



Customer Segmentation

By Muhammad Khuzain
Machine Learning Task



Customer Segmentation

By Muhammad Khuzain
Machine Learning Task

***"It always seems impossible until
it's done."***

- Nelson Mandela

2021 Content

01 Project Summary
Give a brief explanation how this proposal come from and goes to

02 Question 1
Answering question

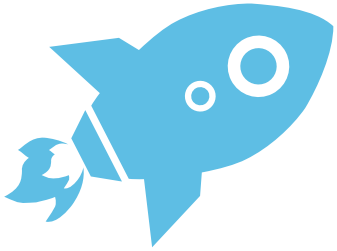
03 Question 2
Answering question

04 Question 3
Answering question

05 Question 4
Answering question

06 Link Git-hub
Provide the list program

Project Summary



Background Project

Segmentation allows businesses to make better use of their marketing budgets, gain a competitive edge over rival companies and, demonstrate a better knowledge of your customers' needs and wants. Benefit customer segmentation is marketing efficiency, determine new market opportunities, better brand strategy, improve distribution strategies and customer retention

Objective

This presentation will use data from given dataset to make customer segmentation. Not only that, will answer several question based on the data set.

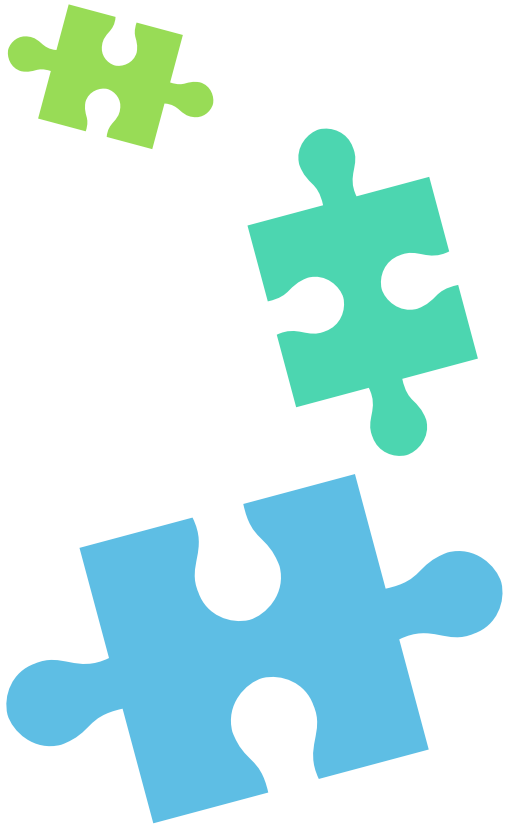
Data Set

Data Set : (ML_2_Fellow.zip)

<https://github.com/Syukrondzeko/Fellowship>

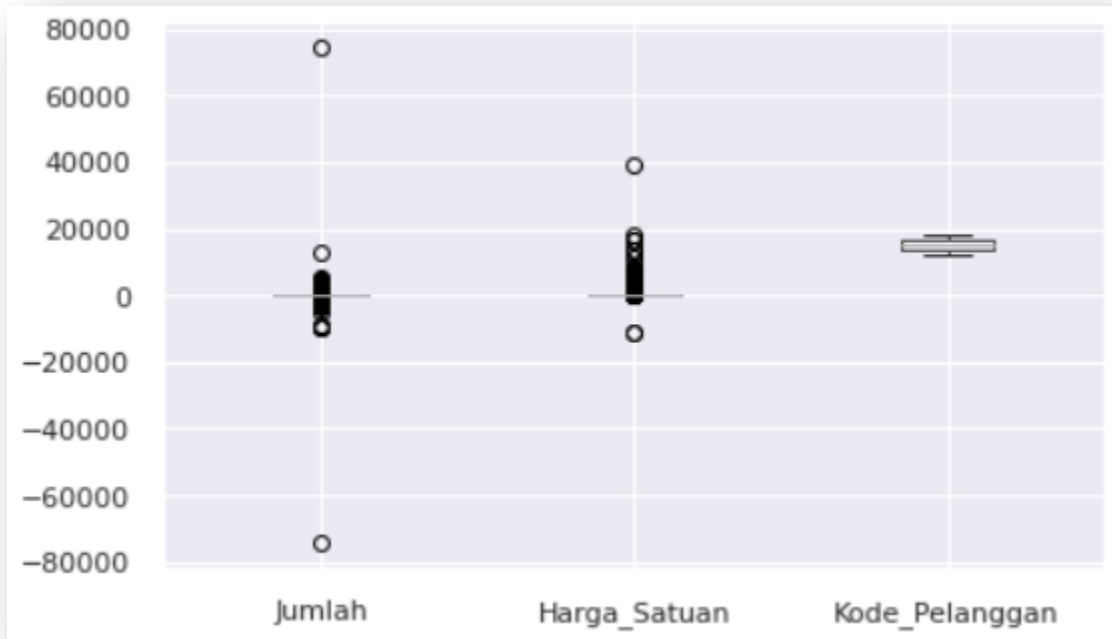
Nama kolom	Tipe data
Kode_Bayar	object
Kode_Barang	object
Barang	object
Jumlah	float64
Tanggal_Transaksi	object
Harga_Satuan	float64
Kode_Pelanggan	float64
Negara	object

Data Size: rows: 541909 X columns:8



Data Evaluation

Data Plot



There is null value and negative value in Jumlah and Harga_satuan

Data Evaluation

Canceling Order

	Kode_Bayar	Kode_Barang	Barang	Jumlah
217767	C555935	23049	RECYCLED ACAPULCO MAT RED	-2.0
70659	C542092	22663	JUMBO BAG DOLLY GIRL DESIGN	-1.0
70657	C542092	20723	STRAWBERRY CHARLOTTE BAG	-2.0
70656	C542092	21931	JUMBO STORAGE BAG SUKI	-1.0
70655	C542092	20725	LUNCH BAG RED RETROSPOT	-1.0

Cancelation order marked by “C” in
Kode_Bayar and negative value in Jumlah



Data Evaluation

Countries with highest customer

Country	Total Order
United Kingdom	19830
Germany	603
France	458
EIRE	319
Belgium	119
Spain	105
Netherlands	101
Switzerland	71
Portugal	70
Australia	69



Data Evaluation

Countries with lowest customer

Country	Total Order
Canada	6
Czech Republic	5
European Community	5
Lithuania	4
United Arab Emirates	3
Saudi Arabia	2
Bahrain	2
RSA	1
Brazil	1
Lebanon	1



Data Evaluation

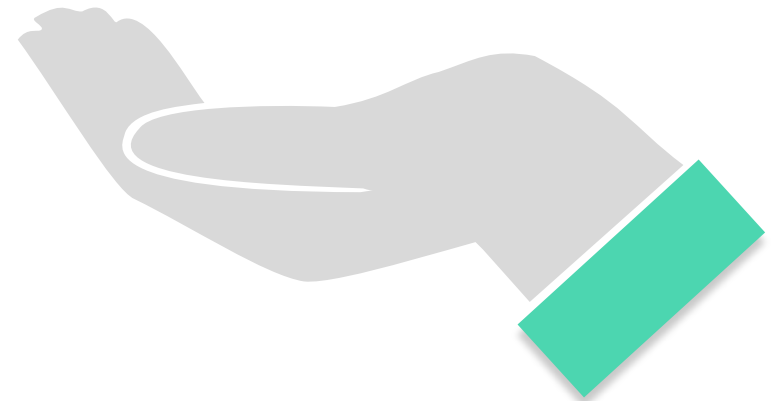
Type Data	nValue
Total order	3603
N kode bayar	22161
Row cancel order	8682



Data Evaluation

	Kode_Bayar	Kode_Barang	Barang	Jumlah	Tanggal_Transaksi	Harga_Satuan	Kode_Pelanggan	Negara	Batal	nBatal
61619	541431	23166	MEDIUM CERAMIC TOP STORAGE JAR	74215.0	2011-01-18 10:01:00	1.04	12346.0	United Kingdom	0	74215
52711	540815	21108	FAIRY CAKE FLANNEL ASSORTED COLOUR	3114.0	2011-01-11 12:55:00	2.10	15749.0	United Kingdom	0	3114
52710	540815	21175	GIN + TONIC DIET METAL SIGN	2000.0	2011-01-11 12:55:00	1.85	15749.0	United Kingdom	0	2000
52709	540815	85123A	WHITE HANGING HEART T-LIGHT HOLDER	1930.0	2011-01-11 12:55:00	2.55	15749.0	United Kingdom	0	1930
223446	556484	22920	HERB MARKER BASIL	1515.0	2011-06-12 13:17:00	0.55	16938.0	United Kingdom	0	1515

Goods with highest cancelation order is
MEDIUM CERAMIC TOP STORAGE JAR



1st

What items customers buy the most and are there any items we should ignore?

