



### **ENGAGING GOVERNMENT ON ICT**

Assisting to transform the South African government

### **MAINTAINING OUR LEVEL 4 B-BBEE**

Despite stricter new regulations

### **EMPLOYEE RECOGNITION**

Meet our employees going beyond the call of duty

### **2017 SINGAPORE CGAT CGAT CONFERENCE**

Making BBD proud

### **GAME ON**

What's hot in the gaming world

# BBD BULLETIN

**AUGUST** EDITION // 2017





10



24



6



60



08



42



32



20



46



44



38



62



54



72

# CONTENTS

---

**06** NOTE FROM THE ED

**08** INFORMATION STATION

**10** AWARDING TOP BBD EMPLOYEES

**16** BBD GROUP STRUCTURE

**18** MAINTAINING LEVEL 4 B-BBEE CERTIFICATION

**20** ENGAGING GOVERNMENT ON ICT

**22** MID-YEAR STAFF UPDATE

**24** 2017 OLD MUTUAL JOBERG2C

**28** EXCITING UPDATES IN ACTURIS, DHA AND SARS TEAMS

**31** WE ARE HIRING

**32** PIZZA AND JAVASCRIPT AT JOZI.JS

**34** SOARING TO NEW HEIGHTS

**38** AWS-JOZI UP AND RUNNING

**40** BBD MANNEQUIN CHALLENGE

**42** DAILY GOOGLE SEARCHES > 3.5 BILLION

**44** SHAKA BRAH, GAME DRIVES AND ZIPLINING

**46** AKKA.NET AT DEVCONF 2017

**48** TECH TALKS

**50** RIDE FOR SIGHT

**52** WELLNESS DAY 2017

**54** HEALTH UPDATE: ALUMINIUM

**56** LUCKY DOES THE 2017 COMRADES MARATHON

**60** GEEKFEST 2017

**62** GAME ON

**66** SUPERFOODS

**68** WHAT MAKES YOU HOT!?

**70** CHEF SEAN COOKS TEXAS-STYLE SMOKED BRISKET

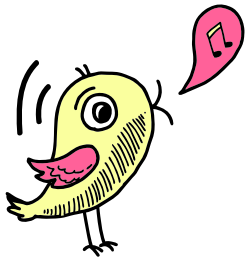
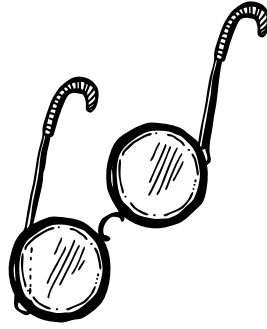
**72** COCKY CORNER



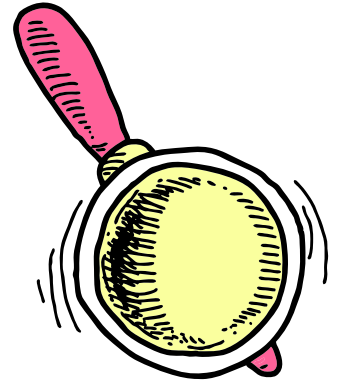








Artificial intelligence (AI) is no longer only to be seen in movies. Today AI is enabling machines with capabilities previously only possessed by humans e.g. processing natural language or visual information. A recent McKinsey discussion paper highlights how AI is delivering real-life benefits e.g. Amazon acquired robotics company Kiva, to automate picking and packing and reduced their “click to ship” cycle time from 60 minutes with humans down to 15 minutes with Kiva, while their inventory capacity has increased by 50%.



What does AI mean in BBD’s software development world? Smarter tools could ensure smarter consumer-facing applications for our clients—using AI to hear, speak, sense and act for users. A 2016 Forrester AI report identified how DevOps teams could use AI very effectively on the debugging front through data analysis capabilities.

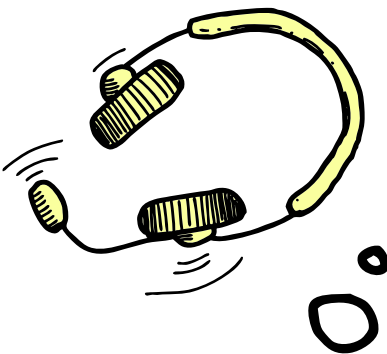


As showcased at the 6 June BBD mid-year update, other technologies making work and life easier include the cloud; with the lifecycle of cloud software development and deployment becoming much faster and more responsive to the changing needs of companies. Online learning has also been accelerated with many options available for easy ways to learn, in your own time and pace.

The world has come a long way from early AI characters such as C-3PO in Star Wars. Who knows, the next Note from the Ed could be written by a marketing bot!

In this edition we showcase our BBD staff running and cycling, unpack the state of the gaming nation, mix with muggles at events and provide updates on exciting meet-ups.

If you still like the personalised, human touch, email us your ideas and suggestions for the BBD Bulletin at [marketing@bbd.co.za](mailto:marketing@bbd.co.za)





# b b d AWARD NOMINATIONS 2017



## ABOUT AWARD NOMINATIONS

These awards recognise **exceptional solutions, service delivery** and **excellence** within the company by rewarding BBD staff members who **go beyond the call of duty** for our clients and colleagues. Those who are “**doing what it takes**” so to speak.

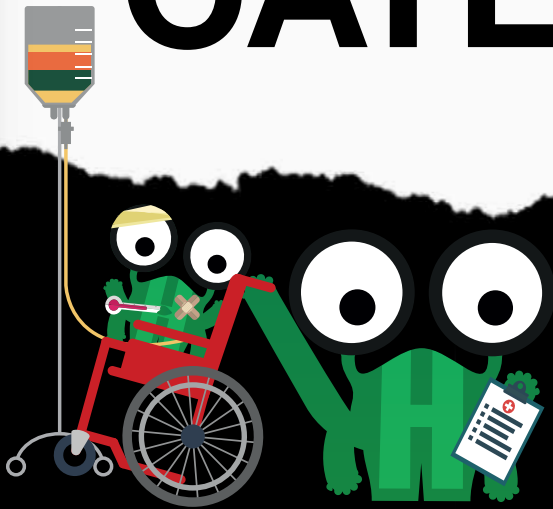
- Any BBD staff member can be nominated for any category
- Two winners are selected every month
- Nominations run from February to October
- Yearly award winners are announced in November

Winners are chosen monthly and can pick an awesome prize, get to nominate a **BBD approved charity to receive R1,000** and are eligible to be considered for the **big yearly award of R120,000:**

**1<sup>st</sup> R60,000 // 2<sup>nd</sup> R40,000 // 3<sup>rd</sup> R20,000**



# THE CATEGORIES



## HYPE

### HELPING YOUR PEOPLE

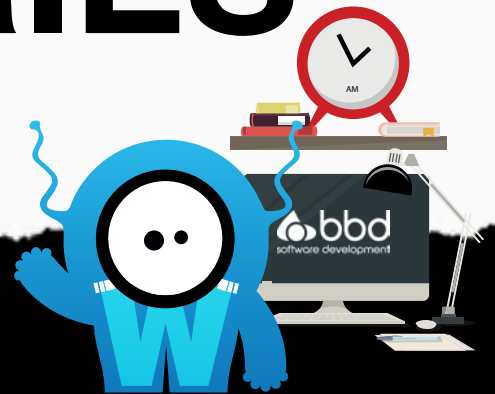
Recognising the individual who always delivers an extraordinarily high standard of work, and is acknowledged in their team as a mentor, sharer of skills, time and knowledge.



## GROW

### GRASPS OPPORTUNITIES & WISDOM

This category recognises the improvement and development of skills. A person who takes initiative to develop and improve their career through continuous learning and skill acquisition and successfully seek out training or on-the-job opportunities for developing skills.



## WIT

### WHATEVER IT TAKES

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



## STEALTH

### THE SILENT OPERATOR

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



## UBA

### ULTIMATE BBD AGENT

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

## MARCH WINNERS



### LERATO MASEKWAMENG

Lerato has grown from a quiet BA fresh out of varsity to a fierce, knowledgeable BA that is driven to deliver quality and is no pushover. She is respected and relied on by the client and her team for her knowledge and drive, ensuring only quality is delivered. Passionate about her product, Lerato does not give in easily. She has grown into an amazing BA and reflects what BBD does best.

**Charity of choice:** Door of Hope



### TARINA VAN ZYL

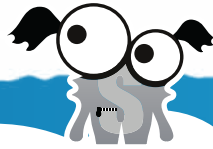
Tarina has saved the team umpteenth times with last minute testing, thoroughness and dedication. She is an absolute pleasure to work with and is constantly going out of her way to help the team achieve in an extremely challenging and high pressure environment. Tarina's approach to her work and unwavering resolve is exactly what we look for in our people.

**Charity of choice:** CANSA





## APRIL WINNERS



### STEALTH

#### KEABETSOE MAUTLA

Keabe is an outstanding leader who is silent yet steadfast. She is an exceptionally dedicated and valued member of the team, who is always on top of her game. The epitome of stealth, she exudes every characteristic of a true silent operator. The positive impact Keabe has made within BBD is keenly felt by everyone who has had the privilege of working alongside her.

**Charity of choice:** Door of Hope



### LOUIS LEWIES

Louis is exceptionally hardworking and committed. He does whatever it takes to get the job done, while making the time to teach those less experienced than him. Even under great pressure, Louis plays an important role as our software architect. He writes code that is clean, reliable, easy to maintain and test. Whether we need the latest technologies introduced to the team, new devs to be upskilled or seemingly impossible deadlines to be met—Louis can always be relied upon.

