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Note from the Ed

With South Africa in raptures over Marelize, and no one believing how a diver was spat out by a whale, there is no doubt that 2019 is going to be a year like no other. From Brexit to the inspiring #TrashTag Challenge, we've barely begun the year and have already seen too many moves and shuffles around the globe to keep track of them all.

In the BBD playground, the year really has started with a definite bang! We are thrilled to have announced our new learnership programme in partnership with Umuzi to help develop and uplift talented young female coders, and our Vodacom App team has delighted with the re-engineered My Vodacom App to allow for real-time push updates through React-Native (page 44).

We are also really proud to show off our new Cape Town office as part of the BBD make-over, and reworked our Award Nominations to make sure the BBD family feels the love we have for them.

So what's in store for 2019? A lot.

Time has flown, and we're looking forward to celebrating our 35th birthday in September, acknowledging how our staff and clients are the ones who have made our journey to this point such a success. Our teams around the world are expanding while we're upping the ante with better solutions than ever before. It is this continued hard work that is key for delivery and growth in 2019 - something our BBDers are truly fantastic at doing.

There's also no way we can forget about our fully BBD favoured internal events, from the mid-year update to esc@pe, Bierfest and the year end party. There's a lot to look forward to on the BBD calendar.

Make sure you read all about the BBD Game Jam on page 46, and take a look at why Android is better than iOS on page 56 ... Wait wait wait! We're kidding, they're both great... Really.

Making the Bulletin a reality is a passion of ours, and we truly hope you enjoy reading it. If you would like to submit or contribute towards an article, or have an awesome idea we shouldn't live without, please send us a mail at marketing@bbd.co.za.

Here's to an amazing year!





"Time has flown, and we're looking forward to celebrating our 35th birthday in September"



AWARD NOMINATIONS

HOW THIS ALL **WORKS**

Our revitalised Awards Nominations **recognise and reward exceptional BBDers**. They're designed to praise those who **go above the call of duty** for clients and colleagues alike, and who deliver outstanding service and solutions.

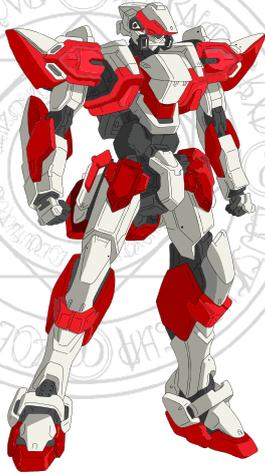
This year, nominations are accepted for anybody, including yourself, for whichever category.

The nominations run from February to October. The two monthly winners are selected by Peter Searle and get to **"PICK A PRIZE"**. The awesome prize collection includes an option for two Duvet Days for those times when you need to binge watch your favourite series, take a cat nap, or do whatever floats your boat. Monthly winners also get to pick a charity and **BBD donates R1000** on their behalf!

All monthly winners are entered into a final draw where three lucky people stand the chance to win a piece of the R150 000 pie!

1st R70 000 // 2nd R50 000 // 3rd R30 000

THE CATERGORIES



ULTIMATE BBD AGENT

UBA is to praise the individual who spearheads the conversion of ideas into realities, fosters the BBD philosophy at every turn with relentless ambition to promote the true essence of what BBD stands for, upholding the brand and everything we do.

GRASPS OPPORTUNITIES & WISDOM

The **GROW** category recognises the improvement and development of skills. This is someone who takes initiative to develop and improve their career through continuous learning and skill development. Grow is for the person who successfully seeks out training or on-the-job opportunities to further establish their skills.



HELPING YOUR PEOPLE

HYPE recognises the person who always delivers an extraordinarily high standard of work, and is acknowledged in their team as a mentor and sharer of time, skills and knowledge.

WHATEVER IT TAKES

WIT is the category for the kingpin of perfection and reliability – the person who is driven towards ensuring client satisfaction no matter what. An almost endless source of dedication, passion and enthusiasm, this individual is a tireless champion for successful delivery.



THE SILENT OPERATOR

Quiet and dependable, the **STEALTH** award is designed to recognise someone who is not often heard, but whose positive impact is always keenly felt.

FEBRUARY WINNERS



ADVANCED DRIVING COURSE

LISA RALL CHOSEN FOR **GROWTH**

As a new graduate and team member, Lisa exceeded all expectations. She seizes every opportunity available, and has quickly become an invaluable team member. Lisa is in the makings for a great developer and is a huge help in getting new members up and running. Keep up the good work!

Charity of choice: Animal Anti-Cruelty League



LOUIS STRAUSS CHOSEN FOR **STEALTH**

Louis is very knowledgeable and easily approachable. He is always willing to lend a hand when someone needs it. He doesn't show off his profound knowledge, and is therefore perfectly suited for the Stealth award. Louis is known to always go the extra mile and although he tends to keep to himself, he is very reliable and always gets the job done.

Charity of choice: Animal Anti-Cruelty League



NINTENDO SWITCH

MARCH WINNERS



NINTENDO SWITCH

TIANÉ ERWEE CHOSEN FOR **WIT**

Tiané goes above and beyond what she is asked to do and is always willing to provide guidance or assistance when she sees someone struggling. She is an asset to our team and deserves this acknowledgement for the awesome work she does on a daily basis. Keep it up Tiané!

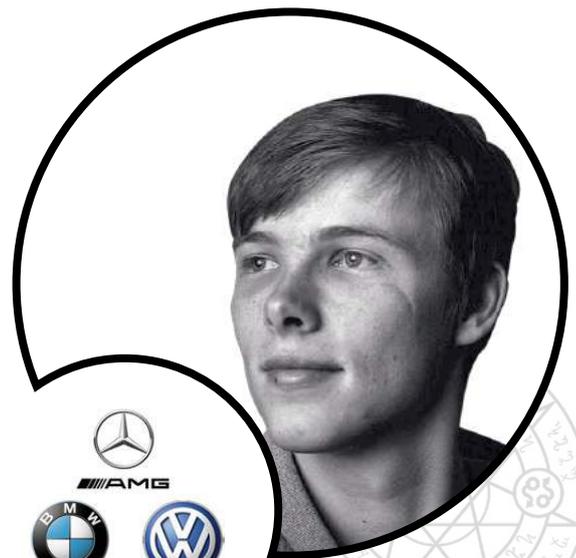
Charity of choice: CANSA



ROBERT JONES CHOSEN FOR **STEALTH**

Robert's work and skills are exemplary, and he exceeds every expectation. Although quiet and dependable, he really knows his stuff, asks the right questions to the right people and is never one to brag! Robert always gets his work done on time and is a pleasure to have on our team!

Charity of choice: Door of hope



ADVANCED DRIVING COURSE

BBD BENEFITS

all the perks you need!





Café and coffee stations

- Fully stocked vending machines with free snacks
- Breakfast cereals
- Cheap and delicious chow
- Fresh fruit and bread daily
- Unlimited BBD branded still and sparkling water
- Monthly Friday lunches
- All the microwaves, cutlery, crockery and condiments you could need
- Endless coffee – Tanzanian Mbeya, Burundi and Ethiopian beans
- BIBO water dispensers for instant hot, tepid and cold water
- Comfy couches and chill zones



Best for the best

- 50% medical aid contribution
- BBD facilitated medical aid gap cover option
- Retirement annuity option
- Group life, disability and dread disease cover
- Available trauma counselling
- Financial advisor
- Bond and vehicle finance originators
- Bonuses for exceptional performance
- 3G reimbursement – project specific
- Standby allowance – project specific
- Flexi working hours – project specific
- Annual salary review
- Had a baby? You get flowers and moola
- Tied the knot? You get moola
- Staff recognition through monthly award nominations. The prizes include Duvet leave, Nintendo Switches, advanced driving courses, Tiger Wheel & Tyre gift vouchers, stocked wine fridges AND the winner gets to donate R1 000 to a charity of their choice. Winners are announced at the annual Bierfest where nominees have the opportunity to win loads of cash (like R150 000!)



Work environment

- High-tech tech
- Breakaway and private phone rooms
- Secure parking
- Safe working environment
- Chilled atmosphere
- Encouraged creativity and collaboration
- Gautrain shuttle to and from Rosebank station



Healthy habits

- Vitality Health assessments
- Free flu vacs and vitamin B injections
- 5 blood drives per year
- Annual wellness days include various health sessions ranging from reflexology and manicures to massages, stress

management, live blood analysis, biokineticists and chiropractors. There are also games, photo booths and so much more! We even give away awesome spot prizes like Fitbits and wireless earphones.





Events

- Trailblazing annual tech event – esc@pe
- Kickass year-end functions with great entertainment, delicious food and taxi services to make sure you get home safely
- Mid-year update party to keep you in the loop
- Annual Bierfest sees teams brewing their own craft beer
- Industry meetups
- Team lunches
- Unique team building events



Upskill like a boss

- Mentoring
- Internal and external training
- Online training
- Onsite / VC training by SA's top IT specialists
- Certifications
- Ability to attend key technical events
- Financial aid to assist with further studies
- Bursary, learnership and graduate programmes
- Enterprise development for young up and coming IT professionals
- Career development
- Socio-economic development



Fort kickass

- Games room with arcade machines, table tennis, darts, pool table and giant Jenga
- Putting greens
- Payday chocolates
- Competitions with awesome prizes
- Bar
- Jukebox
- Board games
- 42" TV screens and projectors



Sport vibes

- Sponsored uniforms for all sports teams
- Action cricket
- Cycling
- Netball
- Soccer
- Fitness groups



Ready to **level up?**

We are hiring!

We're always on the **lookout for new ninjas** to add to our BBD family

Visit www.bbd.co.za/apply if you want to work for an out-of-this-world software powerhouse!

BBD BREAKING NEWS! WELLNESS DAY

SUPERCHARGE YOUR INNER SUPERHERO

EXTRA! EXTRA! READ ALL ABOUT IT



Wellness Day 2019

We came, we saw, but then it was time for the curtain call. So much to do, so much to say, how do we begin to describe such a perfect day?

Perhaps we should start with the delicious breakfast? The watermelon, croissants and muffins were never going to last!

So many activities and fun things to do, we managed to do them all, did you?

Let's talk about your wild caricature, did you get big lips or bushy eyebrows on your picture? Maybe you decided to get an express massage for your shoulders and neck or visit the iridologist who gave your eyes a deep check.

Did you venture off to assess your health on the day or get a live blood analysis to see if you are okay? 15 minutes of Body Stress Release left you alright, the stress relieved and out of sight.

There was a reflexologist to work

on your feet, and yummy health smoothies to sip on after as a treat. Did you test your cholesterol, blood pressure or glucose level, or fight against friends in the gladiator ring and be named BBD's next daredevil?

After a quick fitness test at the biokineticist, it was time to fill up our bellies with lunch, this was not one to be missed. Lastly there were prizes to be won, ending our day of health, fitness and fun!

Thank you to all who came to play, see you next year for another BBD Wellness Day!

HIGH-POWERED HEALTH!

A health assessment there and a fitness test here, you will be right as rain for the rest of the year!



FABULOUS FOOD!

Waffles for breakfast and shawarmas for lunch, so much to choose from... munch, munch, munch!



GNARLY GAMES!

Battle against friends or bump over an enemy. Were you the king of the castle or knocked over accidentally?



GROUP OF
COMPANIES
UPDATE

2019



South Africans are a hardy lot and, like a big wave surfer, we demonstrate an ability to shake off the deluge and move onto the crest of the next wave. This we see every day in our news, which we have trusted less and less over the years, as positive stories smash through the tangled mess of politics and corruption.

These stories are very close to BBD hearts. Some of our own stories are told by the lives of the young South Africans joining BBD as developers, analysts and in admin roles. Every one of them comes into the world of BBD with their own positive South African story and overflowing with ideas, skills and a massive energy. Other stories are told in our client projects building new innovative solutions that create growth in our economy.

2019 will bring us new stories every day and as South Africans, we in BBD will be living positive and creative stories in our work and play throughout the year.



2018 proved to be challenging year in terms of recruitment for BBD India and our target for this year is to grow substantially before 2020 starts.

Some of our clients have requested that certain remote project staff sit onsite, so this year we will be evaluating the process of bringing India staff to South Africa on long-term intra-company visas.

In September BBD will turn 35, and coincidentally in October will be BBD India's 5th anniversary. We traditionally have an extra special year end party on every quinquennial anniversary, likewise so shall BBD India, details to be shared later in the year.



What an exciting 12 months it has been for Fusion.

We have achieved some huge milestones. We continue to invest heavily in our three main software platforms (desktop, the online Mi Fusion product and our mobile applications). We recently won a deal with the potential rollout of 1 000 users for our timesheet, claims and HR modules. Importantly, we beat off 10 other local and international competitors which was a big win for us. Another notable achievement was our newly launched Business to Business (B2B) application, which we will be rolling out to our first client with approximately 800 of their resellers which will hopefully grow to a couple thousand users!

Through organic growth in our client base we now have users in Nigeria, Ghana and Angola. With the year starting on a very positive note, 2019 is going to be one of our biggest, most exciting years yet.



Ilion's target market is the financial institutions on the African continent. Like their global counterparts, these institutions are nervous about geo-political risk and market uncertainty. The South African economy, with its well-developed banking system and financial infrastructure, is exposed not only to international volatility, but also to the vagaries of national and regional politics. Consequently, government and corporate budgets for infrastructure and other investment programmes are under pressure.

Knowing that larger consulting firms have higher levels of operational gearing and cannot respond effectively to the changing landscape, Ilion has embarked on a strategy of collaboration, securing joint ventures with reputable consulting firms in need of our professional skills and knowledge. We are ready to embrace the many opportunities that this strategy will reveal in 2019.



GROUP OF
COMPANIES
UPDATE

2019

innosys

The insurance industry is a fascinating space at the moment. On one hand, much of it looks like a scene from *The Hangover*, with the natural disasters of 2017/2018 still a lingering headache; on the other, InsureTech is gaining serious traction as there's nothing like difficult times to up the need for creative solutions. The bigger challenge in South Africa remains innovating in a way that improves the accessibility of financial services products, rather than entrenching the digital divide. In many ways, we're riding the wave of innovations inherited from developed countries while trying to figure out what's really needed here.

The year ahead will be an interesting one: there's no shortage of demand for great quality, affordable, and scalable software that supports business innovation. In 2019, we look forward to helping our clients deliver on this.



Xpertek Contact had an exciting 2018 as we joined the BBD family! We are particularly enthusiastic about our Robotic Process Automation (RPA) offering. You could think of it as a Macro but a million times more powerful – our Bot software can replicate any task that a human does on a desktop. It is non-intrusive in nature and leverages the existing infrastructure within an organisation without causing disruption to their core systems. RPA supports companies across several industries and allows organisations to reduce staff costs and cut down on the human error rate, by automating manual, rules based, repetitive tasks.