	Jumlah	Harga_Satuan
Barang		
WORLD WAR 2 GLIDERS ASSTD DESIGNS	52879.0	136.74
JUMBO BAG RED RETROSPOT	43423.0	3187.39
ASSORTED COLOUR BIRD ORNAMENT	35032.0	2331.31
WHITE HANGING HEART T-LIGHT HOLDER	33287.0	5727.07
PACK OF 72 RETROSPOT CAKE CASES	33286.0	570.22
POPCORN HOLDER	27949.0	529.04
RABBIT NIGHT LIGHT	26619.0	1629.13
MINI PAINT SET VINTAGE	25752.0	208.17
PACK OF 12 LONDON TISSUES	25293.0	127.04
PACK OF 60 PINK PAISLEY CAKE CASES	24086.0	370.01

Goods with **highest** order (Jumlah)

1st

What items customers buy the most and are there any items we should ignore?

Barang	Jumlah	Harga_Satuan
I LOVE LONDON MINI RUCKSACK	1.0	4.15
AMBER BERTIE GLASS BEAD BAG CHARM	1.0	2.10
AMBER GLASS/SHELL/PEARL NECKLACE	1.0	8.95
BAROQUE BUTTERFLY EARRINGS CRYSTAL	1.0	3.75
BLACK DROP EARRINGS W LONG BEADS	1.0	2.95
BLACK FINE BEAD NECKLACE W TASSEL	1.0	5.95
BLACK VINT ART DEC CRYSTAL BRACELET	1.0	6.75
BLACKCHRISTMAS TREE 30CM	1.0	1.25
BLOSSOM IMAGES SCRAP BOOK SET	1.0	4.95
BLUE LEAVES AND BEADS PHONE CHARM	1.0	1.25

Goods with **lowest** order (Jumlah)

What is our strategy to increase sales based on our export destination countries?

Strategy to increase sales based on our export destination countries:

1. Focus on countries with highest total quantity goods
2. Reduce on countries with least total quantity goods
3. Focus reducing cancelation transaction in every country.
4. Try to give discount in highest total quantity countries
5. Give convenience in exporting goods.

2nd

3rd

Do customer segmentation appropriately. Please explain in detail and completely

Step-step in ***customer segmentation***:

1. Import the data
2. Clean the data with null and anomaly value
3. Make A a model
4. Use Elbow Method
5. Using K Mean to clustering the data

Get the hidden insight from the data

Hidden insight from the data:

1. Countries with highest customer order is from EUROPE
2. Getting further from EUROPE, the order will be lesser
3. Many costumers cancel their orders with high quantity order.

4th

***"It always seems impossible until
it's done."***

- Muhammad Khuzain

THANK YOU

By Muhammad Khuzain



Software



matplotlib



pandas



Keras



Software

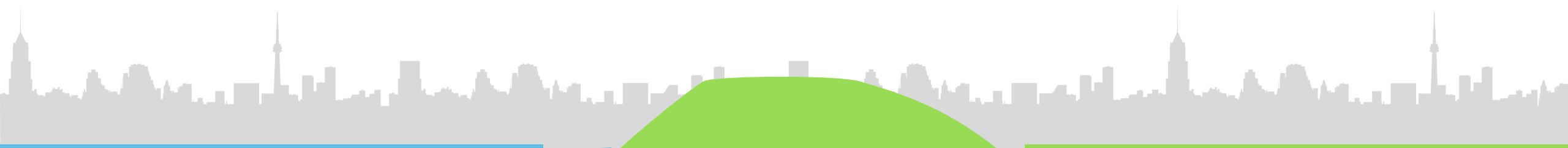
Several software and library in needs:

1. Jupyter, as a compiler and working space in python environmental
2. Matplotlib, as a library for visualization
3. Numpy, as a library to do vector and matrix operation in array processing
4. Pandas, as a library to process data in several format
5. Keras, library that provides a Python interface for artificial neural networks.
6. Tensorflow, for machine learning library
7. Tableau, Provides interesting visualization for result delivery
8. SQL client, to do little ETL in database

Programming Language:

1. Python, language for data processing

Infographic Style



Content Here
Easy to change colors,
photos and Text.

52%



Your Text Here

You can simply impress your audience and add a unique zing and appeal to your Presentations. Easy to change colors, photos and Text.

Content Here
Easy to change colors,
photos and Text.

34%

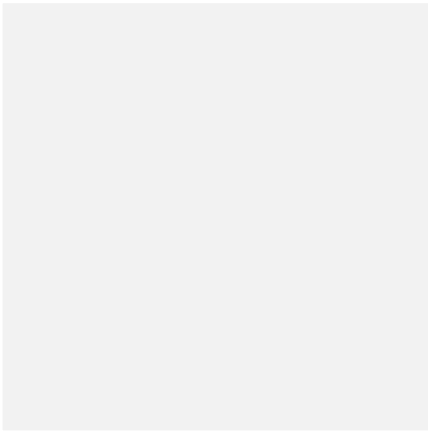
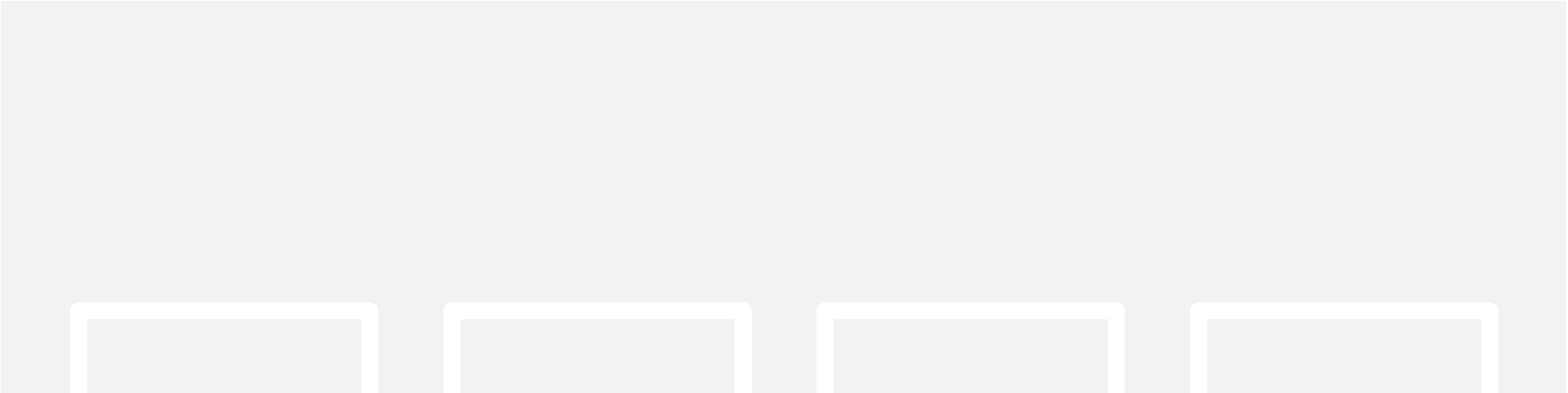


Your Text Here

You can simply impress your audience and add a unique zing and appeal to your Presentations. Easy to change colors, photos and Text.

THANK YOU

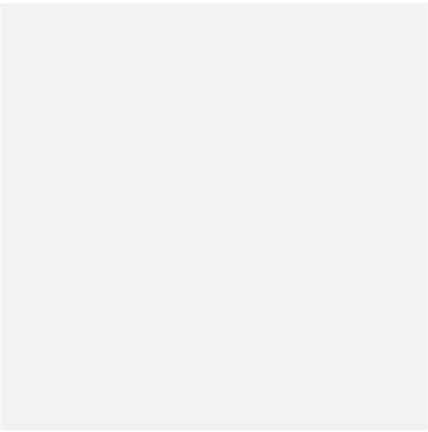




Your name

Director

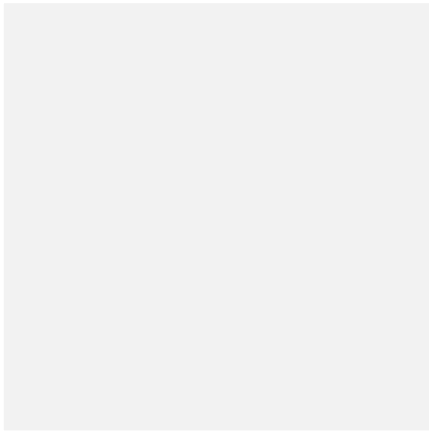
Easy to change colors,
photos and Text.