**Charity of choice:** Animal Anti-Cruelty League



#### RAVINDRA GADIPARTHI

Ravindra is dedicated, innovative and always ready to help his teammates. He has worked relentlessly to ensure that all project deadlines are met by going out of his way to help teammates with difficulties. Through his comprehensive understanding of the framework, he has also automated time-consuming processes that have hampered productivity for most of the developers. Ravindra has become a much sought-after resource in a short amount of time.

**BBD India nominee**

### HYPE



## MAY WINNERS



### VAUGHAN QUINTON

Early in... late out, pressure or not. Vaughan assists his teammates with everything they do while still producing his fair share and then some. The contributions he has made, and continues to make, towards improving our output in both quality and quantity have made a massive impact.

**Charity of choice:** Sandton SPCA



### XOLA RADASI

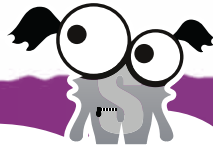
X, as we affectionately call him, is part of our support team. This means he has to diffuse a multitude of tense situations on a regular basis. He does his job with a level of poise, elegance, charm and reassurance. He also brings an exciting and fun dynamic to the team. Xola is our ultimate BBD agent!

**Charity of choice:** Children of Fire





## JUNE WINNERS



### STEALTH

#### BANDILE NDLELA

He puts his earphones in and works, very quietly. When you need help from Bandile he is always there. I don't know what he listens to but it seems to put lots of knowledge in his head as he knows a lot. Bandile is very reliable and always available with the correct information.

**Charity of choice:** Door of Hope



### GROW

#### THOMAS BEZUIDENHOUT

Thomas has taken it upon himself to rewrite a system that most people only dared to, and he did this very quickly. He has shown massive growth in the team and become the go-to guy for certain projects.

**Charity of choice:** Hospice WITS



### WIT

#### KEAGAN THOMPSON

Even as a junior on the DHA team, Keagan contributes and is truly committed to do whatever it takes to ensure the timeous delivery and success of tasks and the overall project. He is always prepared to find a way to learn and do whatever is needed to ensure the success of the project. Keagan works hard, not just normal working hours, doing what is needed to complete the tasks and projects on time. He is motivated and has a can-do and will-do attitude!

**Charity of choice:** Animal Anti-Cruelty League





# BBD GROUP



BBD's core business is bespoke software development, consulting, integration and system support and maintenance. We are South Africa's premier provider of these services with the longest track record and the largest skills base.



BBD Pune compliments BBD SA's core business by attracting the most talented individuals that one of India's top university cities has to offer. As Pune is a growing IT hub, BBD Pune is also able to access specialist skills that are scarce in South Africa.

## innosys

InnoSys, a subsidiary company of BBD, is a specialist in the development of custom software systems for the South African, UK and European insurance industries. InnoSys has extensive insurance knowledge and experience in the development, implementation and post-implementation support of systems across a range of short term, life, commercial and specialist niche insurance domains.



MVT Technologies is a co-operation between BBD and Hloni Nthako, an entrepreneur passionate about enabling technologies and focuses on providing bespoke software solutions in identity management and verification in both the public and private sector.



# BBD GROUP STRUCTURE



**Sphere Investments** // 49.9%  
**Broad Based Educational Trust** // 1.1%

**BBD Management** // 49%



**BBD** // 100%

**innosys**

**BBD** // 73%

**InnoSys Management** // 27%



**BBD** // 49%

**MVT Management** // 51%





# PREMIER VERIFICATION

B-BBEE Verification Certificate

Issued to:

**Barone, Budge & Dominick (Pty) Ltd**

1 Newtown Road, Killarney, 2193

Company Registration: 1984/007889/07

VAT: 4070111713

**LEVEL FOUR (4) CONTRIBUTOR**  
**B-BBEE RECOGNITION LEVEL- 100 %**

*Generic Scorecard -*

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

Criteria	Result	Weight
Ownership	23.61	25.00
Management Control	9.10	23.00
Skills Development	16.00	20.00
Enterprise & Supplier Development	47.51	50.00
Socio-Economic Development	12.00	12.00
Overall Result	108.22	130.00
Priority Elements Achieved	Yes	
Empowering Supplier	Yes	
Nature of Business	Real estate and other business services industry (excluding financial intermediation and insurance)	

Element	Result
Black Ownership	51.01%
Black Female Ownership	14.76%
Designated Group Supplier	No
Modified Flow Through Applied	Yes

Re-Issue Date	Not Applicable
Issue Date	27 June 2017
Expiry Date	26 June 2018
Certificate Number	PV_1706026

  
Matthew Kearns  
Premier Verification (Pty) Ltd



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](http://www.premierbee.co.za)



As a level four contributor, BBD shows an ongoing commitment to all the different aspects of B-BBEE. The different 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 recent change in the B-BBEE ICT sector codes has meant that social initiatives are now focused on helping South Africans cross the digital divide. BBD's level four 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.



# ENGAGING GOVERNMENT ON ICT

Transforming the South African economy

BBD and its B-BBEE partner, Sphere Holdings, believe in actively participating in dialogue with the South African government on economic matters to drive growth for South Africa.

The recent PBF Presidential Gala Dinner was a great platform for the business community to engage with leading government figures. This event kicked off the 2017 National Policy Conference and provides opportunities for the corporate sector to network with government and ministers at various dinners and breakfasts.

The conference runs over five days and BBD took a stand at the exhibition to further engage in strategic relationship building.

Showcasing the value of the conference as a platform to promote issues pertinent to ICT, BBD was able to talk to various ministers and leaders in government. These included the Minister of Home Affairs - Professor Hlengiwe Buhle Mkhize, the Minister of Social Development - Bathabile Dlamini and various mayors who all showed interest and wanted further engagement with BBD.

*Muzi Matlala*  
BBD SARS TEAM









# Mid-Year

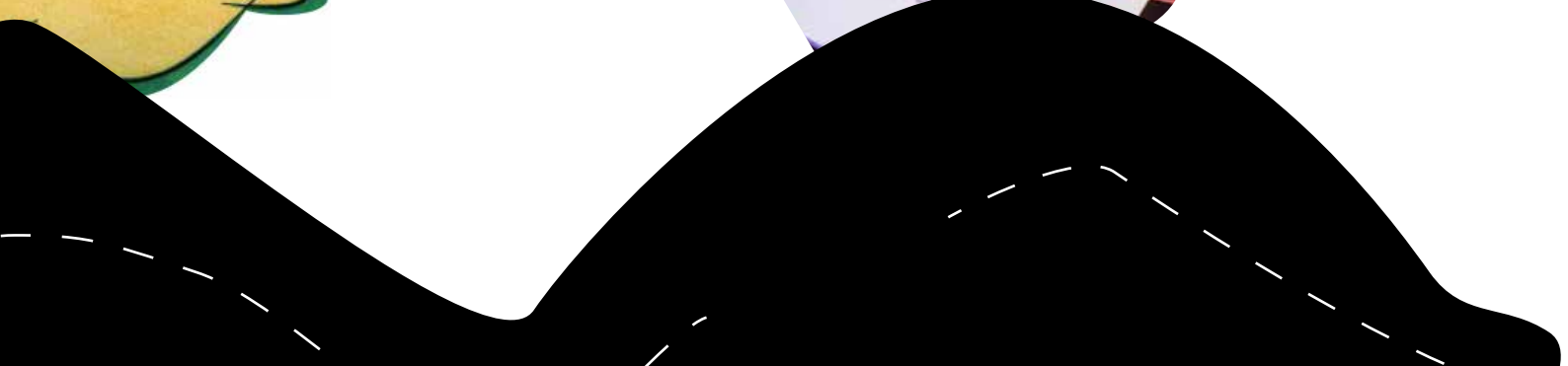
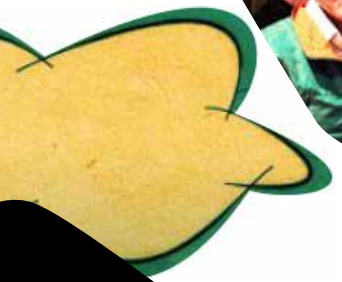
## update

---



Our 2017 Mid-Year Update took place Thursday 6<sup>th</sup> July 2017 at The Venue, Melrose Arch. After an overview by BBD CEO Peter Searle, the fun started with a hypnotist and an entertainer!