Along with our fantastic RPA achievements our Social WiFi Campaign at Boulders Shopping Centre won the Spectrum Award, the highest honour at the 2018 Footprint Marketing Awards for shopping centres. We managed to triple our mall platforms and create a scalable advertising base that is starting to gain traction in the market place.

Our young and talented team have a lot on the go, and we look forward to seeing them excel in 2019!

WHERE AFRICAN TECH UNITES



As 2018 came to a close, business was still booming and I was personally invited, by Facebook, to attend the Annual African Tech Summit and TechCrunch, Startup Battlefields in Lagos, Nigeria.

The three day African Tech Summit focused on the latest tech trends, networking and entertainment. The event revolved around Developer Circles in Africa and what new and exciting tools Facebook will be rolling out for developers and start-ups. Employees of Facebook's head office came to support and gave various talks on the latest tools they have been building. One of these, PyTorch, is a new open-source machine-learning tool for Python and Spark-AR is a new interactive augmented reality experience you can create with or without code.

Next on our agenda was TechCrunch's Premiere Startup Competition – Startup Battlefield. Startup Battlefield brings the world's top early stage start-ups together to compete for equity free prize money, and the attention of media and investors worldwide. It was a great experience to see African start-ups well represented with two South African finalists.

Lagos impressed me immensely during my stay. Data cost was at an all-time low, making it affordable for many people to access information at any given time. Another was the contribution Nigeria is making in the global tech space – in particular software development. With an influx of developers who are all building great things, 90% of the people I met were code savvy to say the least!

Nigerians are also making things happen with little to no infrastructure. In my opinion, the rest of the world could learn a few important things by adopting some of these strategies.

It was time to head back home to South Africa. Glancing out the aeroplane window, I was reminded of how beautiful and capable Africa is. There is no doubt that Africa is the new emerging market, and all we need to do is learn to work as a unit and take advantage of the countless opportunities at hand. Who knows what we can achieve.

Thulasizwe Mavuso

BBD STDB TEAM



PREMIER VERIFICATION

B-BBEE Verification Certificate

Issued to:

Barone, Budge and Dominick (Pty) Ltd

1 Newtown Avenue, Killarney, Johannesburg, 2193

Company Registration: 1984/007889/07

VAT: 4070111713

**LEVEL TWO (2) CONTRIBUTOR
B-BBEE RECOGNITION LEVEL- 125 %**

Generic Scorecard -

Amended Information and Communication Technology Sector Code (Section 9(1): 40407)

Criteria	Result	Weight
Ownership	25.00	25.00
Management Control	12.21	23.00
Skills Development	14.85	20.00
Enterprise & Supplier Development	51.14	50.00
Socio-Economic Development	12.00	12.00
Overall Result	115.20	130.00
Priority Elements Achieved	Yes	
Empowering Supplier	Yes	
Nature of Business	Software Development	

Element	Result
Black Ownership	51.01%
Black Female Ownership	15.41%
Designated Group Supplier	No
Modified Flow Through Applied	Yes

Exclusion Principle Applied	No
Measurement Period	28 February 2018
Re-Issue Date	Not Applicable
Issue Date	29 June 2018
Expiry Date	28 June 2019
Certificate Number	PV_1806017


Matthew Kearns
Premier Verification (Pty) Ltd


BBEE Verification Agency
BVA100

Tel: 010 591 0591

Fax: 086 626 7484

Postnet Suite 334, Private Bag X11, Craighall, 2024

No. 5 Second Road, Hyde Park,

Fountain Grove Office Park, Block 2, Johannesburg

www.premierbee.co.za



As a level 2 contributor, BBD shows an on-going commitment to all the different aspects of B-BBEE. The pillars that are used for measurement of a business in the ICT sector are designed to require a B-BBEE focus on ownership, management, procurement, employment, training, business development and social initiatives.

A change in the ICT Sector B-BBEE codes has meant that social initiatives are now focused on helping South Africans cross the digital divide. BBD's level 2 score, along with being recognised as a value adding enterprise, means that BBD clients can claim 125% of every rand spent with BBD as B-BBEE spend.

Imagine a world
without BAs



"Business analysts (BAs) play the role of translator in the software development life cycle."



A client is looking for a bespoke software solution. The developers believe they understand what the clients (or business users) are looking for, yet the users have unrealistic expectations of what they'll be getting and how it will turn out. This is not really a winning recipe for successful delivery.

The scenario above isn't impossible to imagine... and it happens more often than you think. Why? Because business analysts (BAs) play the role of translator in the software development life cycle (SDLC), enabling the effective conversion of the business user's needs into technical specifications that the developers use to build the most appropriate solution. Without this 'meat in the sandwich', the business logic isn't clearly defined. The more precise the requirements are, the less likely reworking is needed on the development side. Ultimately, knowing the business better than the client means a smoother process for the whole team.

The other important function BAs fulfil is project management. As logical, detail-orientated problem solvers, BAs not only outline the initial specifications, but co-ordinate all the moving parts and teams throughout the SDLC. This process involves numerous tools such as JIRA, Microsoft Visio and Enterprise Architect.

Because BBD has adopted an Agile mindset, the focus for each project team is on working software and client interactions rather than exhaustive documentation. This way of thinking informs how our BAs are adaptive to working in a manner that is most beneficial to our clients. Having our BAs as a flexible fulcrum for the management of the task, people and project as a whole helps ensure that the business logic and user requirements stay top of mind.

Lastly, and maybe most importantly, is the working relationship between developers and BAs. Like any good relationship, it's one built on trust. While the BA has to be technically aware, they are not expected nor presumed to be, a technology expert – that's the developer's realm. BBD BAs are so good at their job because they 'speak developer'.

Despite this, a clear understanding of the solution will aid the BA in knowing what is possible; avoiding fanciful requirements and impossible expectations. Similarly, a developer need not be a whizz in the business domain and should rely on the BA to provide the necessary understanding or knowledge of the problem being solved. BAs also shouldn't be afraid to run thoughts and ideas past the development team.

Remember, solutions are built as a team. It all comes down to the working relationship between the analyst and the developer; the better it is, the more timeous and better quality the solutions are.

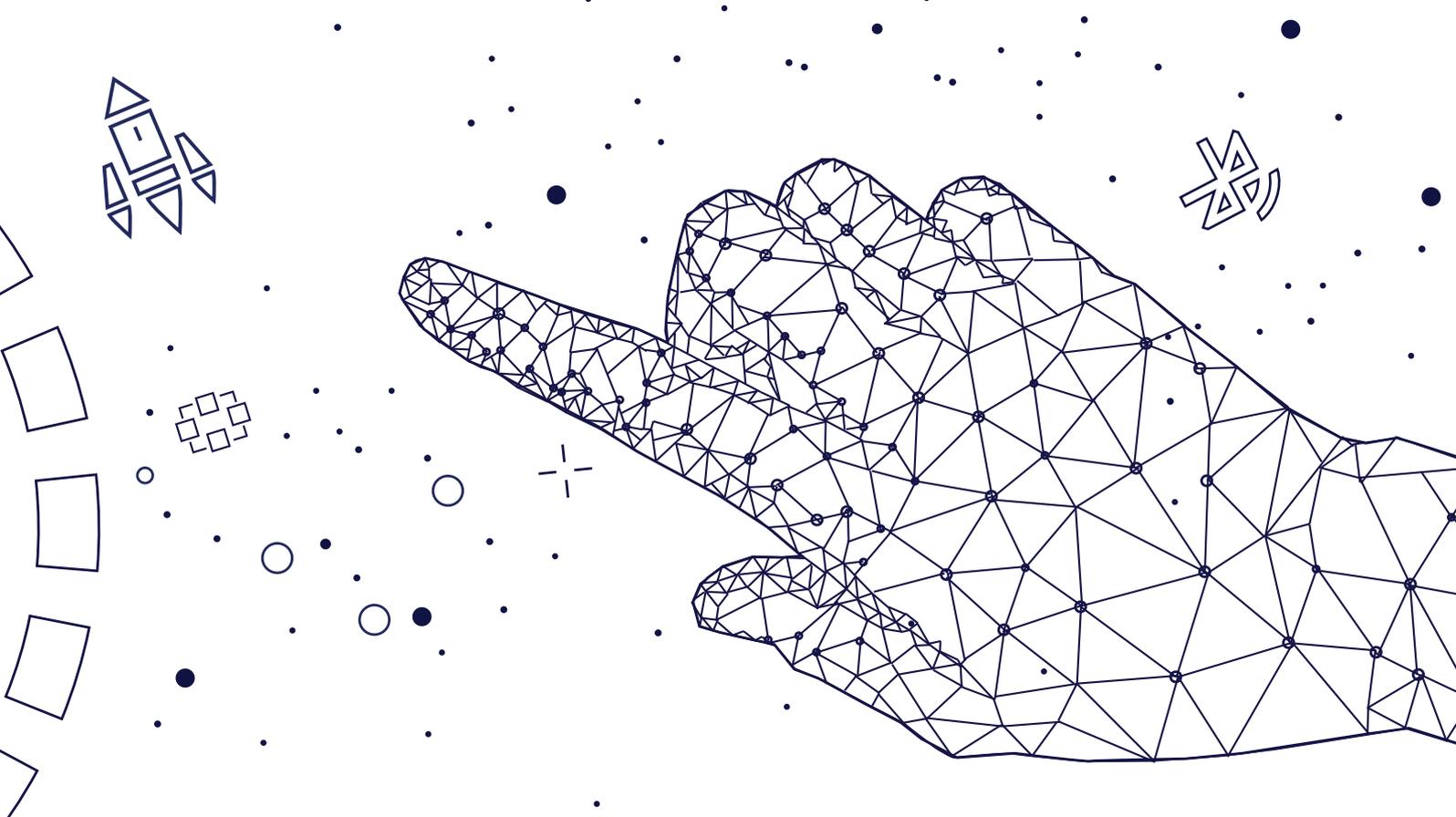
The software development world without BAs would be rife with unmet expectations, unhappy clients and frustrated developers. Any software development house would want to avoid this outcome, and for BBD, BAs are simply non-negotiable in our teams.

Patricia Draper

BBD NEDBANK TEAM



The INTERNET of THINGS



We're moving into an Internet-of-everything age faster than we can turn a kettle on. As people who create software, you may think this has less to do with us than the people creating the devices. But for me, the building of the actual devices is less important than the "I" in IoT.

The Internet of Things (IoT) is the concept of taking previously non-smart electronic devices and enabling them to share data and make decisions based on that data. An important aspect to consider in writing software for these smart devices is around how they will connect to each other or the internet – and that's where we come in.

When writing software for enterprise IoT devices, the support of the technologies used needs to be carefully considered. There are several wireless technologies that could be used: WiFi, NFC, Bluetooth, and they all have different benefits and drawbacks. If your device is relying on one type of wireless technology to speak to the internet, it might use a different one to connect to others.

It is incredibly important that we ensure these connections are all secure. The more connected your devices are, the more exposed you would be to malicious attacks. Even if you think that your WiFi-enabled lightbulbs are not much of a security risk, it could be a path into your entire home network. Once a cyber attacker gains access to this network, they will inevitably find that old Word document someone saved with the passwords. This may not seem like a problem when the only thing your devices are doing is home automation, but when we're talking about internet connected 'things' containing key data to your company's operations, it's a different story.

This is why we're smart programmers who always secure our software right? Depending on the methods used to connect devices, one can leverage off existing platforms and features for securing the software and pushing security updates whenever necessary.

In a talk I recently attended, I heard that Cisco has reported that by 2020, there will be more than 30 billion devices connected to the Internet, and that there is already 5 quintillion bytes of data produced every day. We therefore need to consider how to handle all of the data large-scale companies are generating. Ultimately, we need to ensure that what we do with the data is of benefit to our clients.

Maybe the biggest realisation is that the Fourth Industrial Revolution is here, and IoT is a very big part of it. Helping deliver business value across operations, supply chains and customers, lowering costs and increasing revenue. And because IoT forms the backbone of change, it is a disruptive technology we need to harness.

We are heading towards a future where devices make intelligent decisions on their own, only connecting to others or the internet when necessary. The software we create now, will grow and adapt to make this possible and benefit companies everywhere.

We're not there yet, but watching all of this happen surely is exciting.

Gergana Young

BBD ATC TEAM



LIFE'S a beach

It was that time of the year again where our team gathered for another epic teambuilding adventure, held at the beautiful Club Mykonos Resort in Langebaan, Cape Town. We were greeted with delicious snacks as we poured out of the bus. Soon after, play time began with facilitators splitting us into teams for our first activity, the Amazing Race. The game was awesome and we all ran around the resort like crazy people trying to find the next clue. Both the game and the competition were tough, as it involved much strategising, good communication and trust in your team mates, not dissimilar to project teams strategies. I'm happy to boast that my team won!

Next was the 30-second song challenge, where each team had to guess the song title and artist after hearing only the first 30 seconds of a track. Quick thinking was definitely needed, along with that golden thread of trust. This ended up being a showdown between Michael and I.

After a mouth-watering lunch, we made it onto the beach for a friendly game of volleyball. Team spirit was at an all-time high with everyone motivating each other. To our absolute surprise, not too many people were hit in the face with the ball! Having worked up quite the sweat, we migrated to the pool for a much needed break where we relaxed and caught up with one another over ice-cold drinks.

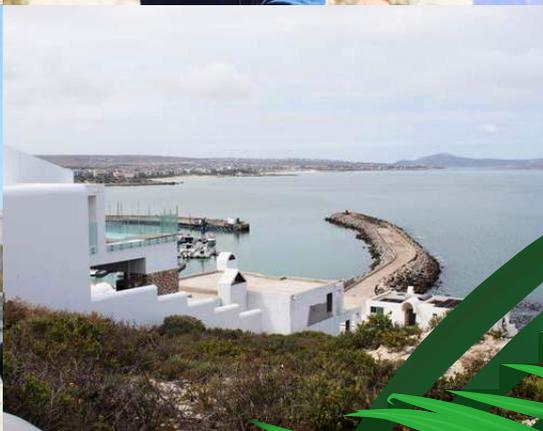
Before we knew it, the sun had set and it was time for dinner. With all our chatting, we'd developed a serious appetite! We then headed to one of the bars at the resort before finally making our way to the casino - some cried with happiness, while others cried in despair. Our teambuilding weekend came to an end after breakfast when we boarded the bus back to the office.

