my way to them and help others.

69% Prospecting As my manager once told me, I can be trusted to get the job done, but on my terms, and in my timeframe, but it will get done by the deadline. Meaning I will find distractions and will do other tasks or indulge in distractions, while still working towards the main goal. I cannot set a personal deadline or schedule to work to but will get there when I need to.

71% Assertive. Agree, I am very confident in myself as a person, and have a very stable temper, I try my best to remain calm in most situations. However, I will get frustrated at times with myself if I fail to understand something. I am good at not getting worried to much, unless a situation is life threatening, or have significant financial consequences, I can distil down to what is important and put aside smaller more trivial issues.

Education planner

Learning Style test (Agency 2022).

What's Your Learning Style? The Results

Your Scores:

Printer Friendly Version

- Auditory: 20%
- Visual: 70%
- Tactile: 10%

You are a **Visual** learner! Check out the information below, or view all of the learning styles.

Visual

If you are a visual learner, you learn by reading or seeing pictures. You understand and remember things by sight. You can picture what you are learning in your head, and you learn best by using methods that are primarily visual. You like to see what you are learning.

As a visual learner, you are usually neat and clean. You often close your eyes to visualize or remember something, and you will find something to watch if you become bored. You may have difficulty with spoken directions and may be easily distracted by sounds. You are attracted to color and to spoken language (like stories) that is rich in imagery.