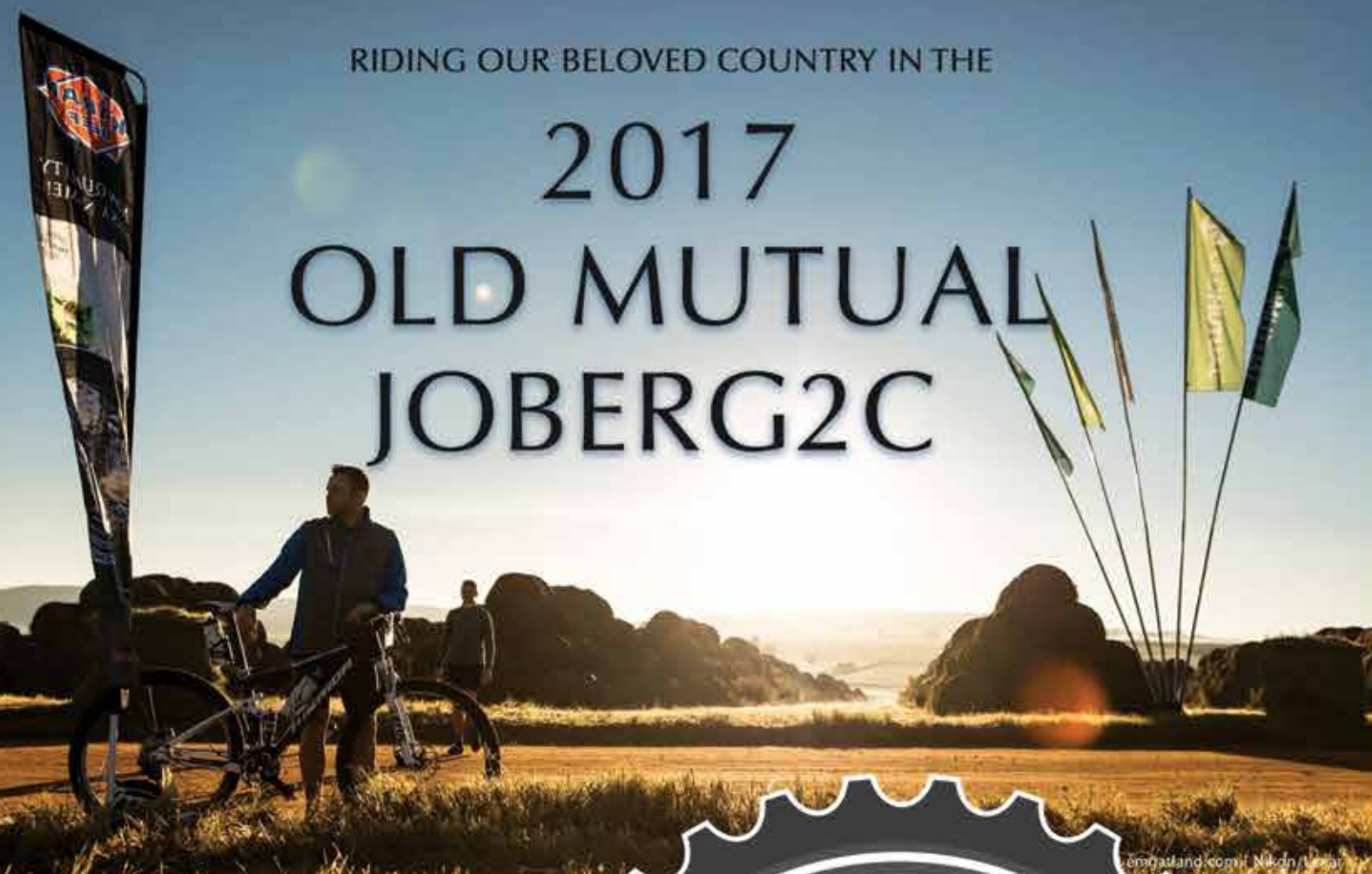






RIDING OUR BELOVED COUNTRY IN THE

# 2017 OLD MUTUAL JOBERG2C



## Day 1

### Karan Beef (Heidelberg) to Frankfort Sports Grounds

Mike Murphy, Gus Pringle and I lined up alongside approximately 800 riders for an epic nine-day, 900 kilometre mountain bike race across South Africa.

We started off day 1 with a longish 116 kilometres, leaving Heidelberg on a single track and "not so fun next to the Vaal dam" grassy track. Day 1 is not a racing stage and all riders merely need to finish. **This prompted Gus to really enjoy the craft beer at the second "water" stop.** Overnight was at Frankfort, with classic "boere" hospitality supplied by a local school and farmers.







# Day 2

## Frankfort School to Reitz Showgrounds

The basic routine for every day went as follows:

- Wake up early and decide on degree of cold you could deal with at the start line and for the first few kilometres and dress accordingly
- Ensure all items for the day such as food, liquid, tools, helmet, parts and more are packed
- Eat breakfast
- Get bike from bike park. Do basic check of bike
- Pack up stuff in bag and drop off at trucks to take to finish for the day
- Go to start and position yourself in bunch near the front, ready for manic rush
- **Evaluate success of early morning ablutions and possibly repeat**
- Start, ride, have fun, finish
- Take bike to mechanics. Go shower. Eat lunch. Relax. Meet for beers and speak a lot of rubbish
- Check email and WhatsApp. Charge all devices. Check on bike. See medics for saddle sores
- Drink lots of free and delicious coffee from Seattle Coffee Co, served with a smile every time. Eat dinner and agree on morning schedule. Sleep

Each day's start was wild as a testosterone fueled leading bunch fought to keep up with the true pros. The potential for an accident in the first 15 kilometres was huge!

Day 2 was 93 kilometres of "scenic" mielie fields with just enough single track to take your mind off the grassy tracks and district road. We had to deal with wild tractor drivers on one or two occasions, who really did not seem to like cyclists that much. The finish at Reitz saw us being well looked after by the local school and farmers.

Saddle sores started becoming an issue (apologies for the vivid image), which resulted in a raw and bleeding backside. This was my own fault as I had changed my seat two weeks prior to the ride.



# Day 3

## Reitz to Sterkfontein Dam

This was a long hot day comprising 122 kilometres from Reitz to the Sterkfontein Dam. Riding was fun due to more single tracks and the Mount Paul descent, which Gus flew down at phenomenal speed.

Dinner was a super tasty potjie. Overall the food was top class with many tasty offerings and, despite riding at over 80% heart rate for four to five plus hours on most days, **we all gained weight.**



## Day 4

### Sterkfontein Dam to Emseni

We had a decent climb to the top of the Drakensberg escarpment and a traverse along the top, including the well-known "great wall my china" followed by a "balls to the wall" descent and loads of top quality single track interspersed with some climbing.

A visiting team from the British army took time off to ride up Spion Kop, which overlooks the finish at Emseni camp, near Winterton.

As the three of us had **mutually moved to a "more beer less stress" strategy**, we took time off to sample a fair bit of the Nottingham road brewery beers.



## Day 5

### Emseni to Clifton (Nottingham Road)

**One of the harder stages** with 122 kilometres of riding including a few big climbs. This was the stage that the three of us had thought would be the toughest, yet **day 6 was to hold a few surprises for us**. The finish had moved from my 2014 favorite of Kamberg to Nottingham Road, which was not a good change in my opinion. However, we were superbly hosted by Clifton Prep School on their spectacular school grounds.

## Day 6

### Clifton (Nottingham Road) to Glencairn Farm (Sani Pass Road)

As billed by the Joberg2C website, this day was "a mix of massive climbs and scintillating descents including the notorious Gumtree climb and the iconic Harrison's Pass". From my perspective, it was a day of pain as I crashed on the so called "iconic Harrison's Pass" and struggled from then on, with it feeling a lot longer than the approximate 100 kilometres.

Gus and Mike both seemed to cruise this stage. The good news was that aches and pains from my crash trumped suffering from saddle sores. The bad news was that the **aches and pains from my crash now trumped suffering from saddle sores**.





## Day 7

### Glencairn Farm (Sani Pass Road) to Mackenzie Club

For those who have done it, this is day 1 of the sani2c cycle race which is a fast 82 kilometres from Glencairn Farm in Himeville to Mackenzie Club near Ixopo. Again a bit of a wild start with some tense moments in the bunch.

**Awesome single track riding relegated all aches and pains to "who cares",** as we flew through a superb day of riding.

## Day 8

### Mackenzie Club (Ixopo) to Jolivet (Highflats)

This is day 2 of the sani2c route, with a twist in that the route changed to include a new climb out of the Umkomaas Valley. After what is a **legendary and exhilarating descent into the valley**, the new climb aptly named iconic, certainly pays you back.

Gus experienced chain challenges, making us question the price and value of the mechanic package. I managed to stay upright for the whole day, while Mike had the best time amongst the three of us and many other riders.



## Day 9

### Jolivet (Highflats) to Scottburgh (The Old Mutual Wealth "Champagne Stage")

The racing was over and we only had to finish the day to be categorised as a finisher of the JoBerg2c and to achieve an official position and time.

Unfortunately, the day produced a high-speed crash for me, while Gus performed miracles for an unknown rider by converting expensive electronic Shimano gears into a single speed to allow the rider to finish. Mike cruised to the end, keeping up his consistent solid riding across the previous eight days. He **only had one incident during the entire race when he rode over a South African Olympic gold medalist** on day 3!

Gus and I had competed as a team and finished 6<sup>th</sup> in our vet men category and 27<sup>th</sup> overall. Mike competed as an individual and finished 54<sup>th</sup> overall, 25<sup>th</sup> in the solo men category and 11<sup>th</sup> in the solo men vet category.

If you enjoy mountain biking this is 100% a ride worth doing.

Peter Searle  
BBD CEO





## **BBD** ACTURIS TEAM

This year we celebrate 17 years of working together with Acturis to deliver an outstanding product.

Acturis is the leading SaaS (software-as-a-service) provider to the general insurance industry in the United Kingdom, with a 15-year unbroken track record of user and revenue growth. With BBD as a development partner, Acturis won the Insurance Times Award and the Tech Growth Company of the Year Award in 2016.

Our team of 45 proudly went live with one of our biggest releases to date, with a staggering 104 change requests delivered. With a user base of 14,000 active users per day, our application programme interface (API) serves

approximately two million web requests, generating upward of 10 million back-end calls.

The next release will see our mobile offering go live with iOS and Android as the target platforms. This was made possible with the implementation of the .NET core framework and Xamarin development environment. Leveraging off the teams' experience and knowledge in C#, we are able to deliver native iOS and Android applications.

*Francois van Niekerk*  
BBD ACTURIS TEAM







## home affairs

Department  
Home Affairs  
**REPUBLIC OF SOUTH AFRICA**

BBD has been involved with the DHA modernisation journey since 2012, assisting them to realise their vision of improving service delivery, reducing fraud and introducing a new Smart ID card.

The DHA:

- Is the custodian, protector and verifier of the identity and status of citizens and other residents of South Africa
- Controls immigration and the movement of persons through South Africa's ports of entry
- Provides civics and immigration services at foreign missions
- Determines the status of asylum seekers and refugees in accordance with international obligations

The introduction of the new Smart ID card has had a profound impact on securing each South African citizen's identity.