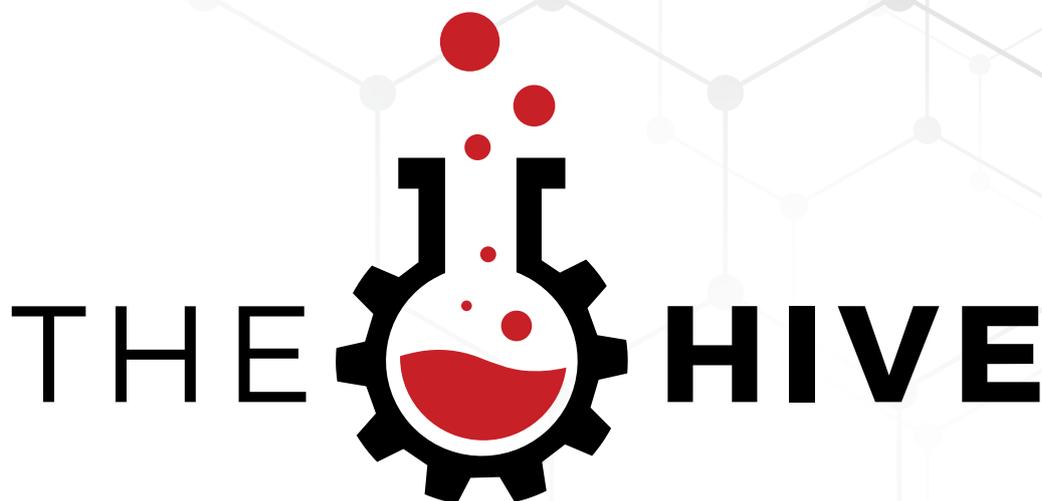
Many thanks to all who organised the event, in particular to Barbara for arranging such an incredible day away!

Sharon Meat

BBD ADMIN TEAM







THE HIVE

Your place to play

As George Dorsey puts it, “play is the beginning of knowledge” and for us in the tech world, playing with new tech, new languages and new tools is essential.

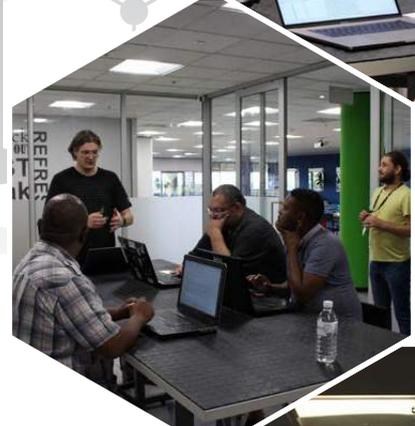
That’s why we’ve decided to build The Hive, our very own tech lab!

Filled with the likes of a 3D printer, Raspberry Pis and Raspberry PI robots, XinaBox kits, Android Thing kits and an Alexa and Google Home mini, The Hive is your place to play.

Here you can work on your passion projects and learn new languages for micro-controllers.

Anyone is welcome to use The Hive at any time, but **join ATC & friends** for the **monthly learning session** (and even test your skills with a soldering iron).

Reminders of the sessions will be in **ATC’s monthly What’s Happening emails** and on the morning of the sessions.





BBD GRAD TALES

The groovy getaways

BBD treated our grads to a visit in India and Cape Town to connect with the global BBD family and to experience a taste of the BBD world. For many of them, this was an exciting chance to flash their crisp, new passports and embrace an unfamiliar, but refreshing culture of living.

Some of the grads shared their travel experiences and it seems like they all had a blast ... including Barney!

Charl

"The Cape Town office had a unique, pleasant feel to them. As a big fan of public speaking, the battle decks were exactly up my ally. The Hackathon was exciting as I haven't really done anything like that in a while. Sandboarding was awesome, and although not originally the biggest fan of alcohol tasting and sightseeing, it was something new to experience, and I really enjoyed it."

Claris

"What an incredible journey! From the jaw dropping architecture and amazing culture, to the exquisite cuisine and heart-stopping tuk-tuk races. We even had the privilege of taking part in a Hackathon alongside the very knowledgeable people of BBD India. Did I mention that the tuk-tuks are really cool?"

Colin

"The BBD grads trip can be summed up as EXTRAORDINARY. Right from day one, we met a remarkable bunch of people and were welcomed with open arms, effortlessly made to feel

like we were right at home. Meeting the team was nothing shy of amazing and showed the focus, passion and energy we have as BBD. Thank you to all of you for the great memories made and to the BBD family for an amazing experience."

David

"The Cape Town grad trip was an amazing experience. We were treated to local flavours, amazing attractions and various activities such as sandboarding, quad biking, gin tasting, a game jam, battle decks, and we even managed to get some work in! The Cape Town office was a nice change of pace, whilst still feeling like home."

Justin

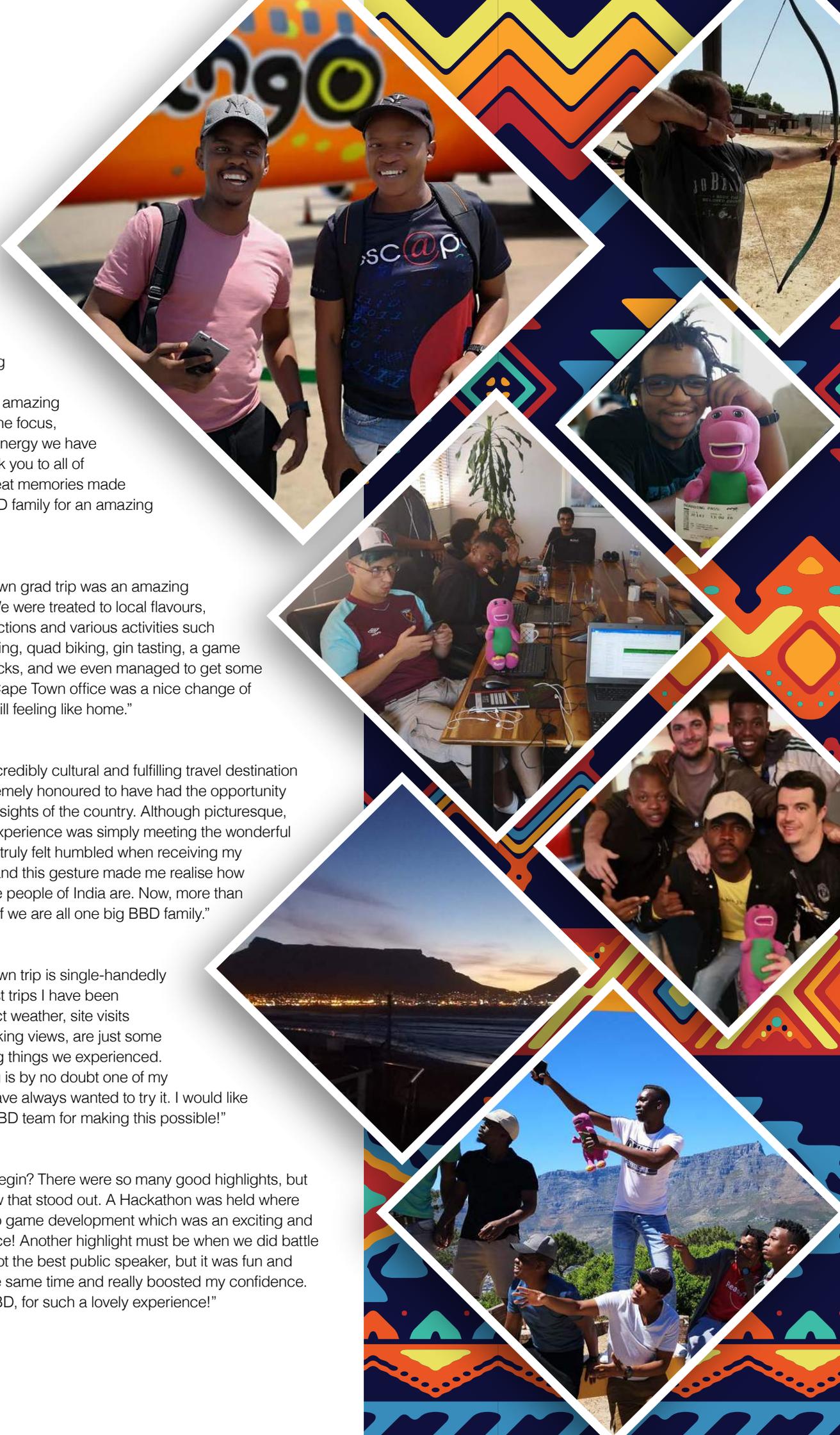
"India is an incredibly cultural and fulfilling travel destination and I am extremely honoured to have had the opportunity to explore the sights of the country. Although picturesque, the greatest experience was simply meeting the wonderful Indian team. I truly felt humbled when receiving my Indian name and this gesture made me realise how welcoming the people of India are. Now, more than ever, I feel as if we are all one big BBD family."

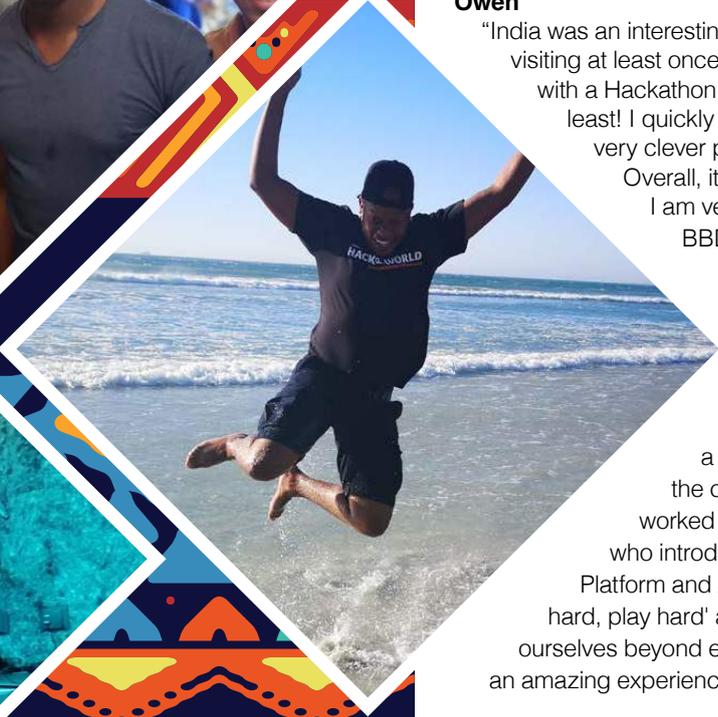
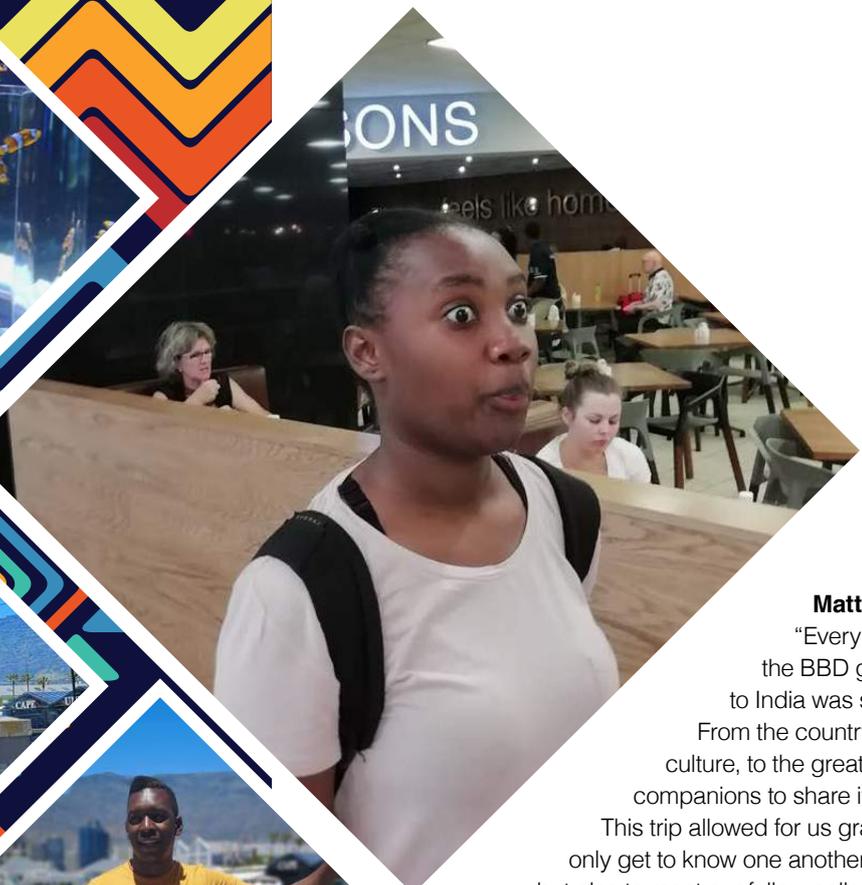
Kagiso

"The Cape Town trip is single-handedly one of the best trips I have been on. The perfect weather, site visits and breath-taking views, are just some of the amazing things we experienced. Sandboarding is by no doubt one of my highlights! I have always wanted to try it. I would like to thank the BBD team for making this possible!"

Lebohang

"Where do I begin? There were so many good highlights, but definitely a few that stood out. A Hackathon was held where we delved into game development which was an exciting and new experience! Another highlight must be when we did battle decks! I am not the best public speaker, but it was fun and hilarious at the same time and really boosted my confidence. Thank you, BBD, for such a lovely experience!"





Matthew

“Every aspect of the BBD grads trip to India was superb.

From the country and culture, to the great food and companions to share it with.

This trip allowed for us grads to not only get to know one another better, but also to meet our fellow colleagues and friends from the Pune office. I would like to extend my sincerest thanks to everyone that made this trip possible, and for spoiling us to no end with a trip to remember for a lifetime.”

Nick

“Our adventure began early Sunday morning and Barney decided to join us. Monday saw us meeting the Cape Town office staff and putting in some hours of work, followed by dinner on the 13th floor in the heart of the CBD, with a fantastic view. The aquatic wildlife wasn’t forgotten as we ventured off to Two Oceans Aquarium, followed by a gourmet lunch and a choice of 120 milkshakes (a sweet tooth’s dream) to finish off our amazing trip.”

Owen

“India was an interesting experience and definitely worth visiting at least once. Right from the start, we were tasked with a Hackathon, which was challenging to say the least! I quickly realised that I was surrounded by very clever people who have so much to offer. Overall, it was an awesome experience and I am very grateful for this opportunity from BBD.”

Q

“This was my first time travelling outside of South Africa, and I can already say not my last!

I had so much fun but also learnt a lot. We were exposed to some of the challenges of working remotely and worked closely with some brilliant individuals who introduced us to AWS, Google Cloud Platform and Azure - a first time for me. The ‘work hard, play hard’ attitude helps us as graduates to push ourselves beyond expectation. Thank you BBD for such an amazing experience!”