Auditory 20%

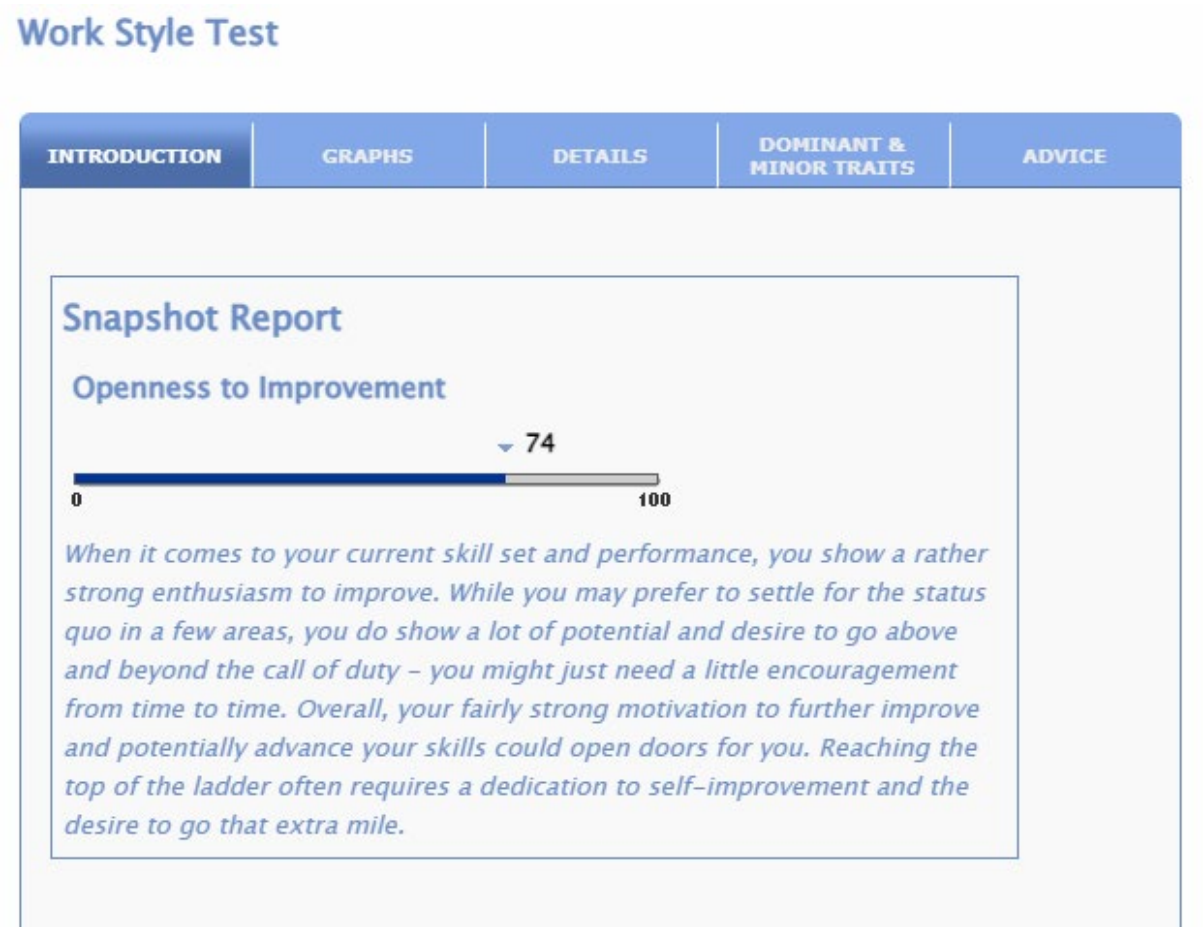
Visual 70%

Tactile 10%

Studies have shown 33% of the population are visual learners 26% audio, 12% are audio/visual learners (Buşan 2014), as am I. I prefer diagrams and drawing, and video, to understand how stuff works or understand the concept, as they say, a picture tells 1000 words, so how many words does a video tell? I prefer video format as a way of learning. I found in my experience as a flying instructor, that students prefer to be shown how things work, rather than reading from a book in a briefing.

Work style test

Pt psychtests (PsychTests AIM Inc 2022)



Openness to Improve. I 100% agree. I strongly believe that continued learning is a key to being happy, and mentally fit, especially as we age. During my professional career, I have always sought opportunities for education, and training. I was fortunate in that my employer funded my degree in Aviation Management, and now after 30 years in Aviation, I am now studying IT for a career change, and looking forward to leaning a lot of new skills.

My Interpretation and Team Composition

All three test results, to me, are surprisingly accurate, and reflect my choice of career and hobbies to this point in my life. Professionally, working in aviation means you must be methodical and accurate, there is no room for cutting corners or rushed decisions. All work is carried within a strict regulatory framework and regulations, and must be done as accurately, and to the highest levels of quality possible. I prefer to work alone, but also work well in teams when needed, as is sometimes the case on larger jobs. Personally, I like to sit back and let others lead, I have no desire to lead or take a lead role, as it doesn't interest me much. But I will contribute when needed, and do what I need to do, to

get the project completed. I prefer to help others over myself and will let others take work that I would have liked, as I feel taking it for myself will have a negative impact on others. This unfortunately means I will get stuck with work I'm not so enthusiastic in, or outside my skillset, though I will ask for guidance and help If required, as I will willing help others in the team where I can.

Project Idea

Overview

Aviation navigation relies on very complicated maps and charts (Civil Aviation Safety Authority 2021). These charts are like maps, showing landmarks, rivers, mountains and waterways. Unlike conventional maps, aviation maps, or charts, also map the 3rd dimension, including airspace use types, and specific flight paths and altitudes. Pilots are required to interpret theses 2 dimensional charts, into a 3D airspace and fly the aircraft accordingly, all the while looking for other aircraft and following Air traffic control instruction. With our new AR Navigator, pilots will now see all the critical data, in 3D, overlayed over the real world, giving unparalleled situational awareness.

Motivation

Failure of situational awareness, or human error, is a contributor in over 70% of aircraft accidents (Bureau of Air Safety Investigation 1996). Airspace charts are constantly amended, flight crews need to interpret the 2D information into 3D environment, sometimes while under extreme workload. A system is required that can reduce pilot workload, and human error significantly, by displaying the critical data directly over the pilots view of the outside world, giving an immediate situational awareness picture, future path projection and air traffic control instruction. Not only saving lives but allowing more efficient use of airspace and reducing environmental impact.