BBD implemented complex workflows to reduce fraudulence within the central investigation process. We integrated various government systems to introduce a consolidated single-system, providing the DHA with a single-view into the processes affecting citizens. This consolidated system integrates with core DHA systems such as the National Population Register, the Home Affairs National Identification System (biometrics) and the Government Printing Works.

Unbelievable but true, somewhere in South Africa there is a person born before 1900! While processing this citizen, we detected an obscure python 2 bug (or lack of feature), as certain python datetime functions do not work at all for years before 1900, as the `strptime()` method is restricted to years  $\geq 1900$ .

*Streicher Stegmann*

BBD DHA TEAM





**BBD**  
SARS  
TEAM

BBD's journey with SARS started over 10 years ago in 2006, when we embarked on a programme to modernise their tax systems. The SARS project grew rapidly and soon BBD ventured "north" and opened the Pretoria office in 2007/2008.

SARS is responsible for all revenue collection in South Africa. This includes direct taxes like income tax on companies and individuals as well as indirect taxes such as VAT, PAYE, dividends tax, excise and customs duties. In addition to revenue collection, SARS ensures taxpayers and traders comply with their legislated tax obligations by identifying and reviewing potential non-compliance. SARS also collaborates with National Treasury to perform fiscal planning in the short, medium and long term.

**The BBD SARS team is responsible for:**

- SARS Service Manager, a branch front-end used by ± 8,000 agents
- A telephony solution used in SARS contact centres
- ATP (Automated Tax Processor), an orchestration layer which has processed close to 7 billion messages to date between the core tax systems of SARS and their external systems such as eFILING and e@syFile.

On a lighter note, these two channels and the auto correct feature in Microsoft Office have resulted in many Freudian slips over the years where e@syFile often became EasyFly and eFILING became EFling! Tax can be frivolous and fun with the help of Microsoft.

We have been privileged to contribute to the evolution from a paper driven tax return process to a completely digitised capability. Although the team continues to deliver enhancements to the tax processing solutions, the focus is shifting towards bulk data processing solutions such as AEOI (Automatic Exchange of Information). This will enable South Africa to participate in an international agreement to exchange financial information with revenue authorities throughout the world using Common Reporting Standards.

*Sue van Eeden*  
BBD SARS TEAM





# we are hiring!

If you are interested in joining the BEST software engineers at SA's largest bespoke software development company, email [recruitment@bbd.co.za](mailto:recruitment@bbd.co.za) now!

## LOOKING FOR


- Java developers
- JavaScript developers
- C# developers
- Mobile developers
- C++ developers
- Business analysts
- Test analysts

## BBD OFFERS

- Projects in all the latest technologies
- Work across all major industries
- Mentorship & personal growth
- Regular company sponsored training
- Partnerships with major international & local software organisations
- Internal R&D department
- Free vending machines
- A casual & fun culture
- Reward programmes
- The top software development employer in SA to have on your CV

• jhb • pta • cpt • india





# Jozi. JS *Meetup*



## An amazing combination of pizza, community and JavaScript...

JavaScript has become one of the most popular and widely used programming languages in the world. In a large part, this is due to the amazing community and ecosystem that has developed around the language.

To try and foster this community locally, BBD has become involved in organising and hosting Jozi.JS, a meetup group dedicated to all things JavaScript. The group meets on the third Thursday of the month at BBD in Johannesburg from 18:30 to 20:30.

There are typically two speakers at each meetup, presenting on different topics: one 'lightning talk' of 15 minutes and a full presentation of 45 minutes.

A wide range of topics have been covered so far this year, including:

- Server side rendering
- React Native
- ClojureScript
- Redux and WebSockets
- Asynchronous control flow patterns

I encourage you to sign up to the Jozi.JS meetup group and come to the next event to learn something new. Or even better, share your knowledge by volunteering as a speaker.

Michael Geyser  
BBD ATC TEAM



**SCAN** QR CODE TO GO TO THE  
JOZI JS MEETUP PAGE

OR ALTERNATIVELY VISIT  
[WWW.MEETUP.COM/JOZI-JS/](http://WWW.MEETUP.COM/JOZI-JS/)

# SOARING TO NEW HEIGHTS

After rescheduling our team build due to adverse weather conditions, the perfect day dawned on the 5<sup>th</sup> of May. Despite being cold and dark at 5am, we were all at the office and rearing to go with excitement for a balloon ride over Harties!

As we arrived at the balloon launching site we were in awe of the huge, bright balloon flat on the ground and enjoyed hot chocolate while waiting for it to inflate.

The balloon started rising slowly off the ground and then it was up, up, up and away for the most serene, quiet and beautiful experience you can imagine!

We stood in marvellous awe of the wonderful and powerful creation, without fear but admiration of the oldest mountain range in the platinum belt of Magaliesburg and the golden hills of the Gauteng reef.

After an hour in the air it was time to land. As you are totally dependent on the wind direction, our pilot Mark advised if you can land the balloon at the same site where you launched it from, it's like getting a hole-in-one in golf.

Afterwards we had a delicious champagne breakfast, which included celebrating Jabu's birthday.

Then it was off to Lion Sands for quad biking and lunch. We meandered through the park on the quad bikes and saw giraffes, blue wildebeest and nyalas - not even deterred by the sound the bikes made. We stopped at the "beach" a picnic spot close to the river to relax a bit before our journey back to camp, where lunch was served at the Lazy Lizard.

After our adventurous day out we are now ready for any challenges our clients might send our way.



Anneke Schutte  
BBD MSDF TEAM





**Hot air ballooning in Hartbeespoort**



**Quad biking at Lions Sands**





# SHOUT IT OUT

Send us any news or info that you would like to share with the rest of the business

to [marketing@bbd.co.za](mailto:marketing@bbd.co.za)







Remember the 2017 goal is 100 pints - 300 lives.





# aws JOZI



Jozi **Amazon Web Services (AWS)**  
User Group



**SCAN** QR CODE TO GO TO THE  
JOZI AWS MEETUP PAGE

OR ALTERNATIVELY VISIT  
[WWW.MEETUP.COM/AWS-JOZI/](http://WWW.MEETUP.COM/AWS-JOZI/)





Started in May this year, AWS-JOZI is a face-to-face user community and meets every third Monday of the month in Johannesburg. Topics will cover technical aspects of AWS feature use and implementation. Real-world use cases are featured, highlighting learnings and what has and hasn't worked.

The first session took place at BBD's offices on the 15<sup>th</sup> May 2017 and provided an overview of AWS and serverless architectures; allowing developers to focus on code and their business problem, rather than spending time looking after back-end infrastructure. Serverless architecture also assists developers to quickly build scalable, high-performing and cost-effective applications. The evening closed with how serverless architecture and AWS Lambda can make things easier, cheaper, and accelerate development of projects.

The second event dealt with Kubernetes and took place on the 19<sup>th</sup> June at VAT IT. Having run Kubernetes on AWS for around a year now we shared tips and tricks, dos and don'ts as well as some funny stories. Other areas of discussion included Terraform, EC2, S3, Certificate Manager, VPC, EC2 Container Service and Route 53.

If you're a cloud evangelist, design/implement or service AWS based solutions or you would just like to get started - come along to our next AWS-JOZI meeting.

Rory Preddy  
BBD ATC TEAM

# The BBD Mannequin Challenge

## CURTAIN CALL ON THE MANNEQUIN CHALLENGE

A BIG thank you to the 9 teams who have entered... we are ec**STATIC** with the videos that have been submitted.

Head on over to Youtube by scanning the below QR code to view all the submissions.

Vote for your favourite entry by liking the video.



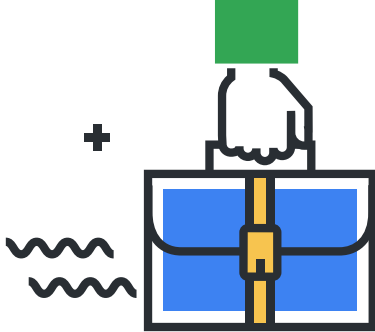






The average number of Google searches per day has grown from 9,800 in 1998 to over 3.5 billion searches today. While having access to the “sum of all human knowledge” is very convenient, Google has fundamentally changed the way we work and not everyone feels that it is for the better.





Research<sup>1</sup> has revealed that college students remembered less information when they knew they could easily access it later. The students had a better recall of where and how to find the information than the content. Our brains have developed to store pointers instead of objects, with us relying on Google for long-term storage. Due to the vast amount of knowledge we are exposed to daily, our brains are coping by disregarding information after it has served its purpose<sup>2</sup>, leading to poor long-term memory recollection.

For those of you who have pored over stacks of programming books and memorised every detail – respect! American writer and futurist, Alvin Toffler, said "Knowledge is knowing... or knowing where to find out". I believe a person will only remember a finite amount of facts at any one time and Googling to find solutions to a complex problem that someone else might have encountered is not a bad thing. This is how design patterns were born and still form the basis of many well written applications, more than 25 years after the original Gang of Four's book<sup>3</sup>.

Developers are paid to write code and solve problems and should not be reverting to Google to write code, implement a simple algorithm or logic and develop a list or a queue. It is your responsibility as a respected professional and subject matter expert to have a sound knowledge base, built up from your previous experience and exposure.

Overall, Google has made developers more productive, but in some other ways we have become so reliant on it that many of us might need to seek alternative employment without it! If you want to be a really great developer you need to break the Google habit and reserve it for exceptional cases, if only to make sure you're capable of solving things without it when the need arises.