Reece

"This trip was the highlight of my year. We were treated to a week of incredible experiences, including late-night tuk-tuk rides, learning about India's history and visiting various attractions such as the Agra Fort, the Taj Mahal and Akshardham Temple. Working with the India team during the Hackathon taught us a lot and required us to use the latest technology available. It was a genuine privilege to meet, work with, and learn from the team at BBD India."



Robert

"The trip to India was a privilege I was not expecting. It gave insight and perspective to the world we live in and gave me the opportunity to meet new people, as well as improve current business relationships. Something that surprised me was the Indian architecture and the sheer scale of buildings and how intricately carved and decorated they were."



Sasja

"An unforgettable experience! We arrived in Pune and were welcomed by the hustle and bustle of the streets with cars, motorbikes, tuk-tuks and people everywhere. Working in the BBD India office was an amazing experience, with the highlight being dancing the night away at the year end function. It was an amazing trip filled with laughs, beers, memes, food and good times with amazing people! To wrap the trip up, it would be "Dis yes.""



Shime

"For me, the excitement began with the idea that I would be travelling to Cape Town for the first time and it couldn't have been with a better company! The amount of fun we had will go unmatched for a very long time, especially our club-hopping experience in Long Street. I really wish we had stayed longer."



Tiané

"When we first arrived, I was overwhelmed by the heat, amount of people and the insane traffic. If I had to give my top reason to go to India, it would be the food! No two meals taste alike. It was great getting to know my fellow grads better, having fun together, eating delicious food together and seeing amazing feats of architecture together. It was an absolute blast."



THE CHANGING STATE OF IT SYSTEMS

There's no lack of talk around how the adoption of cloud technology throughout the business sectors will continue to change the way companies run and manage their day-to-day operations. And with local Microsoft data centres landing in South Africa, IT

systems have a host of changes and challenges to consider.

We chatted to Nick van der Schyff, BBD's system administrative whizz, to find out about the changing state of IT systems.

What's been happening in IT this past year?

IT's been in limbo for the last little while, waiting for the local data centres (especially Microsoft's Azure) to finally land. Although two new data centres opened in March, we still don't have the full set of Azure features available, only a sub-set as they release features in stages.

In the past year, we have seen the idea of data sovereignty taking route with local cloud service providers wanting to keep people's data within the country's borders. But with the local data centres landing, we're expecting to see growth in terms of companies adopting IT cloud strategies more fulsomely.

And now that we have local data centres?

Microsoft is the first major player in town, and we're still waiting for Amazon with their AWS centres. It's going to

be very interesting to see what local adoption rates will actually be like, and whether South African companies are more willing to go with the vendors over providers.

Why are these data centres so important?

It all comes down to latency. When your data sits overseas as it has been, the round trip between you and that data is obviously longer. For larger corporates, this delay in the speed at which your data is transferred can make or break you as that speed is needed to warrant an application lift and shift to the cloud.

Azure has been trying to mitigate the effects of this latency through the development of express routes with guaranteed bandwidth, but this comes at a cost which often makes the service inaccessible to smaller companies and expensive for large corporates. Legacy applications and systems also have a

role to play in the latency conversation as they need to be tweaked for cloud usage. If not made compatible, these behemoths either slow the system down further, or result in the corporate wasting time, energy and money.

Local data centres mean that companies will be able to host their data in the cloud with minimal latency.

The trick to remember is that even with a local cloud, your data is still sitting somewhere else and you still have to secure, manage and patch it. Backups and disaster recovery plans are non-negotiable.

Where do you see the industry going?

I believe local cloud facilities will bring a higher rate of cloud adoption and more creative solutions as IT administrators and software engineers can leverage the infrastructure for out of the box problem solving. People can find niche



ways to use the services and features. I also believe that the cloud will become more and more attractive for South African companies in light of the instability caused from power outages.

How do you see IT systems' journey to the cloud?

I see this as a complex journey for a couple of reasons.

Firstly, security is paramount. Companies need to make sure that it's not just the cloud vendors ensuring data is secure and looked after. We also don't always know what the back-end is like and need to be as cognisant as possible to any potential security risks that we could be opening ourselves up to.

Migration strategies also play a role. Ensuring a good strategy is in place along with adequate testing and a roll-back plan is crucial to ensuring business continuity. This goes hand

in hand with ensuring a disaster recovery plan is in place.

There is also the learning curve to consider. The new ways of doing the same stuff along with the new terms, infrastructure and consoles can be challenging for IT professionals.

BBD does their best to mitigate these challenges through managed services and consulting where we help our clients assess and understand what the requirements are (for instance, is it a simple lift and shift or do we need to adapt the system for cloud first?), doing any necessary adaptations and then managing the infrastructure and costs.

We've found managing costs to be the biggest challenge in this journey to cloud because if every service is not closely monitored and managed, the costs can quickly spiral. In this unlimited cloud, everything is

available, you just have to pay for it.

What excites you about all of this?

It's the potential for really creative work-arounds because you're able to play and test without any initial investment or upfront costs.

Anything else to add?

I think it's going to take a while until software catches up with what our hardware is capable of, and adoption rates will grow steadily from there. But existing businesses have to evaluate how they can leverage the cloud and understand that it's just another computer sitting somewhere else and if it's not managed, then it can all go awry.

*Q & A with
Nick Van Der Schyff*

BBD IT TEAM

4 ways to stay Agile



"Agility is the power to move quickly, to think and react rapidly"

In the ICT sector, today's imperative is to quickly produce the highest quality software and to achieve this, development teams are needing to adapt, decide and code at speed. This can oftentimes be a problem in large corporates where the nature of the beast is to abide by the many processes set in place.

Originally outlined by the Agile Manifesto in 2001, the approach aimed to change the way the industry thought and create self-organising, self-motivated development teams who are focused on working software instead of overly comprehensive documentation. Not only does this mindset-shift make for a productive and happy workforce, it results in numerous business benefits to boot.

We have seen a tendency in the industry to focus on the methodologies and enforce Agile processes, rather than understanding and valuing the Agile mindset.

BBD has adopted the Agile mindset. Although this means that our processes are Agile, we do not enforce specific methodologies such as SCRUM, Kanban and SAFe onto our own project teams. As long as our teams value an Agile mindset and principles over Agile methodologies, we allow them to either align with the client's practices, or in a way that is most beneficial to the client.

BBD has however noticed that many of their clients are enforcing specific Agile methodologies and practices, which can sometimes be to the detriment of the project as the teams then focus on the methodology rather than the result. Following Agile practices without an Agile mindset is not being Agile.

Here are the top four ways to stay Agile without committing to specific methodologies.

1. Empowered employees

One of the key Agile principles is to build projects around motivated individuals. For us, that means giving our teams the space and support to get their jobs done, trusting they can handle the day-to-day operations of the project, as well as any issues that may crop up along the way.

Hiring the best, trusting their ability and allowing open communication channels to facilitate easier feedback all assist in ensuring BBD's employees are empowered and productive.

2. Play to your strengths

It is always easier to trust that your staff are able to perform as they should if you put them in positions

where they're able to play to their strengths. We strongly believe that this approach, coupled with a wide selection of internal and external training opportunities, has allowed our staff to flourish and our business to grow from strength to strength.

3. Death by committee (less talk, more action)

We've all been in situations where no one wants to make a decision, but everyone has an opinion, or when everyone wants to make different decisions.

Embracing the Agile methodology means that we've actively embraced allowing those with the appropriate knowledge and context on the subject to assess and decide. This is about giving decision makers at different levels of your organisation the autonomy and support to take the lead and run with projects. This accelerates our internal processes and allows for easy collaboration and for us to act more fluidly.

Avoiding death by committee on decisions is vital to maintaining an Agile mindset.

4. Client-centric

While a lot of companies say that they're client-centric, being Agile means truly focussing your business on the people that make it possible – staff and clients.

Another key Agile principle is to value individuals and interactions over processes and tools. An easy way to do this is to focus on building solid, long-lasting client relationships. BBD ensures face-to-face interaction with our clients through our offsite teams ensconced in the client environment. This approach to development leads to the fostering of natural client relationships.

Although Agile was originally created for development teams, the logic and practices are easy to apply throughout any business. It really is Agile for anyone. Our advice is to try it out and encourage teams to get the core of your business flowing correctly and then build new processes around that if you must.

Remember, small changes often can be much more powerful than huge changes that happen slowly.

Matthew Barnard
BBD EXECUTIVE HEAD OF BANKING



THE IMPI CHALLENGE RACE

Challenge your friends. Conquer your fears.

"Everything you want is on the other side of fear"

Exhilarating obstacles, mud flying all around and the music pounding in the background, this is where elite athletes can push their limits, this is the IMPI Challenge.

Our Cape Town office chose seven worthy competitors to partake in this adrenaline-charged experience, and wow, did it challenge us! The IMPI Challenge allowed us to face obstacles that were simplistic, yet demanding, to help us beat those mental, physical and emotional challenges. I have never been so proud of my team, as we all dug deep and came together to conquer these hurdles. The simple notion "if we can defeat this, we can defeat anything" couldn't be more true.

Each member of the team faced their own trials and tribulations, as well as successes. It would be wrong of me to speak on their behalf, so here's what they had to say:

"I almost died that day. I quickly realised how important it is to be comfortable with swimming before taking on the IMPI challenge. Although not the strongest swimmer, I truly dug deep and with the support from my team, made it to the end!"

~ Kiran

"The IMPI Challenge is all about teamwork. I really owe my team for helping me through the pain!"

~ Barbara

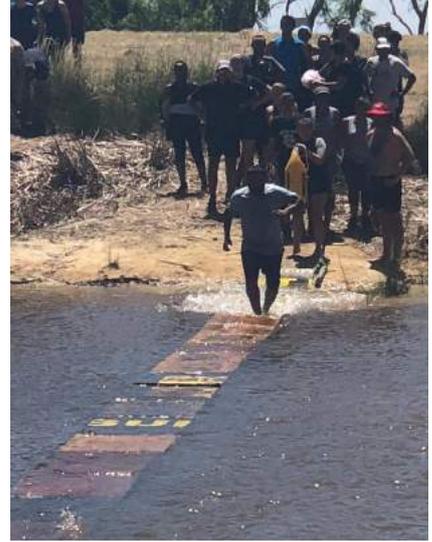
"The most impressive moment was watching Kiran tackle the 'water run.' For those of you who don't know what that is, imagine trying to run across a lake on a thin board as fast as you can without falling in. As for myself, the toughest moment had to be bracing the icy water and not being able to see anything through the sludge. My only saving grace was promptly diving onto Arjen's shoulders and begging him to get me out immediately. When teammates literally have your back!"

~ Charlene

At the end of the day, with our bodies bruised, but spirits high, we went home feeling content with our effort, knowing we gave it our all. Bring on 2019!

Barbara Brink

BBD BILLING TEAM



BRIDGING

The G-P

Improving women's access to high-value tech careers

Web development is one of the fastest growing industries, requiring scarce digital skills. There are too few qualified candidates to meet the demand of entry level dev jobs in South Africa. With females representing only 20% of the global tech workforce, there is also an acute shortage of women in the male-dominated tech sector.

To address this shortage of skilled female coding talent, we are partnering with Umuzi to support 18 previously un- or under-employed young women to become junior full-stack web developers.

Hlobisile Mlebuka is one of the first young women to join the programme.

"I started a Mathematics and Statistics degree at WITS but had to drop out after two years because of a lack of financial and academic support. I then found myself working in hospitality, trying to complete my qualification part-time through Unisa, while also looking for relevant opportunities to pursue a maths and stats career. While I was researching, I discovered web development and data science. I realised that I needed more training but wanted to find a more efficient route to acquire these skills than just doing another degree. I chose the Umuzi programme because in just 12 short

months, I will learn the relevant skills and be ready to start work with a top employer like BBD."

Umuzi is an organisation that supports talented young people to access high-value digital careers in a 12-month skills development programme. With the investment of committed business partners, Umuzi expects to support over 200 young people nationally to enter into careers in 2019.

Andrew Levy, Umuzi MD says that there is no shortage of talented young women with an aptitude for coding – only a lack of opportunities for women to access quality training that leads to high-value careers.

Coding is a critical skill of the future, and we simply don't have enough local quality talent to meet our business' growing demands. As a company, we need to support more young people, specifically young women, to develop these skills, so that they can help grow our industry, and the local economy.

In 2018, Umuzi supported over 100 previously unemployed young people to access digital careers including web development, data science, business analysis, user experience design, copywriting, and multimedia content production.

Precious Nkomo

BBD EXECUTIVE





Stacked successes



When you're a dominating player in any market, constant updates and system improvements are a necessity. This need to periodically rethink how you offer your services enables you to keep pace with the upstarts and help maintain a loyal customer base.

On average, a traditional app takes two weeks to distribute to 80% of the users.

Keeping this logic in mind, the BBD Vodacom App team re-engineered and redesigned the My Vodacom App using React-Native based technologies and various cloud components so as to allow for updates to be pushed to customers in real-time when they launch the app. This has significantly improved the distribution rate of updates to customers.

Although this powerful new feature was at the core of the re-design, it also gave the team an opportunity to build an entire back-end and incorporate a microservices architecture using NodeJs and SpringBoot technologies hosted on an on-premise Kubernetes cluster managed by BBD. A combination of AWS technologies were utilised to enable over-the-air app updates, such as Lambdas, S3 and CloudFront which has provided low latencies and highly available, reliable infrastructure.

Having a thick client with a multimillion demanding user base on unmanaged devices, it is critical that one has the operational tools in place to proactively react to any issues within the stack. The solution incorporates a multicloud approach to get access to the best of breed tools such as AWS CloudWatch and AWS QuickSight for rollout success metrics, crash analytics with Sentry.io for the JavaScript layer, and Firebase Crashlytics for the native layer. Firebase app performance analytics were recently introduced to inform the team of any issues on both a network success and latency rate as well as app performance level.

React-Native and Expo.io has successfully enabled the team of predominantly C# and Java developers to deliver a quality platform in a very short timeframe that is now more stable, resilient and user-friendly with an Android and iOS crash-free rate of 99.9%.

With the power of open-source cross-platform app technologies and various cloud solutions, developers are enabled to deliver quality systems in a fast and efficient way. BBD enables full stack digital channel solutions at Vodacom, targeting Online and Retail channels.

Norman van der Mescht

BBD VSP TEAM



They came. They gamed. They jammed.

Those within BBD who have always longed to develop their own game were given this exact opportunity with the first BBD Game Jam.

Essentially a game-creating hackathon, the challenge was to create an inspired game around the 'best left forgotten' theme that was functional, distributable and, most importantly, playable.