Your name

Marketing

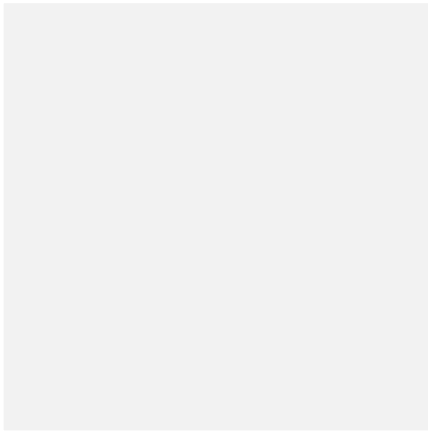
Easy to change colors,
photos and Text



Your name

Manager

Easy to change colors,
photos and Text

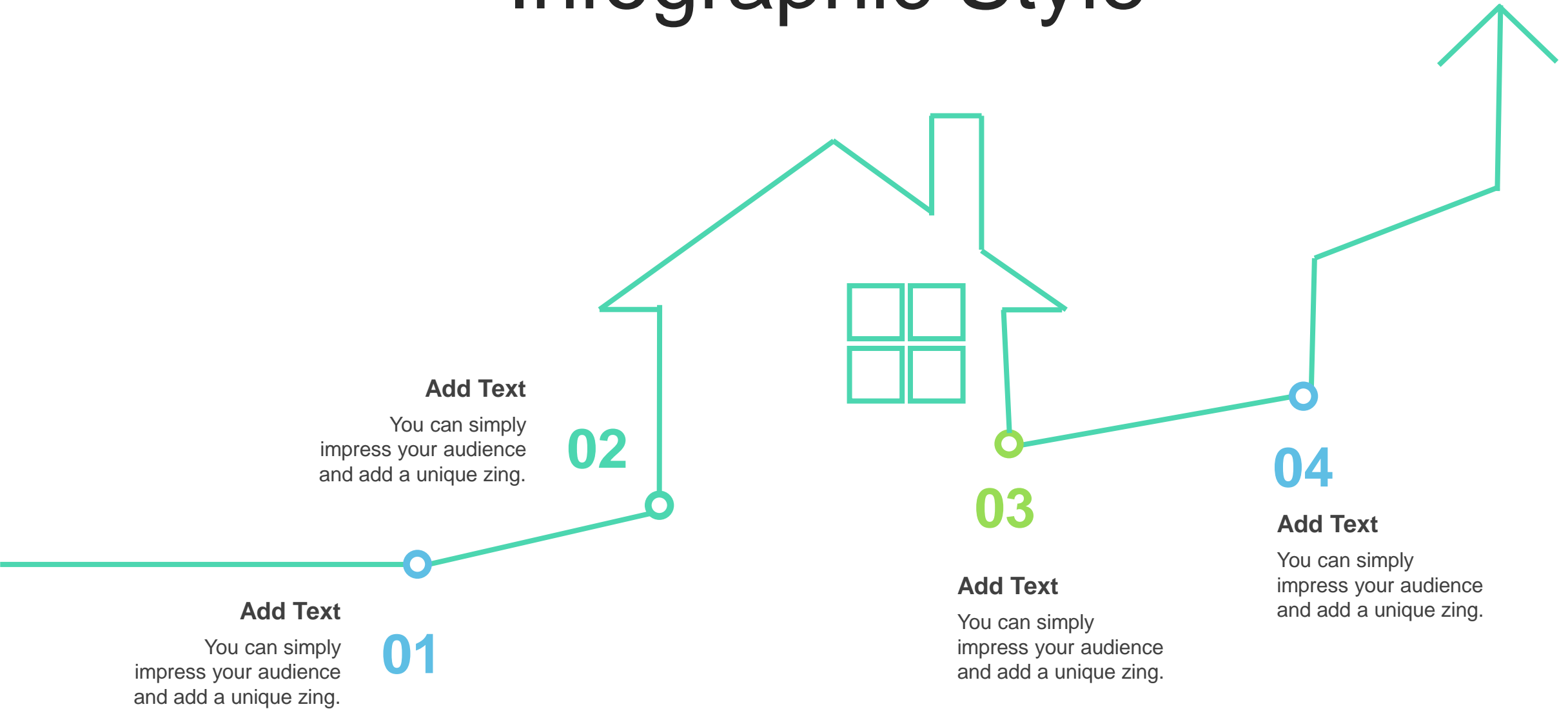


Your name

Developer

Easy to change colors,
photos and Text

Infographic Style



Infographic Style

01



Your Text Here

Get a modern PowerPoint Presentation that is beautifully designed. I hope and I believe that this Template will your Time, Money and Reputation. Easy to change colors, photos and Text.

02



Your Text Here

Get a modern PowerPoint Presentation that is beautifully designed. I hope and I believe that this Template will your Time, Money and Reputation. Easy to change colors, photos and Text.

03



Your Text Here

Get a modern PowerPoint Presentation that is beautifully designed. I hope and I believe that this Template will your Time, Money and Reputation. Easy to change colors, photos and Text.

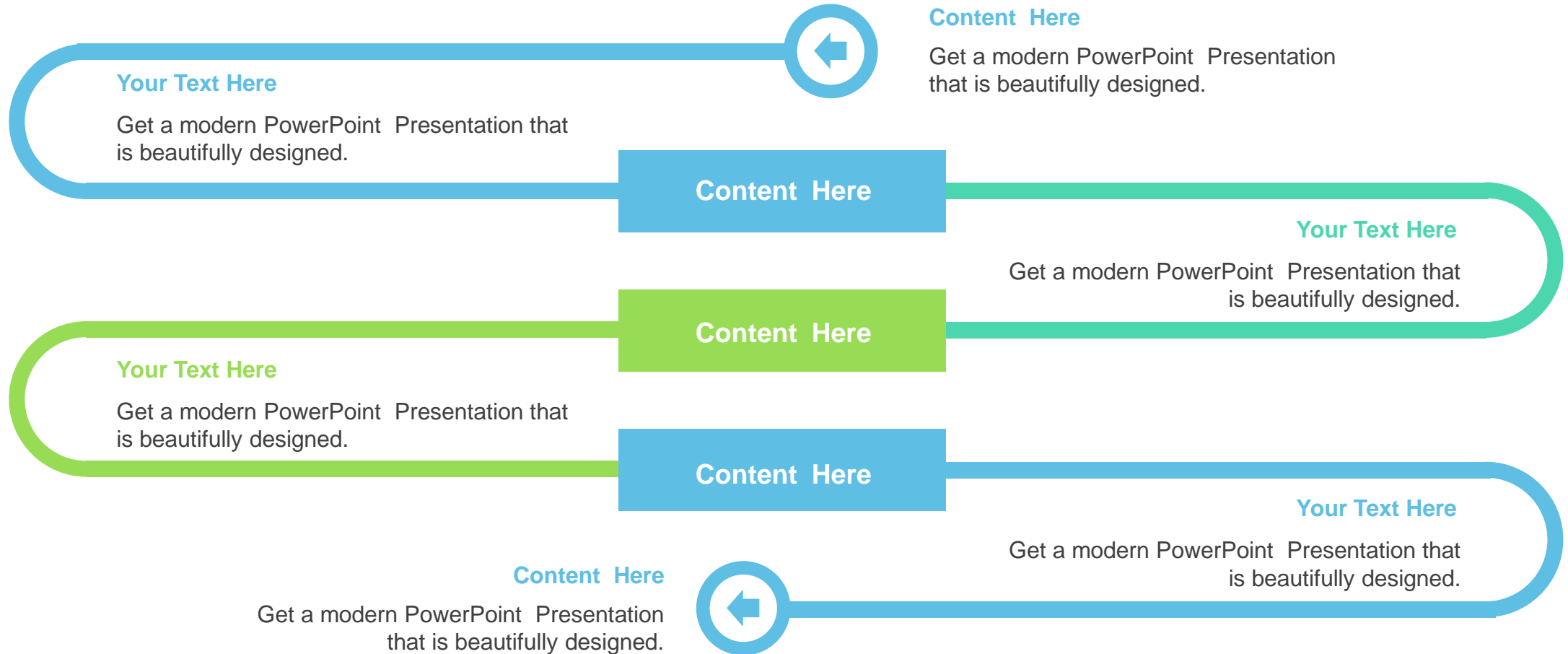
04



Your Text Here

Get a modern PowerPoint Presentation that is beautifully designed. I hope and I believe that this Template will your Time, Money and Reputation. Easy to change colors, photos and Text.