### References

1. *Science Mag*, 2011, *Google Effects on Memory: Cognitive Consequences of Having Information at our Fingertips*, Betsy Sparrow, Jenny Liu and Daniel M. Wegner
2. *American Journal of Geriatric Psychiatry*, 2009, *Your Brain on Google: Patterns of Cerebral Activation during Internet Searching*, Gary W. Small, M.D., Teena D. Moody, Ph.D., Prabha Siddarth, Ph.D., Susan Y. Bookheimer, Ph.D.
3. *Design Patterns: Elements of Reusable Object-Oriented Software*, Erich Gamma, Richard Helm, Ralph Johnson and John Vlissides

Lodewyk van der Merwe

BBD NEDBANK TEAM









# Shaka Braah

## **Game drives, buck droppings, ziplining and “shaka bras” at the Facilities team build.**

Excitement and anticipation were the reactions after we received word that Facilities were to go on a team build!

We met bright and early to leave for our destination, Magaliesberg. With a breakfast stop along the way, there was plenty of debate amongst the team on what the day’s activities would be as all had not been revealed.

Our venue proved to be a game park. On arrival, we were whisked off on a game drive, taking in the beauty of nature, including the option of tasting buck droppings, which funnily enough was not bad at all. All that driving and “eating” makes one thirsty and refreshments were served enroute to the base camp.

Ziplining was another excitement on the day, with 10 cabled slides to negotiate, gaining in speed from the first to the fifth and some up to 140 metres in length and 30 metres above the canopy floor. The approach to the fifth zipline was the fastest and required us to “brake” with our gloved hand. But being the Facilities team nothing scares us and a few “shaka bras” later it was all done and we were walking back to the base! The shaka bra is when your picture gets taken halfway down the line as you yell out shaka bra!

The smell of braai meat teased our taste buds when we got back to the hotel and we had a delicious lunch and much needed refreshments.

The afternoon wound down with time to relax around the pool, practice our shots using a slingshot and acorns as ammo and touching base as a team.



# devconf;







## > DevConf 2017, Akka.NET creating better solutions for tomorrow's problems <

DevConf 2017 included interesting talks, but the one which stood out for me was the Akka.NET presentation titled "concurrent programming and distributed computing", exploring how to use the Akka framework to create a concurrent and distributed system.

Akka.NET is a Java adoption to the .NET world, giving life to distributed processing frameworks. Actors are used as single units of work, that can be executed on similar or different hardware, as well as spawning other actors. This creates a framework whereby a process can be broken down into constituent parts, to be executed anywhere with Akka. Remote.

Akka.Net is resilient by design, offers incredible performance with low memory footprint and has multi-configuration modes for concurrency and distribution. While the race for enhanced processing power has been on the decline in favour of more CPUs, this is a turning point for developers. Gone are the days we can merely throw bigger servers at the problem, we now need to write better and faster units of work.

Microsoft has also adopted this ideology with .NET Core, a high performance light weight version of the .NET stack. With Akka.Net there are no complex timing services that one would normally couple with queue processing services such as RabbitMQ and MSMQ.

Cloud computing is becoming easily available worldwide, yes you heard correctly, local Azure data centres are coming to our shores in 2018 and Amazon is already here. Our development models should also move towards a different model with processing power shared on remote cheap hardware to offer better solutions for tomorrow's problems.

*Trevor Mahon*  
BBD PCS TEAM



## ENERGY



GEOTHERMAL  
ENERGY

[http://www.ucsusa.org/clean\\_energy](http://www.ucsusa.org/clean_energy)

Geothermal energy is the heat from the Earth. It's clean and sustainable. Resources of geothermal energy range from the shallow ground to hot water and hot rock found a few miles beneath the Earth's surface, and down even deeper to the extremely high temperatures of molten rock called magma.

In the decades ahead, geothermal energy is expected to boom as scientists find a commercially viable way to tap energy deep beneath the Earth's crust.

Overseas, researchers in Iceland have spent several years drilling straight into volcanoes to access very hot water and magma deposits, with an eye toward

eventually developing these high-temperature resources into far more prolific geothermal power stations. The goal is to develop more advanced technologies that can be exported in the next decade.

If that research pays off, it could soon be possible to tap much hotter geothermal resources around the globe that can produce 10 times as much energy as today's geothermal facilities. It might even one day be feasible to drill geothermal wells offshore; researchers estimate that massive stores of heat energy are reachable just 1,000 meters below the seabed at the Juan de Fuca Ridge off the coast of Washington state.



Scan to watch the video  
Iceland: Geothermal Energy  
United Nations



Scan for more information  
Spherical Sun Power  
Renewable Energies



Scan for more information  
Saltwater Osmotic Energy  
National Geographics





<http://renewables.herholdts.co.za/the-spherical-sun-power-generator/#sthash.5ktVTtCY.dpuf>

## THE SPHERICAL SUN POWER GENERATOR

German Architect Andre Broessel believes he has a solution that can “squeeze more juice out of the sun”, even during the night hours and in low-light regions. His company Rawlemon has created a spherical sun power generator prototype called the beta.ray. His technology will combine spherical geometry principles with a dual axis tracking system, allowing twice the yield of a conventional solar panel in a much smaller surface area.

The futuristic design is fully rotational and is suitable for inclined surfaces, walls of buildings, and anywhere with access to the sky. It can even be used as an electric car charging station.

“The beta.ray comes with a hybrid collector to convert daily electricity and thermal energy at the same time. While reducing the silicon cell area to 25% with the equivalent power output by using our ultra transmission Ball Lens point focusing concentrator, it operates at efficiency levels of nearly 57% in hybrid mode.



[news.nationalgeographic.com/news/energy-osmotic-energy-norway](https://news.nationalgeographic.com/news/energy-osmotic-energy-norway)

## SALT POWER OSMOTIC ENERGY

The world's first osmotic energy plant has been operating for more than three years in Tofte, Norway, on the Oslofjord inlet. Statkraft is seeking to ramp up its efforts to produce renewable energy from the physical interaction of saltwater and freshwater.

Osmotic power, also known as “salinity gradient” power, relies on a rather basic physical process called diffusion. Salty water molecules tend to move into freshwater nearby. It happens wherever rivers meet the sea, creating energy in the form of heat. Place a semipermeable barrier between the saltwater and the freshwater, and the diffusion of molecules through the membrane

is osmosis.

For decades, reverse osmosis has been used to filter water. Sidney Loeb, the American chemical engineer who is credited with developing a practical reverse osmosis process in the 1950s, later developed a technique for capturing the energy in the rush of saltwater to the freshwater side of a membrane.



# RIDE FOR SIGHT



**THE ANNUAL DIS-CHEM RIDE FOR SIGHT HAS BEEN TAKING PLACE SINCE 1987 AND RAISED OVER R4 MILLION FOR 'A CURE IN SIGHT' FOR BLINDNESS RESEARCH PROJECTS.**

It's been a year since I not only started cycling but also did my first Ride for Sight cycle race!

This year I was keen to better my time, aiming for a sub two-hour ride, knowing I'd have to push hard to achieve this.

A nice surprise was bumping into my cousin and I was proud to show off my new BBD cycling shirt. Together we made our way to the starting lanes and I was excited to see if I had improved my fitness and endurance and to just have some fun and ride for a good cause.

The race got off to a great start and I felt confident, so I joined a peloton on the flat stretch to make some good distance and time before the more challenging

part of the race. The day was hot and my prediction of wind came true a little later when we had to face head on winds for most of the way home.

I won't lie, the last 15 kilometres was tough. Fatigued, numb in my hands and other places from battling against the elements, I pushed on to get to the finish line to enjoy an ice-cold Coke with a 5 min faster time than last year:

**Race time:** 02:07:56  
**Avg speed:** 29.08 km/h  
**Position:** 536/1616

Next year I will push harder to get a sub 2 and won't let anything hold me back!

*Terence Welby-Cooke*  
BBD ABSA TEAM





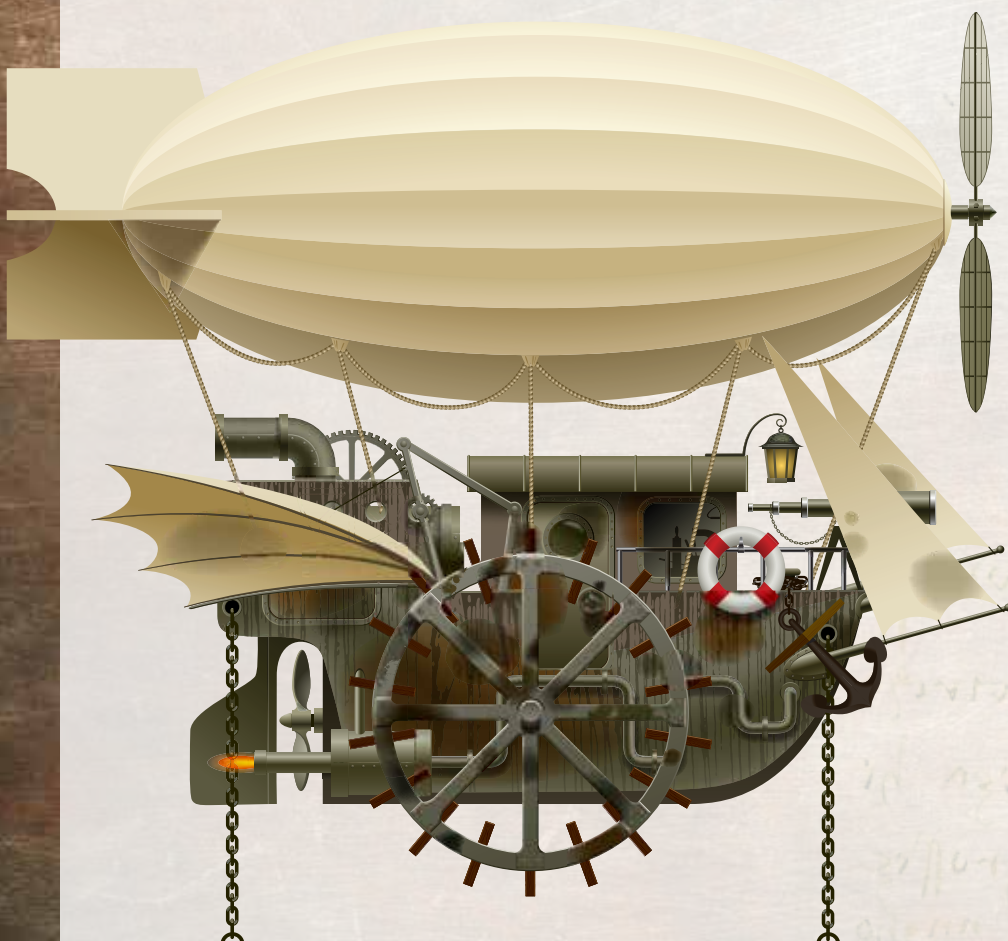




# STEAMPUNK

## Wellness day

# -2017-



The **BBD Wellness Day** took place on the 26 May 2017, across our Johannesburg, Pretoria and Cape Town offices. Staff were treated to a huge variety of healthy food options, virgin cocktails and different therapies. These ranged from acupuncture and biopic scanning to colour therapy, laughter therapy, reflexology, manicures and an optometrist. Medical tests were also available for staff to gauge their health. The theme for the day was steampunk and BBD areas involved were innovatively decorated to add a sense of excitement.