Seven teams of between 3 – 5 people accepted the challenge and over the course of a single weekend designed and coded their games. Each one unique and exciting in their own way.

The submitted games were incredible, with opinions almost equally divided between the teams. In the end, BBD voted and Claris, Johann and Tiané, three intrepid grads with experience

ranging from interface creation to game design and coding, took the top spot with their game, Trump's Twitter Tumult (TTT).

A massive congratulations to each and every team for the awesome games they created!

You wanna know what TTT is all about right?

Well, the controversial president takes to Twitter once more, this time insulting none other than Megyn Kelly. Unfortunately, his luck has run out, and an angry mob of reporters and news presenters are storming the white house. Can the president get himself out of yet another sticky situation? Take up arms as you fend off endless waves of increasingly angry mobs in this fast paced, top-down arcade shooter.

Michael Geyser
BBD ATC TEAM



1

Trump's Twitter Tumult
Team boring_wozniak

Forget to Conquer
Team Kraken Coders

2



3 **TIED**

Forgotten Knowledge
Team Jolly Co-Operators

TIED

JetPackRun
Team Scribblers

3

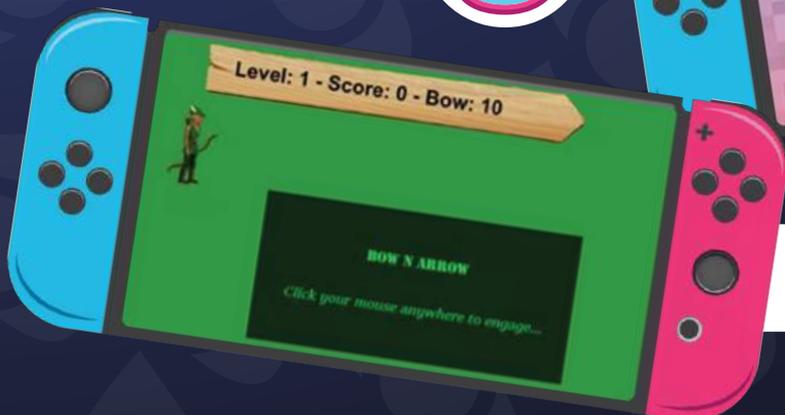
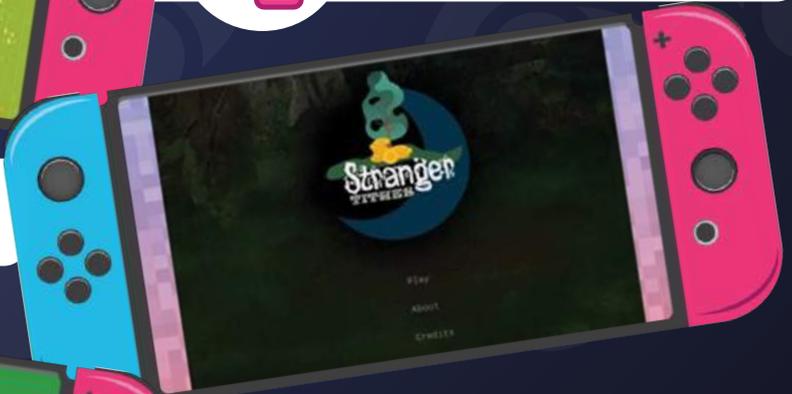


4

Infamous
Team Department of Game Affairs

Stranger Tithes
Team {"vs": "RnJIZGR5"}

5

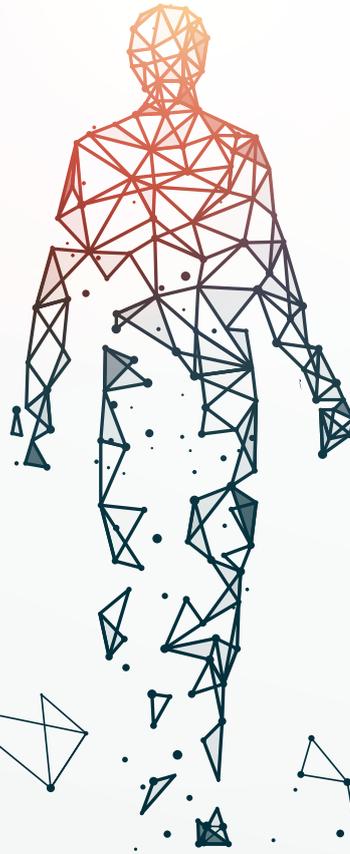


6

Bow and Arrow
Team programmers123



**HAVE YOU
MET YOUR NEW
AI COLLEAGUE YET?**



We are surrounded by electronic devices that try make our lives easier by taking over tasks we used to do ourselves. As much as we enjoy this in our home and personal lives, the question is, how can we use Artificial Intelligence (AI) assistants to help productive career growth, rather than scare ourselves with a sci-fi-like future where we're slaves to the machines?

We must first take a step back and consider how humans currently develop in our careers. Typically, we first learned the basics to establish a solid grounding from which to learn. We would have had an experienced expert taking on the mentor role, who we questioned, copied and learnt from. This was our springboard.

But if AI starts to perform the routine and repetitive functions in our careers, those around support and admin, we lose the opportunity to establish the grounding we need. It's a possibility that new entrants in the job market will simply skip this step, missing the chance to understand the fundamentals.

If this becomes the case, are we creating a new generation of workers who will never know routine because it is done for them by AI colleagues? If so, then it means that those types of jobs won't exist for any but AI assistants anymore.

Forcing humans to generally operate at a higher level, this could increase the demand on tertiary education as there will be more staff who define the routine, and less who follow it. A possibly unplanned advantage to this is that companies will in this fully-realised AI future, need to spend more on workplace training to ensure staff understand what the automation is doing and how that affects their day to day decisions and role.

Ultimately, the answer to the question on how AI assistants can be used to help productive career growth lies in the way we adopt AI into our businesses. For example, recruiters can spot a good CV but can't tell you what it necessarily is that makes them choose one particular CV over another. Here is where AI can be the differentiator. Using the concept of machine learning to train AI assistants as to which CVs are good for which company means that they can then perform the selection based on the instinctive rules humans have always applied. Here, the human remains in control as they

make the final selection, ultimately allowing space in teams for productive human and AI colleagues.

It all essentially comes down to AI that is transparent and explainable, making use of the machine learning. This allows AI rules could be checked to make sure social biases that have crept into our society are removed. In this way, a function that was previously performed by a small number of staff could then be scaled and performed by many – consistently better than before. Overcoming this challenge is crucial as we look to adopt AI into the corporate space.

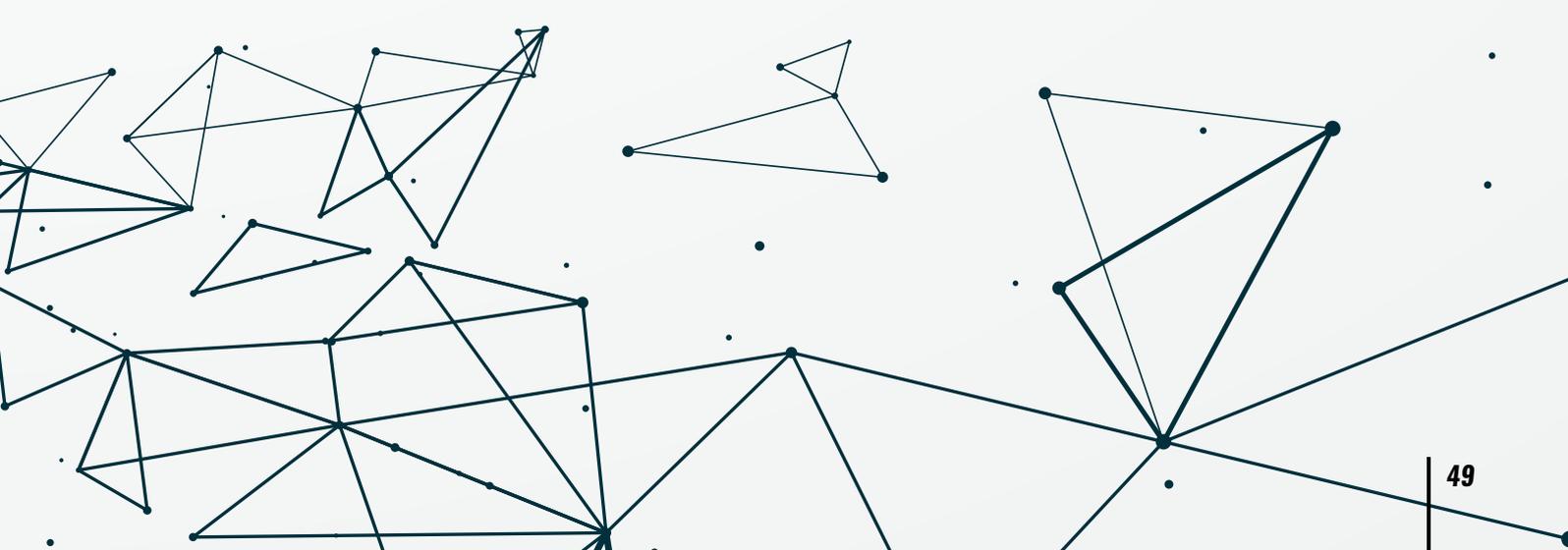
The above example of AI assistants working alongside human intervention results in healthy AI involvement in a job role where the assistant become that colleague you want to have on your team.

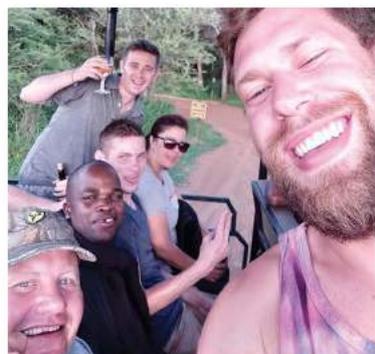
In order to avoid becoming lazy, we must be able to do what the AI does for us but need not to perform this role in the long term. If not, we need to find some way for the AI to either teach the skills that it has acquired or be transparent enough to explain the rules that it has learnt through machine learning. It is in this way that we can work alongside AI assistants as colleagues.

BBD continues to invest time and skill in understanding how AI and machine learning can improve our software solutions. The answer lies in how so much of this technology is moving from the cloud to the bleeding edge of technology, and we have an opportunity to build this power into end user computing devices – enabling your new AI colleague to be right next to you, transparent and explainable.

Peter Scheffel

BBD CTO







As the dawn of 11th January 2019 approached, the SARS Projects Team hopped onto our luxury bus to embark on what would turn out to be an unforgettable team building adventure. After many miles, we arrived at the beautiful nature reserve, Sondela.

What awaited us was something out of a movie and thanks to 4trek Adventures, no setup was necessary! A full day's worth of activities was planned and so, with no time wasted, we tucked in. Shortly after a delicious breakfast, the team ventured off to the 4X4 obstacle course. Let's just say an array of emotions were felt once we knew what we were in for. In the end, everyone looked euphoric and some members of the team even felt like they had conquered their fears.

Our next adventure was none other than quad biking and wow, were the various views breathtaking. This was just what we needed right?! The 20-minute quad biking track allowed everyone to catch a glimpse of the beautiful reserve and what it had to offer.

After the adrenaline-fueled ride, we headed to a little pond where we had our next activity. It is said that a team that plays Kleilat together, stays together. Well, some members were left with bumps, cuts and bruises. Although a scary, yet ridiculous experience for those new to the game, learning to keep your hands dirty whilst trying to mould the perfect missile and aim, was truly entertaining for all.

Covered in mud from top to toe, we couldn't wait to jump into the pool before setting off to the next item on our to-do list. Yes, this does just keep getting better.

As dusk began to fall, we took off on a game drive unlike any we have ever been on – a tractor pulling a trailer with rows and rows of seats. Now, the game drive was not shy of booze, however, we did manage to at least see a variety of animals and awesome scenery.

Finally, the epic day ended with an incredible braai in the heart of the bush, featuring great food, interesting "beverages" and all sorts of conversations.

The proverbial "morning after" headache was definitely not absent, but well worth it as we all left with amazing stories to share about our little escape to Sondela.

Thabang Chiloane

BBD SARS TEAM





Rock around the block in a spot-free car

BBD offers free eco washes to employees every week to keep your car feeling great!