Infographic Style



Simple Portfolio Presentation Designed

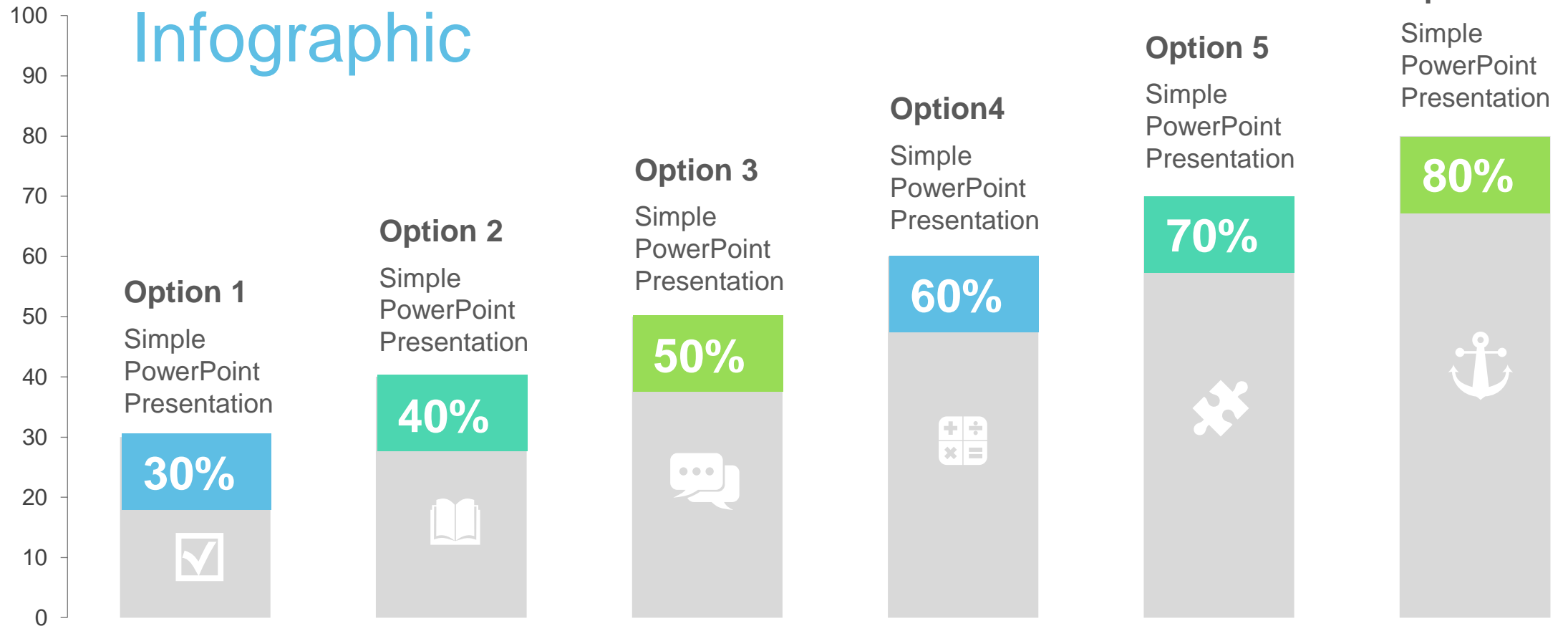
You can simply impress your audience and add a unique zing and appeal to your Presentations. Easy to change colors, photos and Text. Get a modern PowerPoint Presentation that is beautifully designed. Easy to change colors, photos and Text.

**Get a modern PowerPoint Presentation that is
beautifully designed.**



Infographic Style

Simple Chart Infographic



Infographic Style

01

Simple PowerPoint
Presentation

02

Simple PowerPoint
Presentation

03

Simple PowerPoint
Presentation S

04

Simple PowerPoint
Presentation

Your Text Here	Your Text Here	Your Text Here	Your Text Here
<p>You can simply impress your audience and add a unique zing and appeal to your Presentations.</p> <p>I hope and I believe that this Template will your Time, Money and Reputation.</p> <p>You can simply impress your audience and add a unique zing.</p>	<p>You can simply impress your audience and add a unique zing and appeal to your Presentations.</p> <p>I hope and I believe that this Template will your Time, Money and Reputation.</p> <p>You can simply impress your audience and add a unique zing.</p>	<p>You can simply impress your audience and add a unique zing and appeal to your Presentations.</p> <p>I hope and I believe that this Template will your Time, Money and Reputation.</p> <p>You can simply impress your audience and add a unique zing.</p>	<p>You can simply impress your audience and add a unique zing and appeal to your Presentations.</p> <p>I hope and I believe that this Template will your Time, Money and Reputation.</p> <p>You can simply impress your audience and add a unique zing.</p>

Infographic Style

Your Text Here

You can simply impress your audience and add a unique zing and appeal to your Presentations. Get a modern PowerPoint Presentation that is beautifully designed.



Your Text Here

You can simply impress your audience and add a unique zing and appeal to your Presentations.



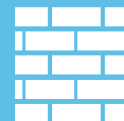
Your Text Here

You can simply impress your audience and add a unique zing and appeal to your Presentations.



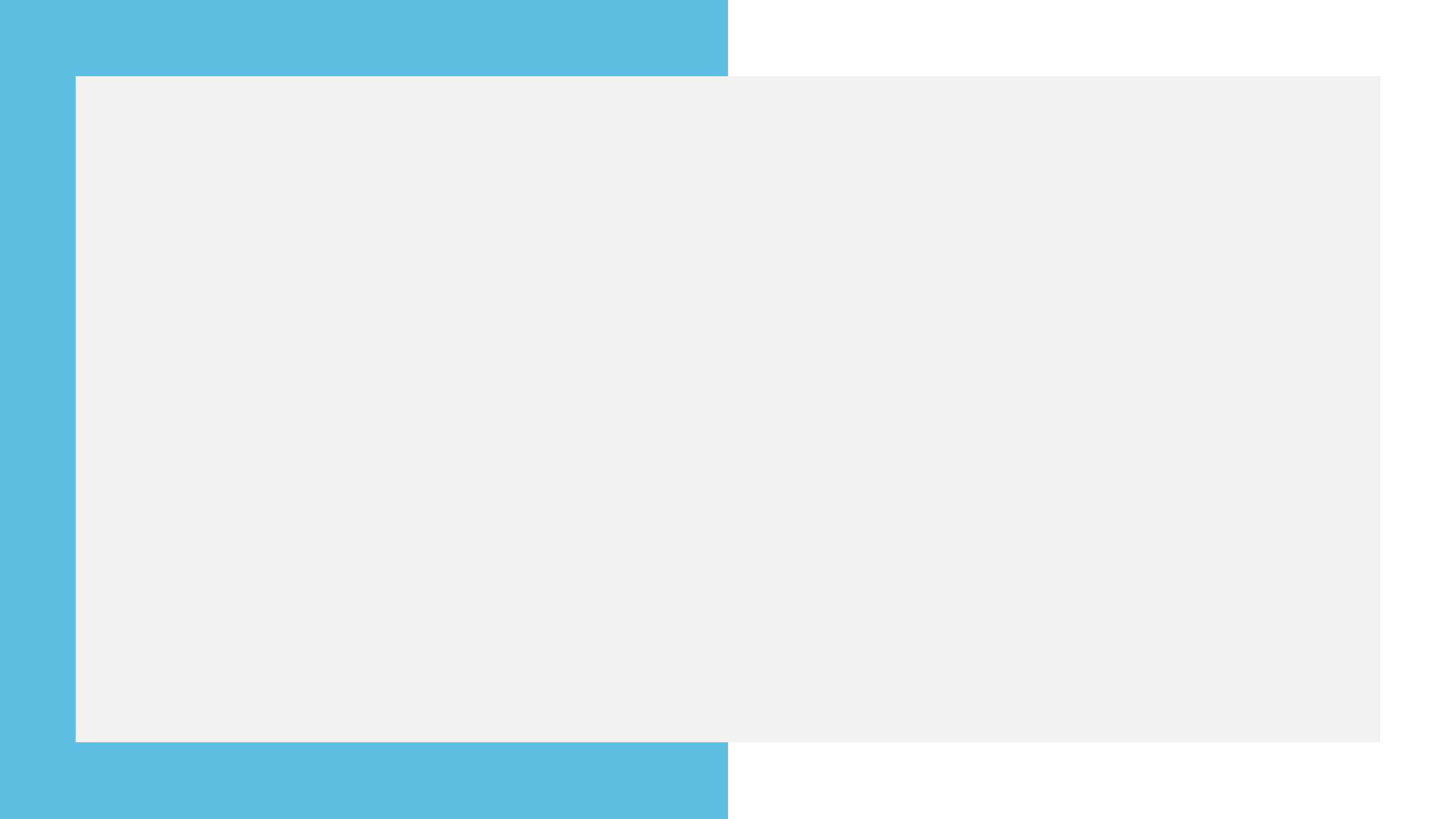
Your Text Here

You can simply impress your audience and add a unique zing and appeal to your Presentations.