# Health update:

Are YOU aware of the products that contain aluminium?

Aluminium is the most abundant metal in the earth's crust: versatile and lightweight, soft and durable and extremely reactive when combined with negatively charged ions to form compounds such as aluminium oxide or aluminium sulphate.

This sounds like quite a mouthful but what does this really **MEAN** for **YOU** and **I**?

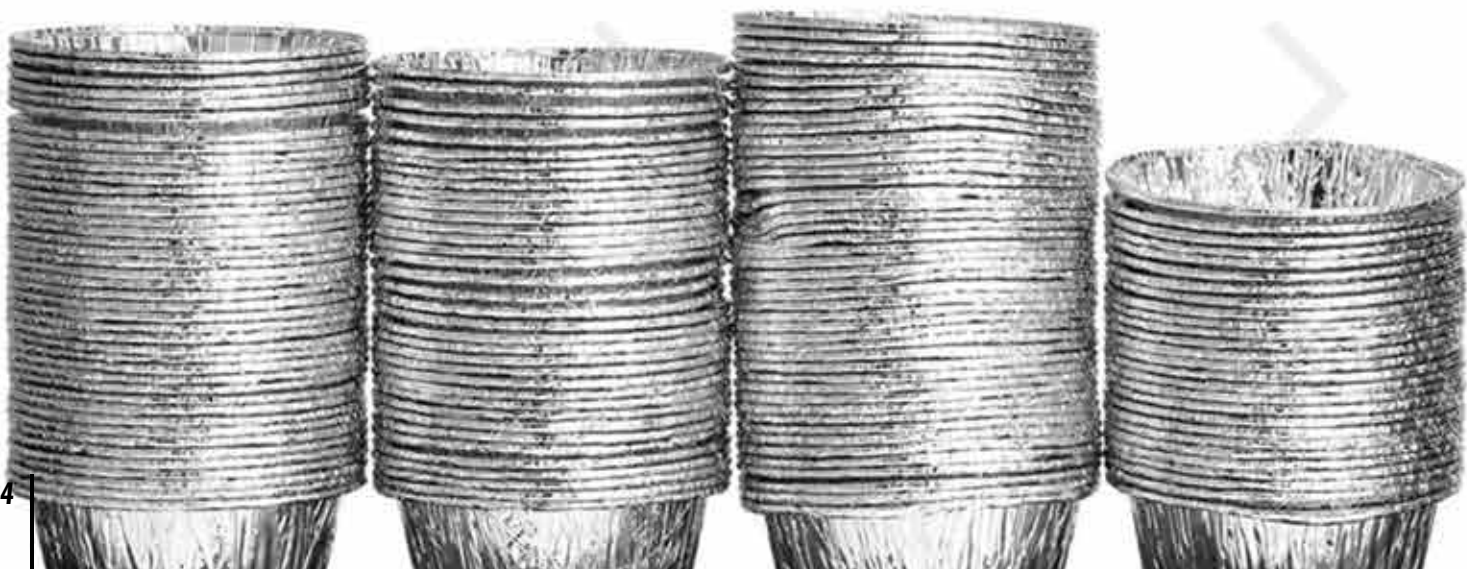
## **HOW DOES ALUMINIUM ENTER THE BODY?**

We are exposed daily to aluminium in various forms:



- Water that you drink or bath in contains very small amounts of aluminium due to the purification process
- Antiperspirants and deodorants might contain aluminium-based compounds to keep sweat from getting to the skin's surface
- The acidity of some foods cooked in aluminium cookware could cause the aluminium to leach
- Baking powders contain acidifying agents such as aluminium-based acid, to assist in the rising process
- Foods containing artificial colourants
- Pesticides might contain aluminium sulphate

## **HOW DOES ALUMINIUM AFFECT OUR HEALTH?**

Some metals such as magnesium are beneficial to the body, whereas aluminium has no benefit and nor does it serve any function in the body.







Most of the aluminium we would get from water, food, cosmetics, drinks, medicine etc. will pass through the digestive system without being absorbed by the body, yet high intakes of aluminium could be toxic. Such as:

- Damage to DNA and aging of cells due to oxidative stress
- Suspected breast and prostate cancer resulting from anti-perspirants and deodorants containing aluminium
- Osteoporosis resulting from aluminium accumulating in bone tissue and weakening it
- Excess build up can accumulate in the bones, brain, liver and kidney
- Creates oxidative stress and can be easily absorbed by abraded or irritated skin

Educate yourself on which products and items contain aluminium so you can start making educated purchasing decisions for yourself and your family.

Ilona Engelbrecht

BBD PFA TEAM

#### References:

<http://chemicaloftheday.squarespace.com/most-controversial/2012/9/11/dangers-of-aluminum.html>  
<http://www.hydro.com/en/about-aluminium/Aluminium-and-health/>  
<https://www.atsdr.cdc.gov/phs/phs.asp?id=1076&tid=34>

# COMRADES

# 2017

## **Running for a silver Comrades Marathon medal and 104<sup>th</sup> place finish**

The 2017 Comrades Marathon took place on Sunday the 4<sup>th</sup> June, over a gruelling distance of approximately 88 kilometres.

This year it was an up run from Durban to Pietermaritzburg and I had to physically and mentally prepare myself for the long road ahead!

I had decided to participate again this year to prove to myself that I can better my previous attempt and despite not doing as much training as I would have liked, I found that the race was mostly a breeze, except for the notorious Polly Shortts. This is where dehydration set in and I became dizzy and started to cramp up but pushed through the pain and did not allow myself to think about giving up.

After 6 hours and 41 minutes I crossed the finish line, to win a silver medal. I cannot explain the sense of pride I felt finishing 104<sup>th</sup> out of 20 000 participants, proving to myself that all you need to do to succeed in life is to work hard, be committed to your goal and to never give up on your dreams.

Thank you to each and every one who supported me through this journey.

*Lucky Mosikili*  
BBD OMS TEAM



**"Work hard, be  
committed to your goal  
and never give up on you  
dreams."**







**Catching the Gautrain to Rosebank and worried how you will get to work... no problem!**

**A shuttle service will deliver you to the **BBD Johannesburg** offices.**

**Monday to Friday**

Oxford Road, Rosebank Gautrain station: 07h10 and 08h10  
BBD, Killarney: 16h15 and 17h15

BBD BRINGS THE  
**GAUTRAIN**  
TO YOUR **DOORSTEP**



# ECO WASH

IT'S A **SPA** FOR YOUR CAR!



Get your **FREE ECO WASH** at **BBD**

*First come first serve. Please make sure your name is on the register in reception **before you park your car** to be washed.*

*Give your car that showroom shine, every time... the **ECO** way.*



**FACT:**

*ECO WASH uses 300ml of liquid instead of 250 litres used in conventional car washes*





## Embracing your inner geek at GeekFest 2017

Arriving at Montecasino we found a queue that stretched for what seemed like miles, as we waited for the gates to open into a festival that, for the last five years, has excited geeks and muggles alike!

The day was very cold, wet and brisk but as we entered GeekFest the atmosphere was buzzing, probably from everyone shivering. Enduring the rain was a new challenge, but having always been an outdoor event, we have faced the blistering heat as well as the freezing cold before...and geeks are not easily deterred.

Regardless of whichever fandom you subscribed to, there were stalls to cater to many geeky desires, as well as food and drink. We spectated the glorious battles between knights and if you felt brave enough, you could enter a battle with a knight yourself. The Robowars drew crowds, as little bots faced each other in the arena for the claim to victory; while the Geeklympics challengers went about their tasks using brains, brawn and creativity as they fought for the gold medal and bragging rights. Cosplayers showed their skills and there was entertainment for all tastes with fire dancers, LARPing, archery, lightsabre demonstrations and more on offer.

What we missed this year as they were not held were the Great Geek Challenge and the pet cosplay division, the latter due to Montecasino's restrictions.

Despite the cold weather it was two days of great entertainment with plenty to see and a fair bit to do. As an avid attendee since the very first GeekFest in 2013, I'd recommend people give it a go next year and see what it's about.

Antoinette Henn  
BBD ACTURIS TEAM









# GAME CON

## ICON 2017 COMICS & GAME CONVENTION

### Sword fights, board games, poetry and singing at ICON 2017

ICON is where geeks and gamers get together and 2017 was an amazing event. Three full days of panels featuring local and international guests such as James L Sutter, Cosplay, gaming demos and market stalls catering to every geeky desire. The South African National Blood Service were even there so you could be a real-life hero and donate blood.