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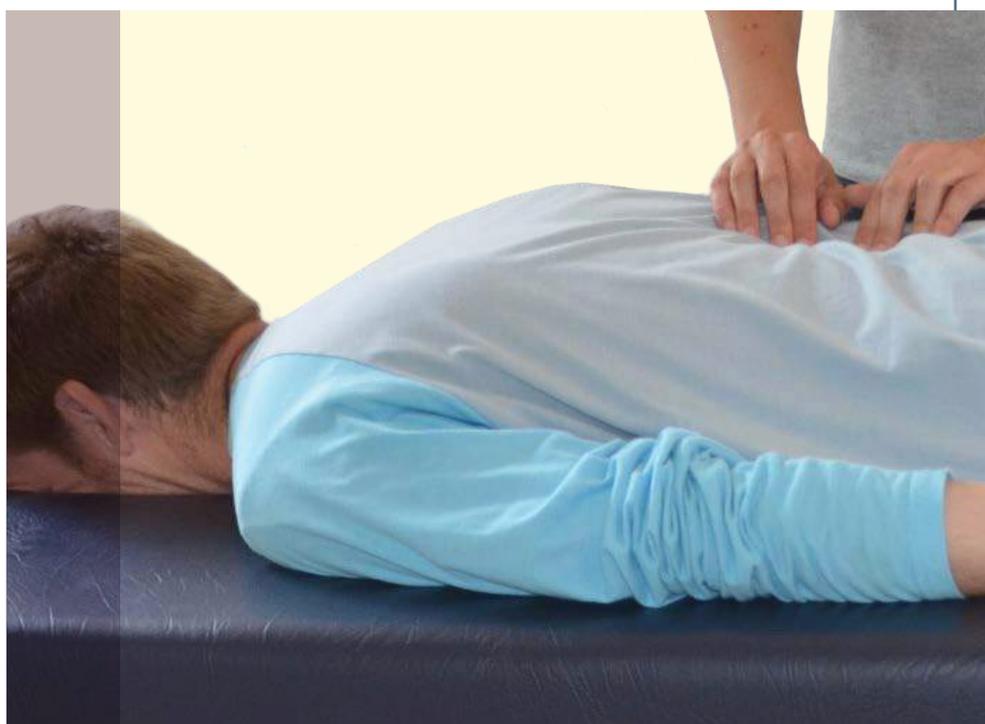
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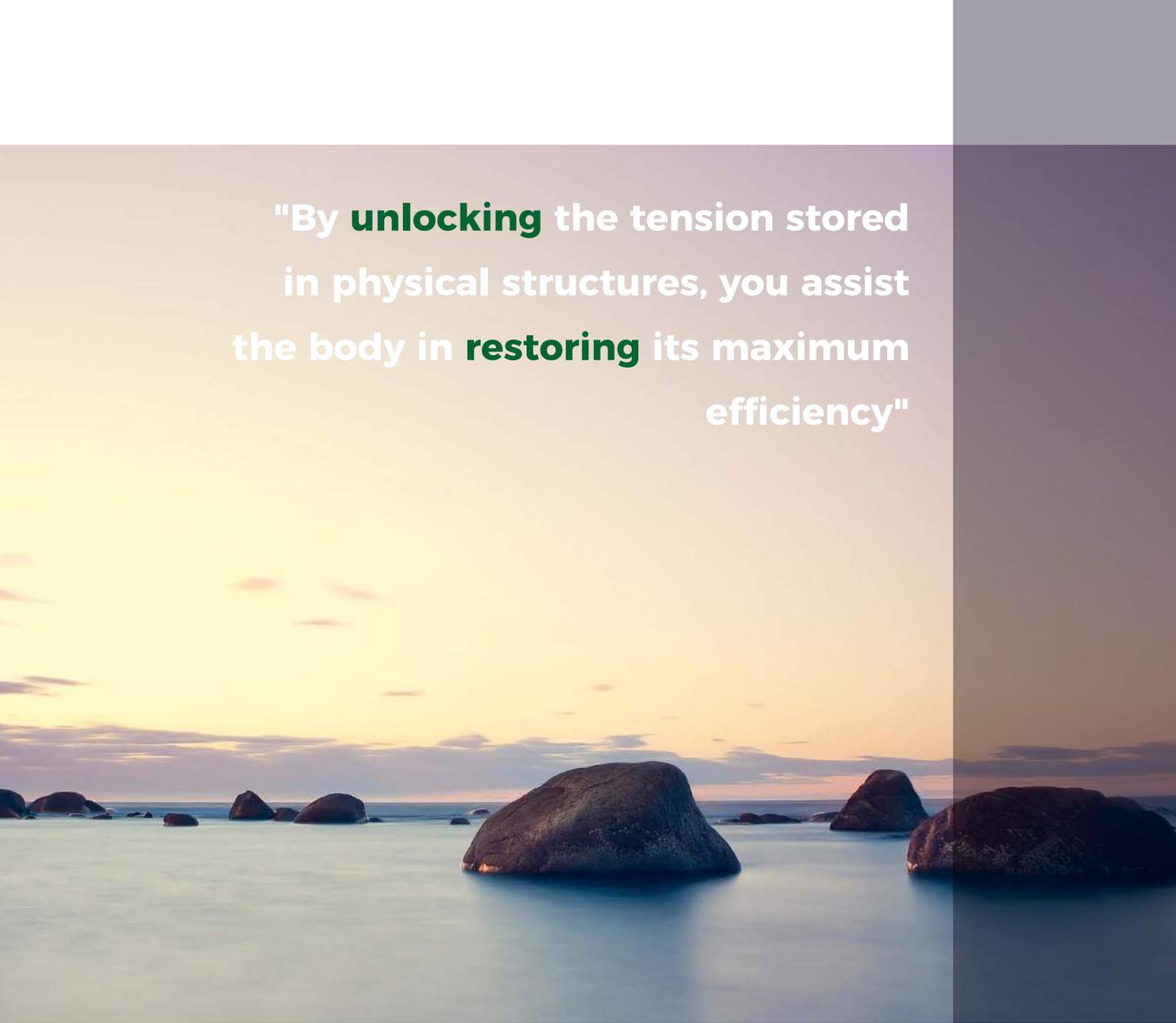
BODY STRESS

release

When normal stresses and strains reach the point of overload, tension may become locked into the body's physical structures. Over time this accumulative progression of body stress exerts pressure on the spinal nerves and may result in pain, numbness, muscle weakness, stiffness, distorted posture and impaired functioning.

Body Stress Release (BSR) is a gentle technique that assists the body in its own healing process and brings effective relief from many forms of tension, pain and discomfort caused by the build-up of stress in the body. When the stresses of life, whether mechanical, chemical or mental / emotional, reach the level of overload, the body is no longer able to adapt constructively. Stress becomes locked into the physical structures. This stored tension has an impact on the nervous system and undermines the body's natural ability to coordinate its functions to heal and maintain itself. BSR brings effective relief for back pain, various types of stress and even sporting injuries.





"By **unlocking** the tension stored in physical structures, you assist the body in **restoring** its maximum efficiency"

BSR does not use medication or machines, nor does it involve massage, manipulation, pressure points or energy meridians. It is practical and logical. BSR uses information provided by the body to determine where stored tension may be undermining the efficiency of the nervous system, disturbing the body's ability to co-ordinate its functions and perform at its full potential.

Whilst the body may let go of locked-in tension quickly in the first session, body stress that's been stored for a long time tends to return. More releases may be required over a period of time for the tight, protective layers of muscle to relax back to their normal tone. Typically, with a new client, a

BSR practitioner will schedule three initial consultations over a two-week period, after which many find regular (usually monthly) follow-ups to be beneficial. The long-term benefits of the practice often depend on the commitment of the client. As in the words of Hans Selye, "It's not stress that kills us – it is our reaction to it."

If you're interested in a session at the BBD Killarney office, send a mail to bsr@bbd.co.za to book a Tuesday or Thursday appointment.

Blake Roberts

BBD MARKETING TEAM

Why **iOS** is better than **Android**

(it isn't)



If you are building an app, the first decision you will have to make is whether to develop for iOS, Android or both.

Although Android is usually easier to start out with, it does require more of a time investment further down the line. Conversely for iOS, it's harder to get your app onto the App Store but once there, it's generally more maintainable in the long run.

The simple truth is that neither is better than the other. Deciding whether to build an enterprise app for Android or iOS depends on five factors: your audience, project timeline, start-up costs, app performance, and updates and security. It is the consideration of these key factors which ultimately makes the decision for you.

It has traditionally been seen as risky to build an app for both iOS and Android simultaneously as it allows for less flexibility and lower overall performance. However, Xamarin (the godfather of 'develop once, deploy everywhere') has been working actively to write code once and generate apps for both systems, which is something we are very excited about.

To counteract the risk that currently exists, we've found that many developers initially opt to build for one operating system (OS) and then launch on the other once the first version of the app is established and successful.

So how do you decide on which OS to initially build your app? Here are some pros and cons to help you make up your mind.

1. Your audience

Your audience's daily use is a huge contributing factor in deciding on an OS. Depending on your app complexity, your target audience might sway. For instance, if you are building a banking app, your biggest target audience will probably be on Android – purely because Android's range of products span so widely, and on average, has a 74.15% market share as reported by GlobalStats.

Another factor to consider is that many enterprises buy mobile devices for their users to lock down. It then depends on the client, their requirements, budget, whether the app is released to the public or locked down, and what device they generally use. These must all be weighed up before deciding on which OS to start with.

2. Project timeline

Time sensitivity plays a key role in the Android vs iOS conversation. Android allows for a quick release of your app. You don't need any specific hardware to build servers or provisioning profiles to start. You simply create a new app, put it in release mode, sign it with a regular distribution certificate, push it to the store and after a small review and quality check from Google, you're good to go.

iOS is usually a slightly longer process as you're required to send your app for Apple to test. Their submission requirements are very specific and often, if not followed to the tee, your app will be rejected. The process to get your app live on the App Store usually takes over a month on



How do you decide whether to launch your app on Android or iOS first? Here are some pros and cons to help you

average. Even though it's easier to launch your Android app, it can be harder to maintain across all the different platforms, resulting in more frequent crash notifications.

iOS is not shy of challenges, one in particular that needs to be tested against is a proper environment, meaning you cannot mimic a database. iOS also requires you to have a fully-fledged database or live server in place.

3. Start-up costs

Android may have a lower start-up cost but can get more expensive when testing farms are needed further down the road. On top of that, a new Android device or manufacture release could cause issues resulting in the need for dedicated resources, further increasing your expenditure.

iOS requires expensive physical hardware as well as a software specific developer's licence to begin, causing a slower turnover. A benefit of this is your final output quality. iOS is only available on Apple devices, and because of this the hardware offered on each model is very similar. Simply put, when you compile your code and your app works on a particular iPhone model, it will most often work throughout the range.

4. App performance and updates

Performance on iOS is very good. Their operating system is specifically designed for their hardware. Android's API

is built on so many layers and for various hardware, it simply cannot produce the same speed. iOS offers consistent and timely software updates and security patches. If you want the same experience on Android, you need to buy one of Google's Pixel phones.

5. Security

The main difference between iOS and Android with regard to security is how they are regulated. iOS has a closed system which helps to minimise security risks by enforcing rules on its developers to encrypt your information. Android developers only recently have been required to encrypt some of your data, but can generally get away with being lazy, causing your information to be slightly less protected. iOS has set the quality bar high and is highly respected by its users as they reject anything that does not match their requirements. Google, the mastermind behind Android, mines your information to sell better ads and market products to you, however, the same data is also used to provide you with a better AI experience.

Because both Android and iOS offer feature-packed platforms with far more similarities than differences, we can heartily recommend either on either. Our advice is to weigh up your pros and cons but ultimately, the choice as to which OS to start with lies with your project requirements.

Blake Roberts

BBD MARKETING TEAM

BBD MAKE-OVER

Creative spaces for creative solutions



S

oftware development is a creative profession, and creative professionals need a working space in which their creativity can flourish. That's what we've aimed for with the updated look and feel throughout our offices. From free-flowing areas with unexpected art, to quieter

hideaways for in-depth chats and a still moment, our workspaces help enable our teams to delivery innovative solutions every day.

As a nod to nostalgia in our tech-heavy lives, the large interactive chalkboard walls pose unpredictable questions to stimulate conversation and inspire the thinker within.

Our brand-new Cape Town digs suit the mood of the vibrant city and allow for productive days filled with original ideas.

Our people define our company, and this make-over is one of the ways we're working to ensure our teams and clients feel comfortable enough to think outside the box and challenge the expected.

01 THE JHB OFFICE

Free-flowing fecundity



Join in on a game of pool, find a cozy but cool meeting spot, brew your perfect cup of coffee or wind down on a Friday with a chilled glass of wine.

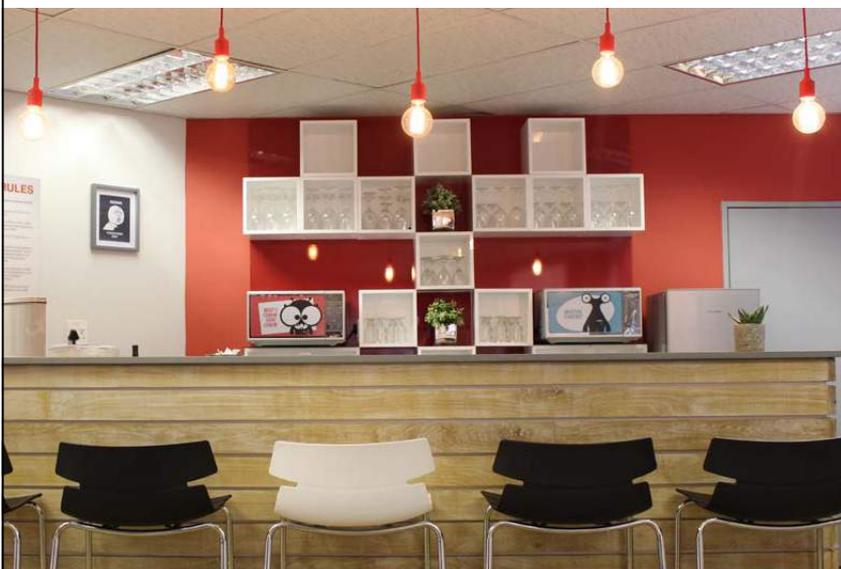


02 THE PTA OFFICE

The hottest place for cool people



Full of BBD flavour, enjoy every nook of our peaceful and stylish Pretoria office.

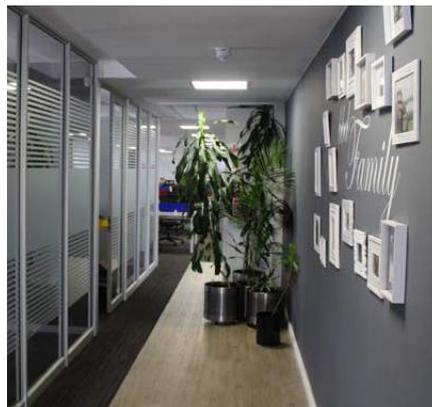


03 THE CT OFFICE

Spaces to inspire



Youthful and engaging, the new Cape Town office space is perfect for engaging your creative side.



04 THE INDIA OFFICE

The friendliest vibes



Energetic and full of life, the India office embraces all who walk through the door.





No more EdgeHTML

At the end of 2018 Microsoft announced their plan to rewrite the Windows 10 default browser using Chromium project, the heart and soul of Google Chrome.

This situation is interesting for a number of reasons.

Aggregated from multiple sources, Edge currently has about 2% of the global market share, while Internet Explorer 11 has roughly 3%. Microsoft has been trying to change people's perspective on moving from an old browser technology to a new one for a number of years. Microsoft has also written their own HTML rendering engine (EdgeHTML), and their own JavaScript engine (Chakra core). While both were well received, the reality of the situation is that the Edge team has been struggling to keep up with idiosyncratic bug fixes and have a limited ability to innovate.

With the viability of running their own HTML rendering engine dwindling, the Microsoft team decided to rather use the Chromium project to power Edge. With this decision, Microsoft intends to simultaneously align the Edge Web platform to Web standard and other Chromium-based browsers. Joe Belfiore, vice-president for Windows believes that this will deliver improved compatibility for everyone and create a simpler test-matrix for Web developers.

Chromium is the open source core of Google Chrome and is already used by browsers such as Opera and Samsung Internet. The decision came under immediate scrutiny and criticism, primarily by the open web pundits such as Mozilla, because they feel there is a monopoly by Google on 'critical web infrastructure'.

On one hand, the decision makes a lot of sense because it's just not practical for everyone to be re-implementing the same features over and over, while on the other we want different ideas and voices questioning and driving browser standards. This is the promise of open source - that we can all work together and push the web forward.

One last important point is that Edge has battled to take over from the aging Internet Explorer, in part because Edge only runs on the latest operating system (Windows 10). The move to Chromium as its core means that Edge can not only run on Windows 7 and 8, but on other operating systems such as MacOS. Edge 'can meet its users where they are' – a powerful idea for Microsoft as it transcends their Windows users.