Description

The AR Navigation system uses 3 main components, the AR display system, utilising exiting hardware, such as Microsoft HoloLens or Nreal glasses, a tracking system to track the users head movements, and the software component. Aircraft cockpits are static, and don't change, so the placing of positional markers within the cockpit will allow cameras on the headset to accurately provide positional data to the system. These positional trackers can be small, and easily installed in any aircraft, or with software, scanning the fixed cockpit structure, determine the head position and view angles.

The wearable headset containing a small camera and IR transmitter, and eye movement tracking can determine its position in 3D space relative to the cockpit environment, via the eye tracking from within the headset, can provide distance data to determine where the wearer is looking, distinguishing between looking outside the aircraft or inside the cockpit.

Approved Aviation navigational charts are currently already used in a digital format, known as electronic flight bags (Civil Aviation Safety Authority 2022) with data from the aircrafts GPS, or portable receivers via Bluetooth, can plot your aircraft position on these charts. This is usually displayed on a tablet or panel mounted screen. Software will have to be written to add the altitude data to airspace and aircraft positions on the 2D charts, and recreate the navigational, and other aircraft position data, to be displayed in the AR headset, and overlayed onto the outside world.

Most modern aircraft autopilot systems can follow a set track, or compass heading, and maintain an altitude input by the pilot, usually taken from a flight plan, or air traffic control instruction. This data can be entered manually, or taken from the aircrafts pre-programmed GPS navigation system, this data can then be displayed in the headset, providing accurate track for the pilot to follow if flying manually.

Other aircraft positional data is supplied by a system called Automatic Dependent Surveillance-Broadcast (ADS-B) (Airservices Australia) which transmits, along with GPS position, the aircraft speed, altitude and heading. This data can be added into the AR display to show crews wearing the AR Navigator headset, the precise location of other aircraft in proximity, along with the projected heading of other aircraft. Using autopilot track data, the software can also determine a possible collision risk and alert the crew if necessary.

For improved adoption of this technology across all sectors of aviation, cost is a key consideration. Our system will use existing technologies, such as of the shelf AR headsets, combined with existing digital flight bag software, and with our software development, to display that data, in 3D over the outside view of the world. Our equipment requirements are the AR headset, available commercially already, the tablet software to transmit the data to the headset, with option for aircraft derived GPS data if the tablet itself does not have a GPS receiver, and ADS-B inputs. Future expansion is possible removing the need for an instrument panel entirely.

Tools and technology

The headset will need to be light weight, and comfortable to wear over long periods of time, headsets like the Nreal line of glasses would be suitable (Nreal 2022). Tablets used for electronic flight bag software supporting navigational charts and navigation positional data are available from a variety of manufacturers (Hiltunen et al. 2015) specifically for aviation use, and with WIFI or Bluetooth capability, inputs from portable ADS-B and GPS receivers can by utilised (Garmin 2022). The system will need redundancy in wireless technology and reliable data from external sources, and improvements in screen miniaturisation and readability.

Skills required

The backbone of the system is the software that is required to relay the data from the electronic flight bag software to the headset. This will require software programming and interface design, to display aviation navigation charts, position and ADS-B data for precise location of other aircraft within an airspace area. It must be capable of taking head, and eye tracking data from the headset, and convert this data to a 3D graphical display overlayed in the correct position in space to represent the data with high degree of fidelity in the field of view in the real world.

Outcome

The aim of this project is to increase aviation safety in all levels of aviation, by reducing pilot workload, removing the need of the crew to interpret 2D airspace data, other aircraft positions, and future flight path projection, and displaying this data over the real world outside the cockpit window. This will increase pilot and flight crew situational awareness and only show data that is relevant to safe and accurate flight. With increased flight accuracy, comes a secondary benefit of reducing the flights environmental impact, resulting in lower fuel burns, with improved flight track optimisation, and more efficient use of airspace.

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