While we had some LARP boffer sword fights and giant board games, learning was also part of the event with demos running for card games such as Star Wars: Destiny—introducing people to the possibilities of gaming without technology. The role-playing modules for Dungeons and Dragons, among other systems like Call of Cthulhu, made for tales filled with laughs, horrors and more than enough adventure to go around. We had an absolute blast.

For those not yet ready for TableTop, ICON provided gaming stations for PS4, XBOX One and PC, with single player games as well as collaborative games such as Overwatch.

My personal favourite was the Great Geek Challenge, with the guys at Geek of all Trades doing it again. We spent most of our time with our clipboards, list of tasks and pens at the ready, ticking off as many challenges as possible. There was no shortage of entertainment from reciting poetry and adding lines to a story book, wearing capes or singing anime theme songs out loud, to finding the GeekXP owner and ICON organiser Les Allen and showing him a picture of a disapproving old lady!

Antoinette Henn  
BBD ACTURIS TEAM





# STATE OF THE GPU NATION

The last few years have been exciting as the race to 4K gaming has slowly heated up. High-end current-gen graphics cards are only now starting to barely reach acceptable levels of 4K gaming, with only a select few graphics cards being able to do this. King of the hill is still the NVIDIA Titan Xp, closely followed by overclocked variants of the GTX 1080 Ti. These cards however, retail between \$800 to \$2200.

AMD and NVIDIA have been the leaders in the GPU market yet AMD is nowhere to be found in the 4K space. This is primarily due to their business strategy, with their highest offering being the RX580 graphics card, targeting low to mid-range budgets. This has proven to be quite popular not only with budget gamers but also with cryptocurrency miners, who harvest blockchains that are ASIC resistant. Yes, your GPU can make you money too!

By setting the price points just right, AMD have given themselves a competitive share of the market e.g. the cost of a single NVIDIA GTX 1080 Ti will get you a bundled AMD CPU, motherboard and a RX580, effectively everything you need to upgrade to buttery smooth 1440p gaming on ultra settings!

Despite 4K @ 60FPS 8xMSAA gaming still being on the horizon, both AMD and NVIDIA are releasing snappy new architectures supporting HBM2. AMD through their Vega and NVIDIA bringing out Volta. These will be game changers, relegating GDDR5 to the slow lane!

- AMD has introduced HBCC (high bandwidth cache controller) processors, allowing Vega GPUs to have an insanely large address space of up to 512TB
- NVIDIA has introduced "tensor cores" designed to greatly accelerate machine learning and a second-gen version of NVIDIA'S NVLink technology, which the company says boost PCIe transfer speeds tenfold

In short, both AMD and NVIDIA will effectively double their compute power, pushing Moore's Law closer to its effective death.

PC gamers will have to wait till Q1 2018 as both the Vega Frontier Edition and Tesla V100 will first be visiting a friendly cloud data centre near you before making their way into the hands of main stream third party manufacturers like ASUS, EVGA or MSI. For Apple fans, you might be able to game on your high-end iMac Pros as the Pro Vega cards will be available in Apple's high end rigs first.

#### References:

1. [https://www.overclock3d.net/reviews/gpu\\_displays/nvidia\\_gtx1080\\_ti\\_founders\\_edition\\_review/21](https://www.overclock3d.net/reviews/gpu_displays/nvidia_gtx1080_ti_founders_edition_review/21)
2. <http://wccftech.com/amd-debuts-radeon-pro-vega-unveils-detailed-die-shot-22-tflops-400gbs-8-16-gb-hbm2/>
3. <http://wccftech.com/nvidia-rumored-debut-new-volta-graphics-card-computex-tomorrow-watch-live-keynote/>

Chris Swart  
BBD PCS TEAM



# THE LEDGEND OF ZELDA

Breath of the Wild is an open world exploration-adventure game set in the iconic world of Hyrule. You play the role of Link, sworn protector of the princess Zelda. Calamity Ganon wants to destroy Hyrule and you must stop him with the Master Sword.

The game starts as Link emerges from a Resurrection Chamber with a Sheikah slate, conveniently not remembering a single thing. The Sheikah slate is a tablet that contains all the information that you gather as well as your map. After a brief tutorial, you get handed a kite that you can use to glide down from the heights, to set you free upon this vast world of Hyrule.

As this is a vast open-world game, to facilitate exploration, every area has a tower. On top of the tower is a place for your Sheikah slate to download the area's map. Towers also make for a good vantage point to look for shrines.

Shrines are puzzles that you need to complete for spirit orbs. After completing a shrine, the monk at the end hands you a spirit orb. No two shrines have the same puzzle. You can convert four spirit orbs to one heart (HP) or one stamina upgrade, allowing you to take more damage or climb for longer.

Game combat is the standard dodge, block and counter-attack. If you dodge or counter-attack at the right time, you enter "Bullet Time" allowing you to do a flurry of attacks in a short space of time. If you counter-attack a guardian's attack with a shield equipped, you can deflect the shot back to the guardian. Guardians are big six-legged robots that shoots "lasers".

Despite equipment having durability, they will break after every two or three groups of monsters you take on. Don't despair, weapons are plentiful and easy to get.

All in all, a very fun adventure game that will last you a long time.

*Gerhard Swiegers*  
BBD ACTURIS TEAM

## NINTENDO SWITCH

**Nintendo Switch... on-the-go console or TV mobile gaming device?**

The Nintendo Switch is the successor to the Wii-U and the fastest growing console, shipping over two million units since its launch in March 2017. It's marketed as a console you can take on-the-go, but I feel it should be the other way around—it's a mobile gaming device you can play on the TV.

### **Vital stats:**

- Out of the box it comes with a dock that connects to your TV via HDMI, two joy-cons, the console and the joy-con grip i.e. a puppy face controller
- In handheld mode, the controller renders at 720p, but upscales to 1080p in docked mode
- The Switch uses an NVIDIA Tegra X1 processor
  - It has a 6.2-inch multi-touch capacitive touch screen and 32GB of internal storage, upgradeable using a micro-sd card (highly recommended)
  - Battery time in handheld mode is anywhere from two hours for intensive games to six hours in low-poly indie games

Games can be purchased using the Switch game cartridge (this is Nintendo after all) or via the Nintendo store for digital copies. The selection of games has grown considerably since launch, from only Breath of the Wild and 1-2 Switch to a wide selection of AAA and indie titles including:

- Legend of Zelda: Breath of the Wild
- Mario Kart 8 Deluxe



- Minecraft: Nintendo Switch Edition
- Splatoon 2
- ARMS
- Ultra Street Fighter 2: The Final Challenge (remake for their anniversary)
- Shovel Knight
- Thumper

There are a variety of indie titles available for the Switch and a good selection of Neo Geo classics. Since Nintendo focuses on social-gaming, you can multiplayer most games using detached joy-cons in split screen mode (one joy-con per player). Up to eight joy-cons can be paired to a single switch, or multiple switches can be networked together. If you prefer classic console gaming, you can purchase the Pro Controller, a more traditional style of controller.

*Gerhard Swiegers*  
BBD ACTURIS TEAM



## THE G4M3 MODEL

When I first started my honours assignment I never thought it would lead to a paper being published in the GSTF Digital Library and the opportunity to present at the 2017 CGAT Conference in Singapore!

The original task for the assignment was to research various eBusiness models and apply one to an existing eCommerce business. Being the gamer that I am, I thought about this and wondered how gaming companies would conform to already existing models. I raised the idea with my lecturer and decided to create my own model, this was the birth of the G4M3 model.

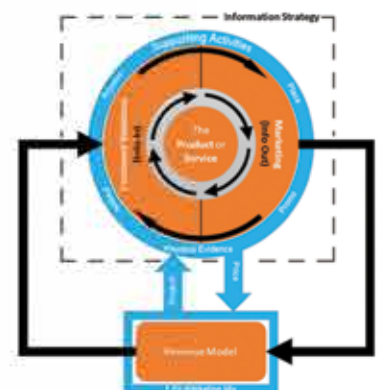
My research paper explores the video gaming industry as a whole, proposing an eBusiness model that can be used by new companies in the gaming industry, serving as a guide for companies entering the market. The various components of the model are discussed and evaluated, comparing two large gaming companies in the business, namely Blizzard Entertainment and Riot Games. My G4M3 model evaluates how these companies operate in each of the focus areas discussed in the paper, with the intent being to show how new game development companies can follow in the footsteps of tried and tested organisations within such a volatile industry.

The G4M3 model has three main sections which all work together to achieve the goals of the company.

- 1) **The Information Strategy** component focuses on the flow of information through the company, but more generally focuses on the products and services provided by the company. The products comprise the actual game developed by the company, while the services offered range from customer support to hosting servers for their games.
- 2) **The Revenue Model** component deals with the 'How are we going to make money' aspect of the model and with the various options available to a company to generate revenue.
- 3) **The Support Activities** component comprises price, promotion of the product, the people needed for all aspects of the business, processes to be followed, etc.

While many of the model components can apply to any company, regardless of its industry, the components of the G4M3 model specifically focuses on aspects that directly relate to gaming companies or companies that operate within the gaming industry.

The G4M3 model is still under development and future work aims at creating an easy to follow infographic roadmap for new organisations.



*Nick Combrink*  
BBD NEDBANK TEAM



# the Super foods”

Superfoods are exceptionally high in vitamins and minerals and assist in mineralising the body, to curb our desire to snack on sugar rich foods. As the nutrients are in their natural form they are easily absorbed by the body and provide abundant energy.

Look out for these superfoods to include in your diet!