Michael Geysler

BBD ATC TEAM



◀ / THE HUMAN INTERACTIVE PROTOCOL ▶

A COMMUNICATION PROTOCOL

In the IT industry, we often forget the soft skills which form an important part of our daily lives. To facilitate teamwork (and enhance client satisfaction) skills such as communication, leadership and time-management are essential.

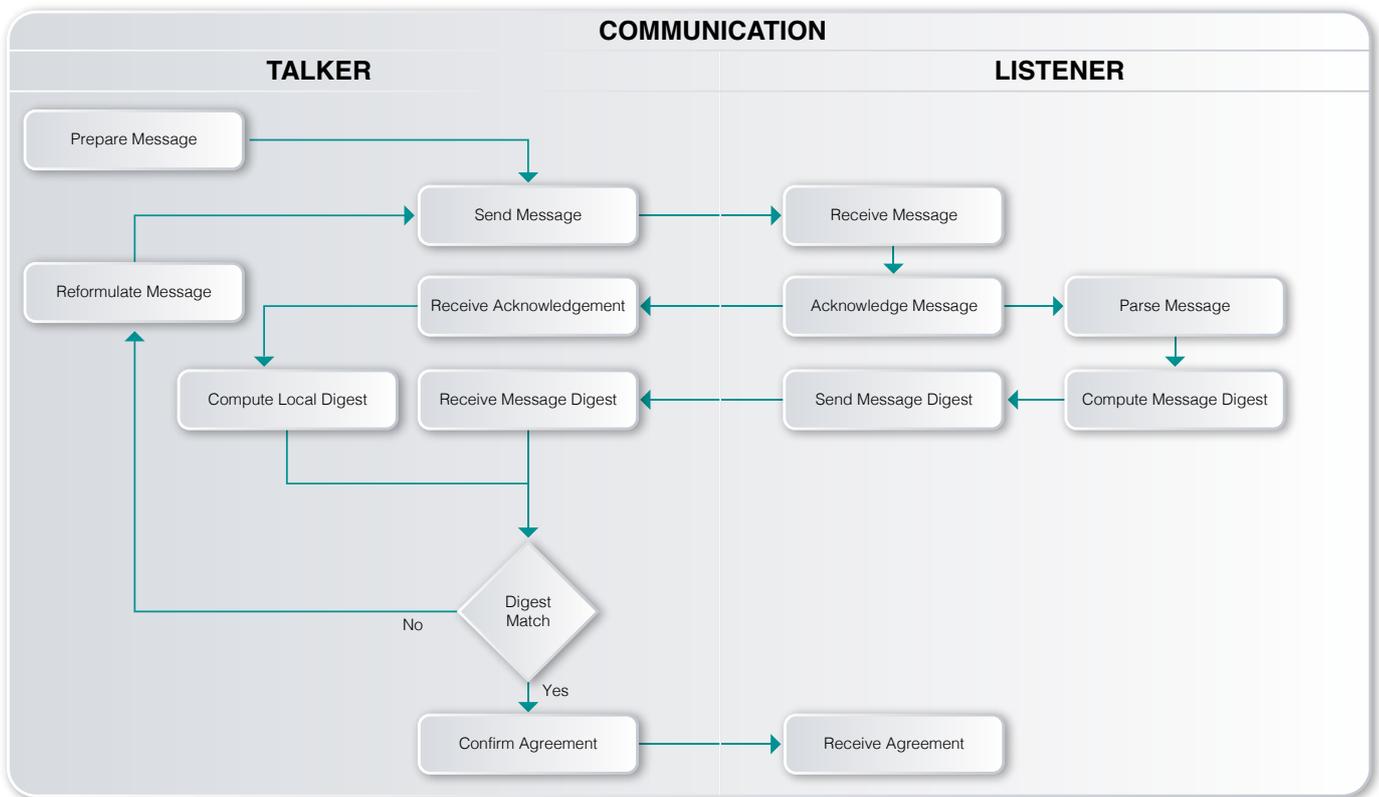
I had the opportunity to attend the excellent I Code Java conference with some BBD colleagues. Among all the technical talks, I unexpectedly found that The Human Interaction Protocol (HIP) talk resonated with me. The speaker had attempted to produce a protocol to describe the way that human beings communicate and spoke on some interesting concepts around teams and leadership.

The Human Interaction Protocol

Fundamentally, communication is the ability to share knowledge, and in a business environment, we need to make sure that our communication is effective.

The question is then, how do we measure the effectiveness of communication? The simple answer: communication can only be deemed effective if there is an agreement by both parties on the exact information that was transferred. By agreement, I mean that both parties agree on the information that was transferred, not that the parties agree on the validity of the information.

The activity diagram that follows shows a simple protocol that can be specified to govern human interactions. Such a protocol mitigates a lot of the problems of our day to day communications – no matter the form it takes.



API level negotiation

Many types of short-circuits and interruptions can be used to negotiate a higher-level API which enables faster communication (just like the HTTP protocol is built on top of the TCP / IP protocol).

For instance, the acknowledgement message can be skipped a lot of the time. The digest can also be skipped, and agreement assumed unless some kind of disagreement is communicated. More information can temporarily be transferred as a single message.

Importantly, there has to be concerted fall-back on the full, low-level protocol, whenever it becomes clear that there is a breakdown of understanding.

It is also conceivable that an API which works in one communication format may not be as effective in another. We could for instance, use a nod of the head to acknowledge the message when we can see the person we are communicating with, but this will not always work. Similarly, the API which developers use to communicate with each other may not translate well when communicating with a business user.

Absence of trust

In Patrick Lencioni's book, *The Five Dysfunctions of a team*, he attempts to inform us about what makes a dysfunctional team, namely: the absence of trust, fear of conflict, a lack of commitment, avoidance of accountability and the inattention to results.

Trust is the most important aspect in any team. The definition of trust in this context is the ability to make oneself vulnerable to other members of the team.

When there is a high level of trust, people should be comfortable with constructive criticism, but beware! Criticism can feel like an attack.

When giving criticism, follow these guidelines:

- Ask for permission
- State what you observed
- State the impact
- Wait for a response to your criticism
- Suggest the next steps

When receiving criticism, follow these guidelines:

- Wait! Stop your immediate reaction. First reactions tend to be emotional. Take a beat to listen
- Remember that getting feedback is beneficial (and crucial for your development)
- Listen until your critic is done. Even when you don't agree, let the other person finish
- Ask questions to understand the criticism fully
- Thank your critic for taking the time to bring the issue to your attention. They would not have bothered if they did not think you were worth their effort

Rudolph Esterhuysen
BBD NEDBANK TEAM

**"HOW DO WE
MEASURE THE
EFFECTIVENESS OF
COMMUNICATION?"**



O U R M A G I C A L S P A G E T A W A Y

With the warm welcoming of African drums lightly pounding away, we arrived at Mowana Spa.

After a speedy check in we were taken to luxurious change rooms where comfortable gowns and slippers awaited us, setting the mood for day of pampering.

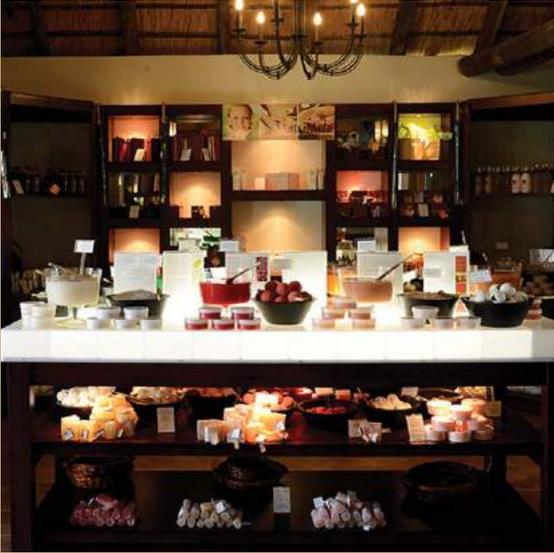
We tucked into a delicious and specially prepared breakfast while being treated with some creative face art. Before we set off for our first round of spoils, we were each assigned a personal masseur. The scents, sights and sounds of trickling streams all but pushed the busy Joburg from our minds as we walked through the spa to the first treatment. The head and shoulder massages won our hearts, with none of us wanting it to end.

You can never underestimate what hungry work relaxing is! After a tasty lunch (and a glass or two of wine), our afternoon sessions kicked off with a luxurious full-body massage. Because each treatment took place in a different venue, we had the opportunity throughout the day to explore all that the spa has to offer.

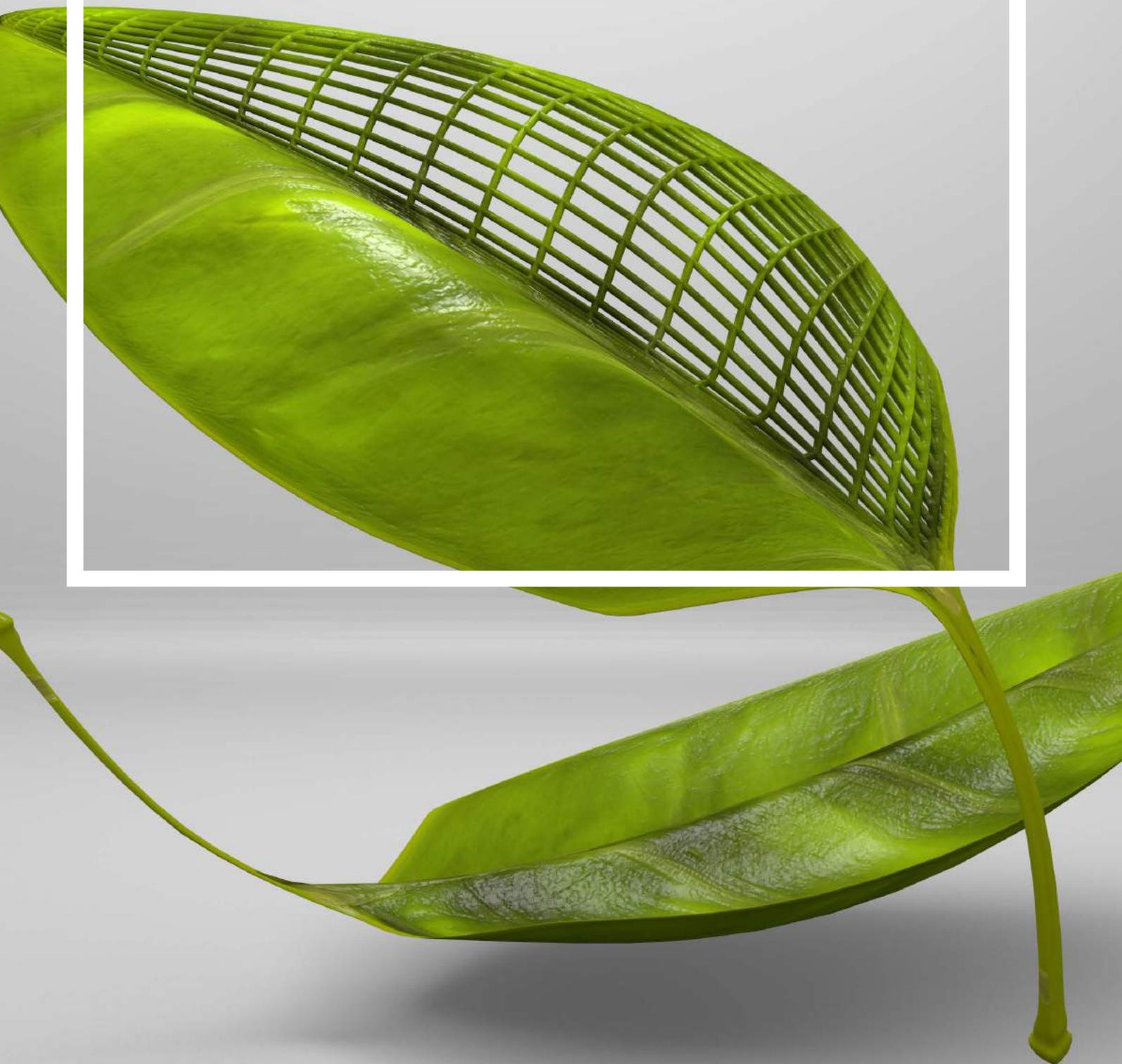
We were all so grateful for this opportunity to loosen our muscles and relax our minds. Thank you BBD for this wonderful gift!

Portia Xorile

BBD OMS TEAM



Printing a cleaner **environment**



Drop by The Hive to print your own 3D design

It's no secret that people have had some unique and fun ideas on what they can use 3D printers for. From housing to organs, 3D printing is allowing people to bring their imaginations to life. But did you know that it's also being used to help save the environment?

Here are three awesome ways people are printing a cleaner environment:

1

Ceramic coral reefs

Coral reefs are one of the most fragile ecosystems and are essential to marine life. Changes in the conditions around them can sometimes cause the reefs to become stressed. When this happens, they expel the symbiotic algae living in their tissue and turn white. If the stress continues, the reefs eventually die.

The Australian-based Reef Design Labs is printing ceramic coral reefs to help target small-scale reef restoration efforts. The fake reefs are believed to possibly be more durable in the changing ocean chemistry. Scientists hope that they will attract not only fish, but the baby coral polyps which will help re-establish these important habitats.

2

Shoes

Adidas and start-up Carbon revealed an innovative new shoe called the Futurecraft 4D. The soles of the shoes are 3D printed with a liquid resin that uses light to heat, shape and set the sole. The prints are done with zero waste material. Adidas' vision is to have people walk into a store, briefly run on a treadmill and then watch their

shoe print before their eyes, using a cloud-based software to tailor the soles to an individual's foot. Forbes reported that as many as 100,000 pairs of shoes would be printed by the end of 2018 – clearly showing that 3D printers could be used in mass production.

3

Jellyfish robots

A team of scientists have built 3D printed jellyfish robots which they hope will one day soon help patrol the oceans and monitor endangered coral reefs. Showing an impressive range of motion, these soft underwater 'jellybots' were inspired by nature and can swim through openings narrower than their bodies without the risk of damage or collision.

The project is still in its infancy, but the team hopes to further develop the robots by adding environmental sensors and navigational algorithms.



Scan the barcode for some cool 3D designs, then drop by an ATC & friends session in [The Hive at BBD Killarney](#) to print your own design on our 3D printer.