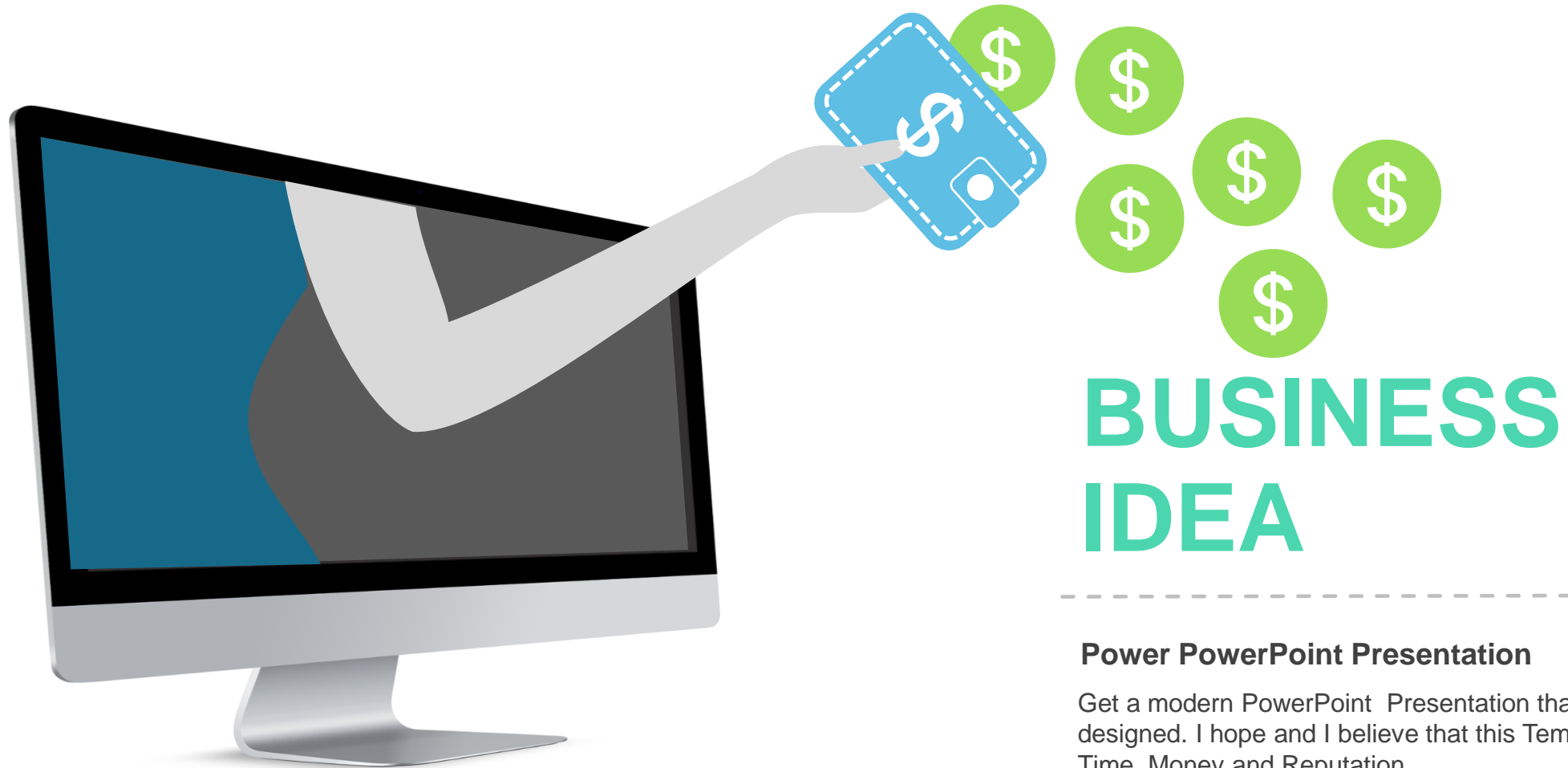


Your Text Here

You can simply impress your audience and add a unique zing and appeal to your Presentations.



Infographic Style



Power PowerPoint Presentation

Get a modern PowerPoint Presentation that is beautifully designed. I hope and I believe that this Template will your Time, Money and Reputation.

Infographic Style



PORTFOLIO

SIMPLE PORTFOLIO PRESENTATION



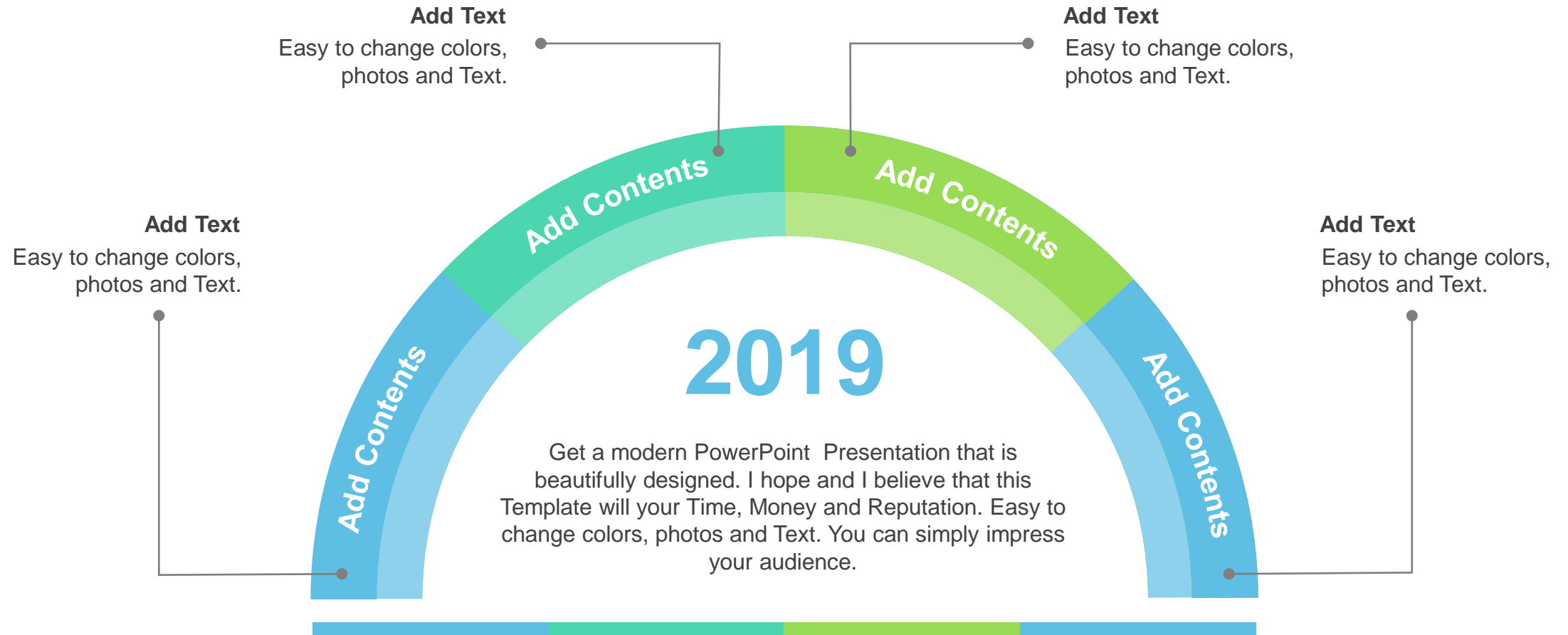
Get a modern PowerPoint Presentation that is beautifully designed. I hope and I believe that this Template will your Time.