## Goji berries



The healing properties of the goji berry are well-known, such as revitalising the skin and improving vision. In the classic Chinese book “Herbs and food healing”, they reference how the Goji berry strengthens muscles and tendons, improves immune function and fights illnesses and leads to longevity. Other benefits include:

- Contains high levels of antioxidants and nutrients
- Protects eye health
- Detoxifies the liver
- Maintains energy and mood
- Boosts fertility

## Raw Cacao



The cacao tree was revered by the Aztecs and Mayans of Central America long before Columbus discovered the New World. They had already been cultivating cacao for several hundred years and regarded it as a source of “divine ambrosia” given to them by the gods. Benefits of cacao include:

- High levels of antioxidants
- Highest plant-based source of iron
- Boosts a healthy heart and brain as it contains high levels of magnesium
- More calcium than cow's milk
- Is an anti-depressant



## Maca root



Considered one of the lost crops of the Andes, maca root is a biennial plant from South America, found in Peru and Bolivia. It is a root vegetable with a leafy top, similar to a radish or turnip and is packed with essential vitamins, minerals, amino acids and phytonutrients to provide the following benefits:

- Hormone balancing
- Positive fertility boost
- Promotes testosterone
- Increased energy
- Increased memory
- Antioxidant booster

## Hemp seed



One of the oldest agricultural crops, hemp has been cultivated since 4000BC and is recognised in several ancient texts.  
It improves:

- Concentration and ADHD
- Arthritis and joint pain
- Promotes weight loss
- Digestive health
- Heart health

## Spirulina



Spirulina is thought to have been a protein source for the Aztecs in the 16<sup>th</sup> century. It is a spiral-shaped blue-green algae that is found in freshwater lakes and ponds and benefits include:

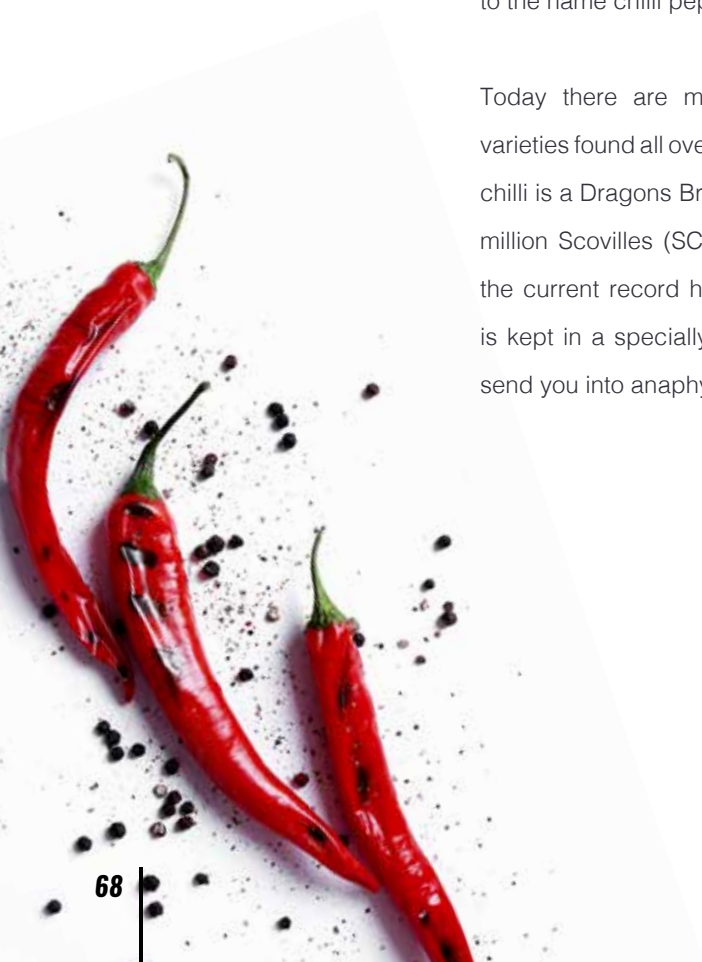
- Extremely high in nutrients
- High anti-inflammatory properties
- Contains anti-cancer properties
- Reduction in blood pressure
- Improves muscle strength and endurance
- Promotes blood sugar control

# WHAT GETS YOU HOT?!

Everyone has a chilli story... either you love or hate them, eaten a particularly hot one or maybe you like listening to the band Red Hot Chili Peppers!

Did you know chillies have been used since 7000BC in Mexico, with the cultivation of chillies starting in 3500 BC? In 1492 Christopher Columbus left Spain looking for a new trade route to Asia. He mistook America for India and chillies for peppers, leading to the name chilli pepper.

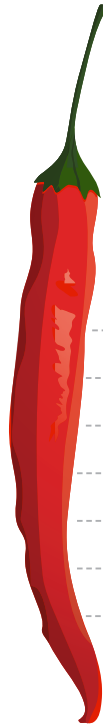
Today there are more than 400 different chilli varieties found all over the world. The world's hottest chilli is a Dragons Breath, reaching a blistering 2.4 million Scovilles (SCU), 200 000 SCU hotter than the current record holder, the Carolina Reaper. It is kept in a specially-sealed container as it could send you into anaphylactic shock.





# MILD ~TO~ WILD

The Scoville scale is a measure of a chilli's hotness or anything derived from chillis e.g. hot sauce. The scale measures the concentration of the chemical compound capsaicin, the active component that produces the heat. To the right is a scale of various chillies with their corresponding Scoville Heat Unit (SHU) rating.



## MILD

Sweet bell pepper	0 SHU
Pepperoncini	100 SHU
Anaheim	500 SHU
Poblano	2000 SHU
Jalapeno	2500 SHU
Serrano	6000 SHU
Cayenne	30000 SHU
Habanero	100000 SHU
Moruga Scorpion	2000000 SHU
Carolina Reaper	2200000 SHU
Dragons Breath	2400000 SHU
Police pepper spray	5300000 SHU

## WILD

# TOP PRODUCING COUNTRIES

1. China
2. Mexico
3. Turkey
4. Indonesia
5. Spain



# HEALTHY HEAT

1. Chili peppers can help keep one's eyes healthy
2. They help individuals fight infections
3. Are great for keeping the hair and skin vibrant
4. Perfect for decreasing blood pressure
5. Loaded with vitamin B



# Chef SEAN



Everything's  
bigger and better  
in TEXAS!



Is a cut of meat from the breast or lower chest of beef or veal. One of the toughest cuts of meat, it is perfect for slow cooking as the collagen fibres break down, making the meat tender and delicious.

## Brisket



## Mesquite wood chips

Heat up fast and are ideal for smoking meat, lamb or pork. It is one of the more popular cooking woods as the chips impart a bold, smoky flavour. The tree is native to the southwestern United States and Mexico.



## Smoker box

Used to grill food for an intense aromatic, naturally smoky flavour that will have your mouth watering! Simply fill the box with wet wood chips, close the lid and place on the grill for a delicious brisket.





# The recipe for: TEXAS-STYLE SMOKED BRISKET

## Ingredients

### BRISKET

- > 3kg cut beef brisket (bone-free)
- > 1/4 cup (12 tsp) salt
- > 1/4 cup (12 tsp) ground garlic powder
- > 4 tsp ground black pepper
- > 10.5 tsp (50g) Spanish-style paprika
- > 1-2 tsp cumin

Mesquite wood chips (for smoking on the braai) OR

Smoker box (if using gas braai)

### OPTIONAL EXTRAS

- > Mash potato and gravy
- > Green beans

### PREPARATION TIME

- > 30 - 45 mins

### COOKING TIME

- > 4 - 4.5 hrs (slow cooked)

### SERVES

- > 10 - 12

## Method

1. Mix all dry ingredients for your rub into a bowl and set aside. Take the brisket and trim the fat to ensure the dry rub is properly absorbed into the meat. Coat the brisket by massaging the dry rub into it completely covering the meat
2. Place the meat into a clear plastic bag and set aside for at least three hours, overnight in the fridge if possible, removing it to get to room temperature before cooking
3. Take four cups of the Mesquite wood chips and soak in a bowl of water for 30 mins and take a further two cups and set aside to add later
4. Heat a fire by placing some coals onto one side of the braai, approximately half a bag and allow to cool to approximately 115C. Place a few handfuls of the wood chips directly on top of the coals and place the grill across the braai. Once the smoke begins to form, lay the meat on and cover the braai (allowing the fire to breathe, via holes if available, otherwise the fire will die out). Keep a temperature of around 115C, checking on the wood chips every 45 mins to an hour, replacing with a few handfuls as is necessary (additional coals can be placed throughout the cooking process while refraining from opening the braai too much as this will lose the heat)  
Cook the brisket until an internal thermometer reading is 90C at the thickest
5. part of the meat, removing from the fire and leave to cool  
Slice the brisket into 1cm thick slices, shred into smaller slices or pull apart
6. for pulled brisket. Serve with creamy mash potatoes, gravy and green beans for a traditional Texas-style lunch for your guests

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



# COCKY CORNER

REVELL NANO QUAD  
WINNER



ANTOINETTE HENN





# SPOT THE 5 DIFFERENCES



## BRAIN TEASERS

Submit your answers to [marketing@bbd.co.za](mailto:marketing@bbd.co.za) and stand a chance to win a **Bezu ballz!**

A rooster laid an egg on top of the barn roof. Which way did it roll?

How much dirt is there in a hole 3 metres deep, 6 metres in length and 4 metres wide?

How can you lift an elephant with one hand?



ENTER BY **21<sup>ST</sup> SEPTEMBER**



/company/bbd



/bbdsoftware



/BBDSoftware



/+BbdCoZa



/BBDsoftwaredevelopment



/bbdsoftware



www.bbd.co.za