A TASTE OF INDIA

LAMB SHANK
VINDALOO



← **Tear here** to add this recipe to your collection



Ingredients

- 4 lamb shanks
- ½ cup apple cider vinegar
- ¼ cup vegetable oil
- 2 teaspoons salt
- 1 tablespoon tamarind concentrate
- 1 ½ tablespoons garam masala
- 1 onion, chopped
- 8 cloves garlic, peeled
- ½ cup sliced fresh ginger
- 1 cup cherry tomatoes
- ½ cup water
- 1 ½ teaspoons paprika
- 1 teaspoon ground cinnamon
- 1 teaspoon ground cumin
- 1 teaspoon ground mustard
- 1 teaspoon ground black pepper
- 3 tablespoons ghee
- 1 large onion, chopped
- salt and ground black pepper to taste
- 4 teaspoons brown sugar
- ½ cup fresh cilantro, for garnish (optional)

Recipe

1. Place lamb shanks in a large resealable plastic bag. Whisk together cider vinegar, oil, salt, tamarind concentrate, and garam masala in a bowl, and pour into the bag. Squeeze out excess air and seal the bag. Marinate in the refrigerator for 8 hours or overnight.
2. Preheat the oven to 230°C. Grease a foil-lined baking sheet.
3. Remove marinated lamb shanks and place on the prepared baking sheet. Season all sides with salt. Roast in the preheated oven until well-browned, 15 to 20 minutes. Reserve marinade in the bag.
4. Combine 1 onion, garlic, ginger, cherry tomatoes, and water in a blender and pulse on and off until smooth. Set aside.
5. Combine cayenne pepper, paprika, cinnamon, cumin, dried mustard, and black pepper in a small bowl.
6. Melt clarified butter in a large stockpot over medium-high heat. Cook and stir 1 onion until softened and well-browned, about 30 minutes. Reduce heat to medium and pour in cayenne pepper mixture. Cook and stir until spices are aromatic, about 2 minutes.
7. Pour marinade from the bag into the stockpot, and stir in tomato-onion mixture and brown sugar. Bring mixture to a simmer. Place lamb shanks in the pan and reduce heat to low. Cover and cook, turning occasionally, until meat is tender and easily pierced with a fork, 3 to 4 hours.
8. Remove lamb from the pot and cover with foil. Increase heat and simmer the sauce for a few minutes, skimming the fat from the top. Taste and add salt if needed. Serve lamb shanks with sauce spooned over the top. Garnish with cilantro.





GAMES NIGHT



The BBD JHB board game social kicked off with a bang this year! Although the games were great, the guys, girls and non-gamers who attended have made them that much better! I think it's safe to say that the evenings have been a definite success so far.

For those who aren't familiar with BBD's board game social, here's a little background on why these evenings should not be missed:

- A new experience unlike any you have tried before
- We host a wide range of new games especially ones you might not have even considered trying
- Meet like-minded people
- Have a set time, place and players to play board, card or roleplaying games
- Get to know your work colleagues
- Build team morale
- Exercise your mind
- It's a load of FUN!!

Countless games were played including Ticket to Ride, Lords of Waterdeep, Elysium, and many rounds of Camel Up. The recurring cry for just "one more game!" is commonplace even though people need to head home to their responsibilities!

Our JHB games evening happens usually around the third Wednesday of each month in the canteen from 17:00. There is also an established games evening in the Pretoria office. Catch the players either Wednesday or Thursday, each alternate week from 17:30. Wednesdays are dedicated to a set DnD game, while Thursdays are open card and board games nights.

Keep an eye on the public@bbd.co.za email alias for more info on the games on offer in Joburg each month. We'll also include a link to BoardGameGeek so you can find out about each game and learn to play beforehand.

Even if you're just coming for some socialising and a slice of pizza, come through to check out these awesome evenings.

Luke Carmichael

BBD NEDBANK TEAM





SHOUT IT OUT

Anything exciting to **share** with BBD?

Whether you've racked up an award, found a sick new game or have been on an epic adventure – **we want to know!**

Mail marketing@bbd.co.za and we'll give it a shout-out!





BE THE HERO

+ **BBD**
BLOOD
DRIVES

Each time you donate you **save three lives**

Help us reach our goal of saving **300 lives** this year by **encouraging others to donate**



SCAN TO SEE CURRENT **SANBS**
BLOOD STOCK LEVELS



Another contender enters the ring, and this time from a rather unexpected place. Electronic Arts (EA) has released Apex Legends, their take on a battle royale that not only came out of nowhere, but took everyone by surprise. Gaining over 50 million players in it's first month, it stands very close to being a worthy contender in the genre.

Taking cues from both Overwatch and Fortnite, 60 players are split into teams of three in the battle arena where they have to gather resources to help them along. While trying to take out opposing squads, the playing field reduces in size forcing everyone closer together, until only one team remains alive. You can select one of eight unique legends to play, each with their own abilities and traits, lending them to fit into more specific roles such as medic, scout, skirmisher etc.

What makes this one so special? Why did people fall all over Apex Legends when there's already so many battle royale

games out there? Not only does it have gorgeous graphics and smooth gameplay as one would expect from the developers at EA, it's free-to-play. It seems to have been an olive branch from EA to its fanbase after the disaster surrounding Star Wars Battlefront II and its micro-transactions in 2017. Combine that with the fact that it was an unannounced surprise from a massive gaming dev house and you've got yourself a AAA battle royale title.

It's available on PS4, Xbox One as well as PC via Origin. Give it a go if battle royales are your thing. I'll let you decide if it's the next best thing since Overwatch and Fortnite.

Antoinette Henn

BBD ACTURIS TEAM





"Nooo! This cannot be!" The all too familiar words of Oryx the mad god rings through the halls once more as 50 odd players rush to where he once stood, each hoping to have received adequate compensation for assisting in defeating the final boss. Excitement fills the air as the few lucky players proclaim their newly acquired loot, the rest returning to the realm in hopes of facing the boss once more.

This is Realm of the Mad God, the game that advertises itself as a unique take on the MMO-RPG genre. Instead of traditional tab targeting, the game has the player firing away at enemies by pointing his cursor, all the while frantically dodging bullets fired back, and there's a lot of them. If you've played any shoot 'em up games in the past, you'll know exactly what to expect.

Though it retains all the traditional features of a good MMO-RPG; loot, dungeons, classes, levelling etc, it also

comes with a twist... permanent death. That's right, whether you spent 5 minutes or 20 hours on your character, if it dies, you lose your character forever, along with everything you were carrying around on that character at the time. As much as it can be frustrating, it also adds a certain level of excitement to the game. Entering dangerous areas can be risky, but extremely rewarding when you make it out on the other side with one of the most coveted swords in the game.

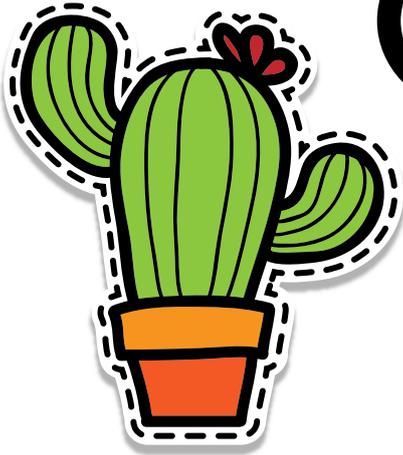
Realm of the Mad God will make your heart race, and occasionally raise your blood pressure out of pure rage, but it's an experience not to be missed! You can play it for free on your browser, or you can download the client on Steam for a better experience.

Claris Richter

BBD STDB TEAM

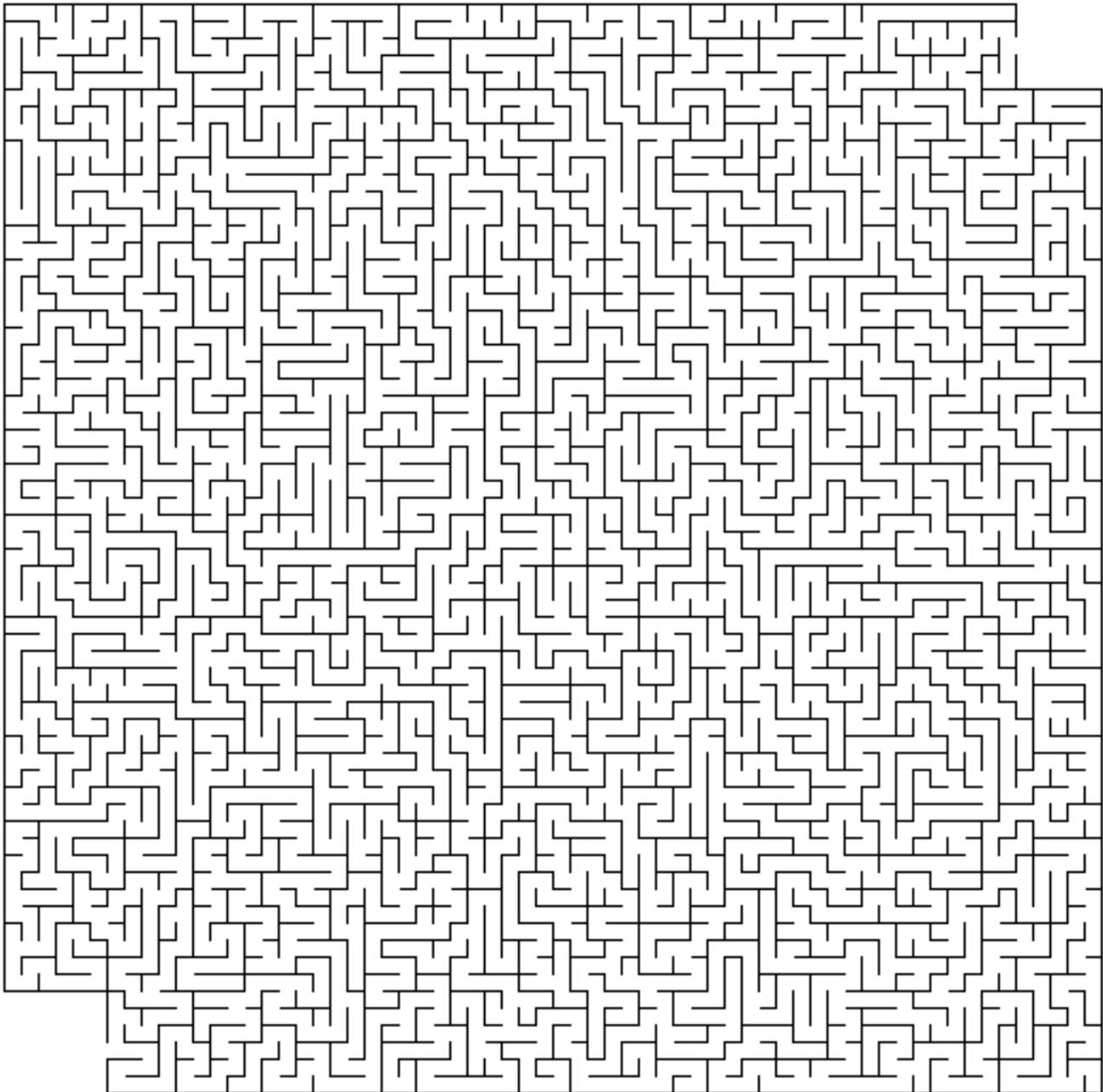
COCKY

CORNER



PREPARED TO BE A-MAZE-D?

Find your way through this intricate puzzle. If you're brave enough, try it in pen!



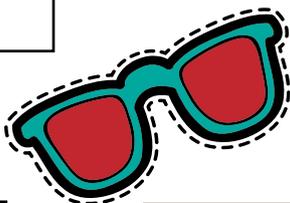
ANAGRAM

How many four letter or more words can you make from the letters in the block? Each word must contain the letter in the light grey block, but you can only use the others letters once per word. No proper nouns, foreign words or abbreviations.

E	U	S
E	N	M
G	R	T

RIDDLE ME THIS

- 1) When you have me, you immediately feel like sharing me. But, if you do share me, you don't have me.
- 2) Which travels faster? Hot or Cold?
- 3) What makes more as you take them?
- 4) When can you add two to eleven and get one as the correct answer?
- 5) Arnold Schwarzenegger has a long one. Michael J. Fox has a short one. Madonna doesn't use hers. Bill Clinton always uses his. The Pope never uses his. What is it?
- 6) First I threw away the outside and cooked the inside, then I ate the outside and threw away the inside, what did I eat?
- 7) What can you hold without ever touching or using your hands?



SCATTERBRAIN

Oops! It seems we've done it again. Help us remember the answers to the questions below and you could win a know-it-all prize! Email marketing@bbd.co.za with the correct answers by the end of June 2019 to enter.

What email address do we use to share all non-business related communication?

Who were the February 2019 nomination award winners?

What is BBD's current B-BBEE level?

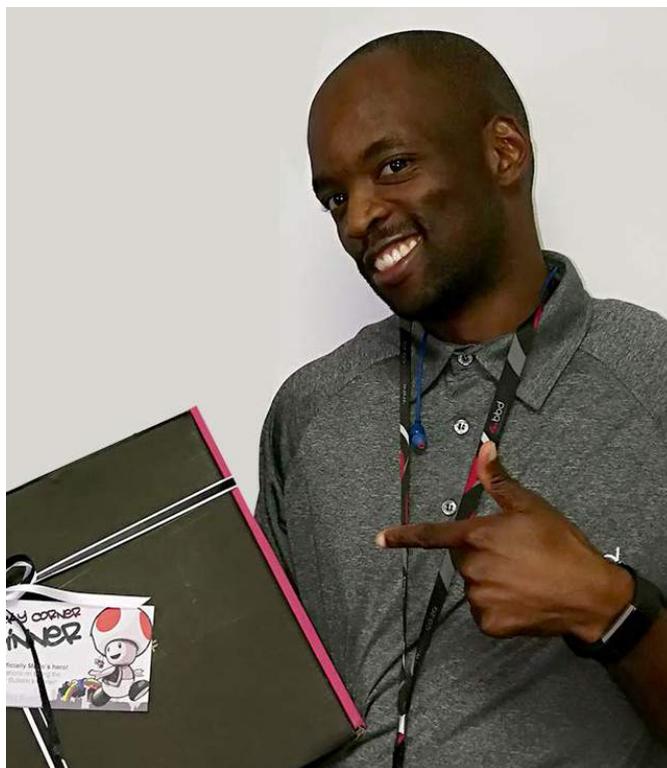
How many Duvet Days leave can you get as an award nominations winner?

What game is played every alternative Wednesday evening in the Pretoria office?

Who all was on the winning team for the BBD Game Jam?

Name one factor that influences your decision in developing an Android or iOS app?

What colour are the orchids in the BBD Pretoria office?



DECEMBER WINNER

Congratulations to Kabelo from BBD SARS team



Answers to riddle me this: 1) A secret 2) Hot is faster coz you can catch a cold 3) Footsteps 4) Add two hours to eleven o'clock, you get one o'clock 5) Surname 6) Corn on the cob 7) Your breath