SIMPLE PORTFOLIO PRESENTATION

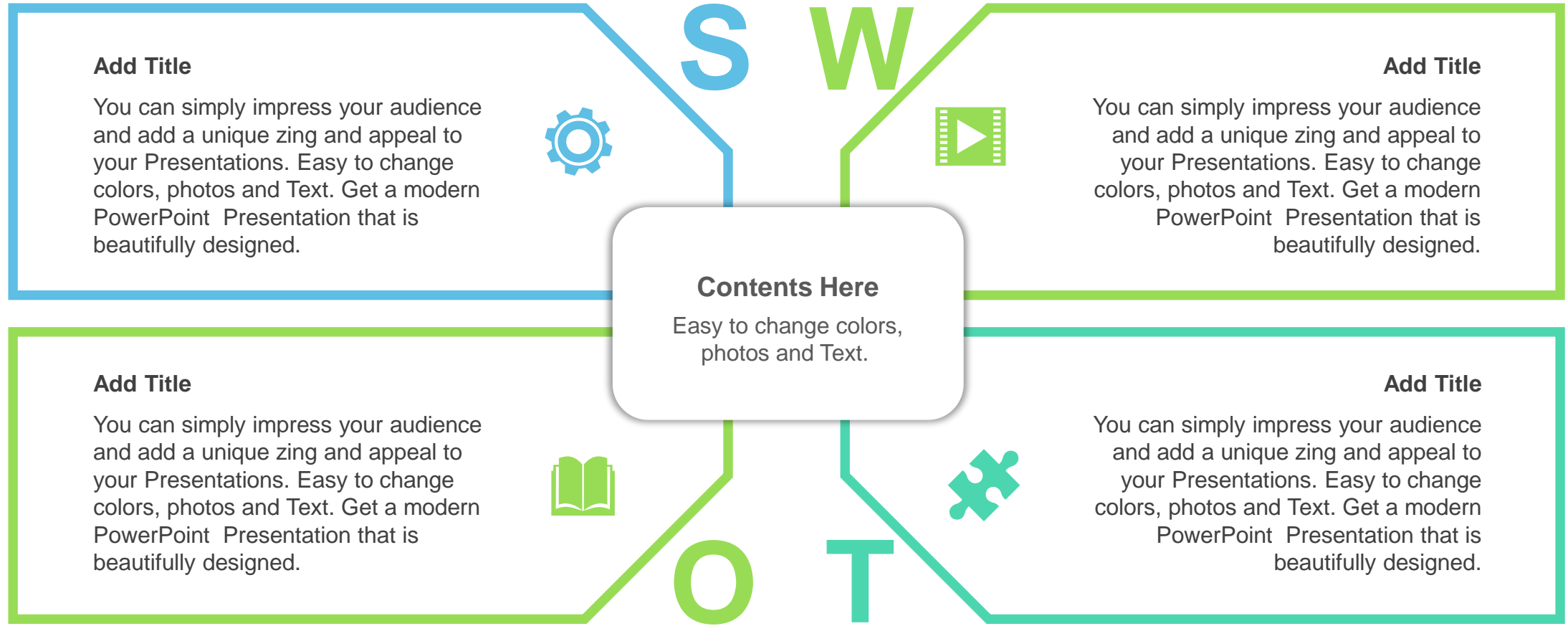
Get a modern PowerPoint Presentation that is beautifully designed. I hope and I believe that this Template will your Time.



Infographic Style



Infographic Style



Infographic Style



Contents Title

Get a modern PowerPoint Presentation that is beautifully designed. I hope and I believe that this Template will your Time, Money and Reputation.

Contents Title



Contents Title

Get a modern PowerPoint Presentation that is beautifully designed. I hope and I believe that this Template will your Time, Money and Reputation.

Contents Title



Contents Title

Get a modern PowerPoint Presentation that is beautifully designed. I hope and I believe that this Template will your Time, Money and Reputation.

Contents Title



Contents Title

Get a modern PowerPoint Presentation that is beautifully designed. I hope and I believe that this Template will your Time, Money and Reputation.

Contents Title

Infographic Style



Contents Title

Get a modern PowerPoint Presentation that is beautifully designed.

Easy to change colors, photos and Text.

Get a modern PowerPoint Presentation that is beautifully designed. Easy to change colors, photos and Text. You can simply impress your audience and add a unique zing and appeal to your Presentations. Get a modern PowerPoint Presentation that is beautifully designed. Easy to change colors, photos and Text.

Get a modern PowerPoint Presentation that is beautifully designed. You can simply impress your audience and add a unique zing and appeal to your Presentations.



60%

You can simply impress your audience and add a unique zing and appeal to your Presentations.



30%

You can simply impress your audience and add a unique zing and appeal to your Presentations.





01

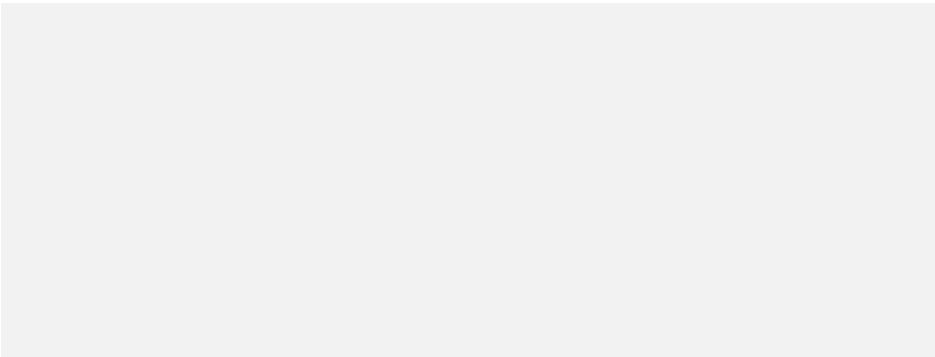
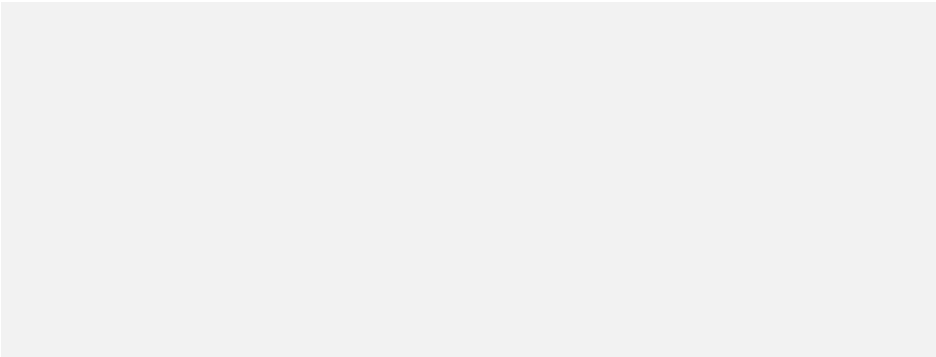
Your Text Here

You can simply impress your audience and add a unique zing and appeal to your Presentations.

03

Your Text Here

You can simply impress your audience and add a unique zing and appeal to your Presentations.



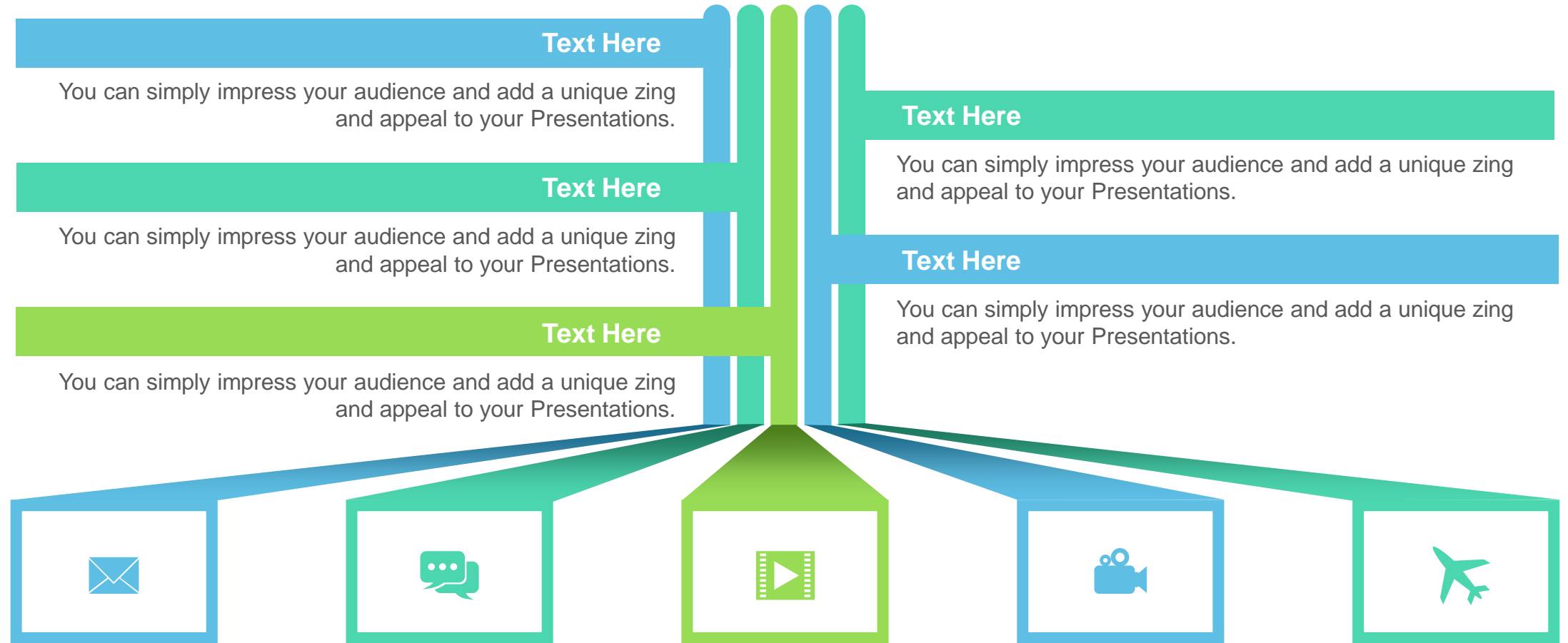
Modern Portfolio Presentation

03

Your Text Here

You can simply impress your audience and add a unique zing and appeal to your Presentations.

Infographic Style



Simple Infographic Designed

You can simply impress your audience and add a unique zing and appeal to your Presentations. Easy to change colors, photos and Text. Get a modern PowerPoint Presentation that is beautifully designed. You can simply impress your audience and add a unique zing and appeal to your Presentations. Easy to change colors, photos and Text. Get a modern PowerPoint Presentation that is beautifully designed.



You can simply impress your audience and add a unique zing and appeal to your Presentations. Easy to change colors, photos and Text. Get a modern PowerPoint Presentation that is beautifully designed. You can simply impress your audience and add a unique zing and appeal to your Presentations. Easy to change colors, photos and Text.

Content Here

Infographic Style

Contents Title

Get a modern PowerPoint Presentation that is beautifully designed. Easy to change colors, photos and Text.

Contents Title

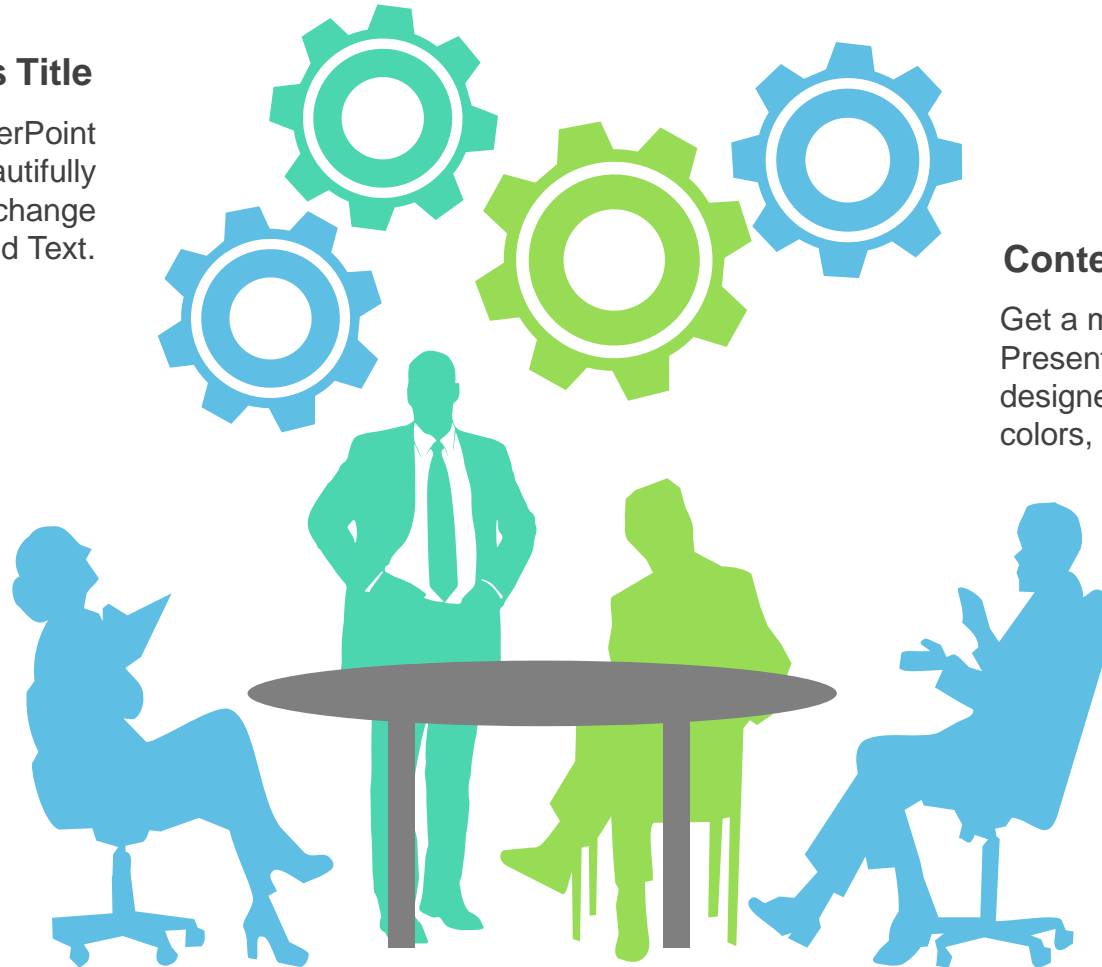
Get a modern PowerPoint Presentation that is beautifully designed. Easy to change colors, photos and Text.

Contents Title

Get a modern PowerPoint Presentation that is beautifully designed. Easy to change colors, photos and Text.

Contents Title

Get a modern PowerPoint Presentation that is beautifully designed. Easy to change colors, photos and Text.

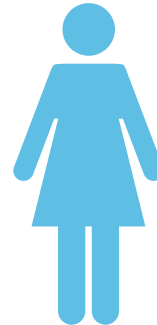


Infographic Style

Modern PowerPoint

Your Text Here

You can simply impress your audience and add a unique zing and appeal to your Presentations Get a modern PowerPoint Presentation that is beautifully designed.



Modern PowerPoint

Your Text Here

You can simply impress your audience and add a unique zing and appeal to your Presentations Get a modern PowerPoint Presentation that is beautifully designed.



Your Text Here

You can simply impress your audience and add a unique zing and appeal to your Presentations.



Your Text Here

You can simply impress your audience and add a unique zing and appeal to your Presentations.



Your Text Here

You can simply impress your audience and add a unique zing and appeal to your Presentations.



Your Text Here

You can simply impress your audience and add a unique zing and appeal to your Presentations.





Simple Portfolio Designed

You can simply impress your audience and add a unique zing and appeal to your Presentations. Easy to change colors, photos and Text. Get a modern PowerPoint Presentation that is beautifully designed. You can simply impress your audience and add a unique zing and appeal to your Presentations. Easy to change colors, photos and Text. Get a modern PowerPoint Presentation that is beautifully designed.

Infographic Style



Text Here

You can simply impress your audience and add a unique zing and appeal to your Presentations. Easy to change colors, photos and Text.

01

Text Here

You can simply impress your audience and add a unique zing and appeal to your Presentations. Easy to change colors, photos and Text.

02

Text Here

You can simply impress your audience and add a unique zing and appeal to your Presentations. Easy to change colors, photos and Text.

03

Text Here

You can simply impress your audience and add a unique zing and appeal to your Presentations. Easy to change colors, photos and Text.

04

Infographic Style

Get a modern PowerPoint Presentation that is beautifully designed.
I hope and I believe that this Template will your Time.



Get a modern PowerPoint Presentation that is beautifully designed.



Get a modern PowerPoint Presentation that is beautifully designed.



Get a modern PowerPoint Presentation that is beautifully designed.



Get a modern PowerPoint Presentation that is beautifully designed.

Modern PowerPoint

EXPERIENCE

POSITION TITLE for company tid
Present
Short description of the position and the responsibilities you had in this position.

POSITION TITLE for company tid
2013 - 2016
Short description of the position and the responsibilities you had in this position.

POSITION TITLE for company tid
2012 - 2013
Short description of the position and the responsibilities you had in this position.
Lorem ipsum dolor sit amet, consectetur adipiscing elit. Inusami qui spe volut new.

POSITION TITLE for company tid
2003 - 2010
Short description of the position and the responsibilities you had in this position.

REFERENCES

ELIOT BROWN
0028 01234 5678
eliot@mypage.com

Business Plan

ADDRESS
125 Name Street,
Town / City,
State / Country,
Postal / ZIP code

HOBBIES
creating websites
swimming
photography
body building

PHONE
0028 01234 5678

EMAIL
info@samablaq.com

WEBSITE
www.mypage.com

SKYPE
skype: samobqak



PROFESSIONAL STATEMENT
Lorem ipsum dolor sit amet, consectetur adipiscing elit. Suspendisse suscipit efficitur lectus. Fusce iaculis, leo nec vulputate efficitur, lorem interdum elit, ut vestibulum nisl met non mi.

Aliquam dictum porta erat nec commodo. Maecenas vestibulum massa in justo pellentesque non eleifend dolor ornare. ipsum dolor sit amet, consectetur adipiscing elit. Suspendisse suscipit efficitur lectus. Fusce iaculis, leo nec vulputate efficitur, lorem interdum elit, ut vestibulum nisl met non mi.

Infographic Style



Your Text Here

\$1,500

You can simply impress your audience and add a unique zing and appeal to your Presentations.

Text Here



Your Text Here

\$1,800

You can simply impress your audience and add a unique zing and appeal to your Presentations.

Text Here



Your Text Here

\$1,600

You can simply impress your audience and add a unique zing and appeal to your Presentations.

Text Here



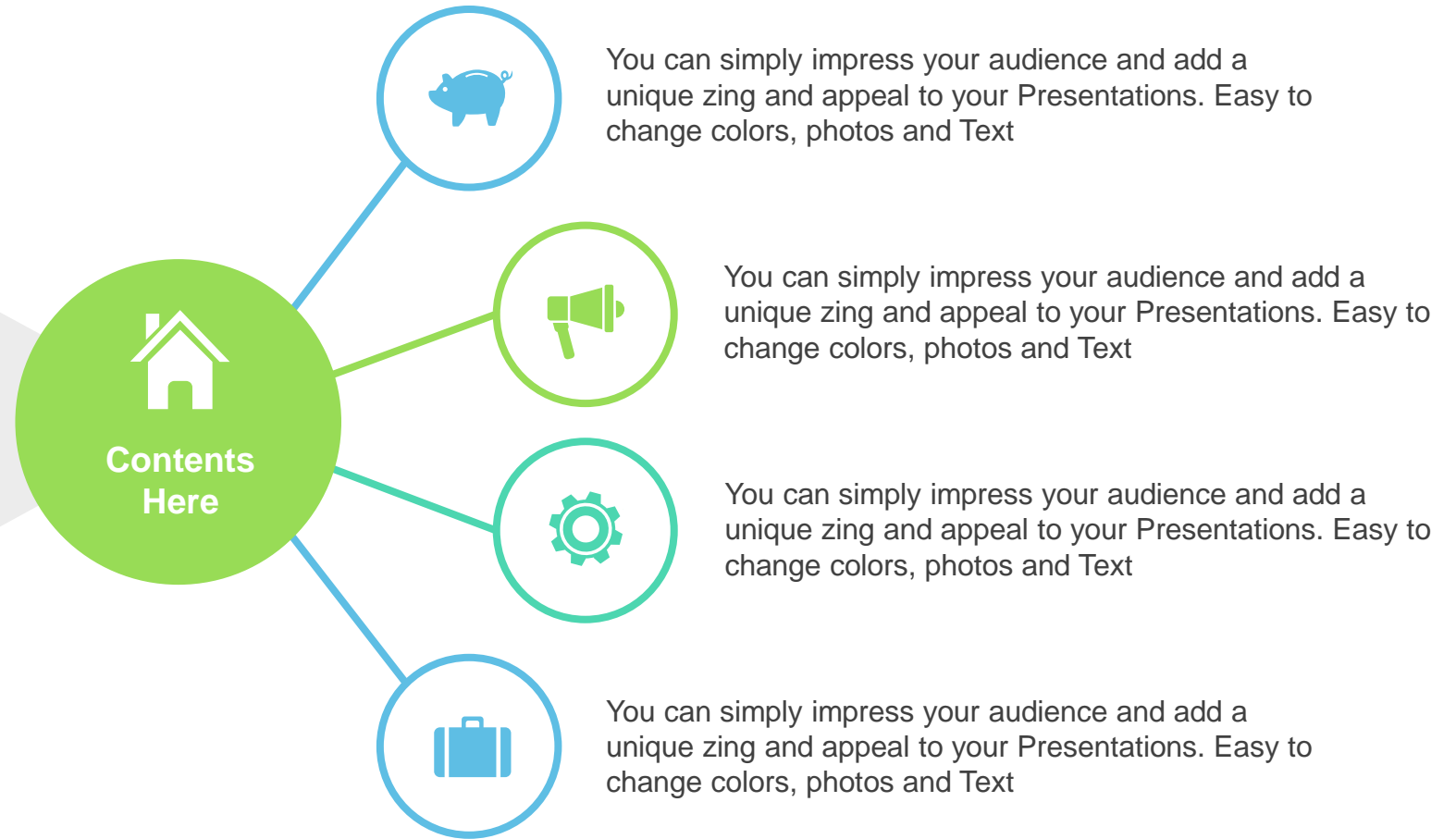
Your Text Here

\$1,100

You can simply impress your audience and add a unique zing and appeal to your Presentations.

Text Here

Infographic Style



Infographic Style

Get a modern PowerPoint Presentation that is beautifully designed. I hope and I believe that this Template will your Time.



Your Text Here

I hope and I believe that this Template will your Time, Money and Reputation.



Your Text Here

I hope and I believe that this Template will your Time, Money and Reputation.



Your Text Here

I hope and I believe that this Template will your Time, Money and Reputation.

Infographic Style

Your Text Here

Get a modern PowerPoint Presentation that is beautifully designed. I hope and I believe that this Template will your Time, Money and Reputation. Easy to change colors, photos. Get a modern PowerPoint Presentation that is beautifully designed. You can simply impress your audience and add a unique zing and appeal to your Presentations.

01

Your Text Here

You can simply impress your audience and add a unique zing and appeal to your Presentations.

02

Your Text Here

You can simply impress your audience and add a unique zing and appeal to your Presentations.

03

Your Text Here

You can simply impress your audience and add a unique zing and appeal to your Presentations.

04

Your Text Here

You can simply impress your audience and add a unique zing and appeal to your Presentations.

Your Text Here

Your Text Here

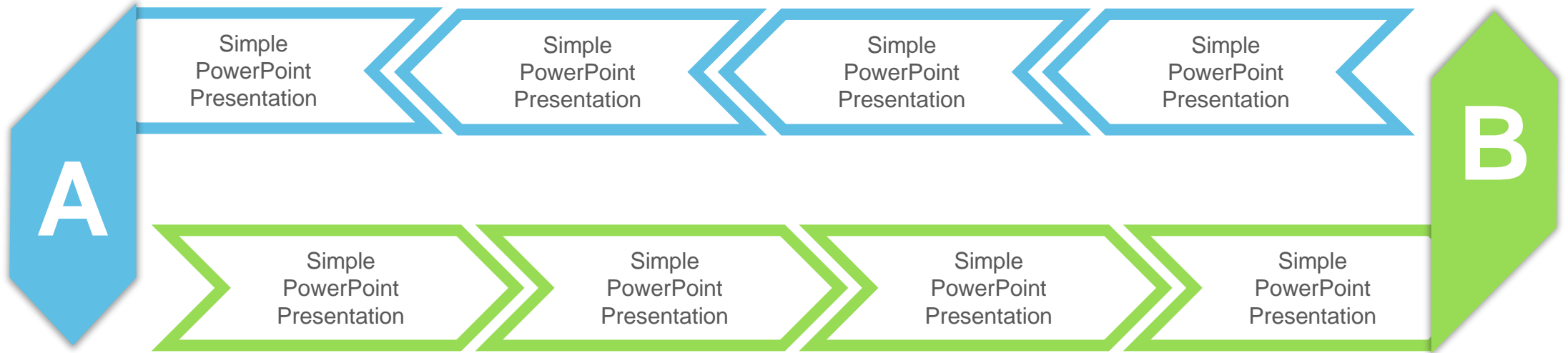
Your Text Here

Your Text Here

Add Text

Simple
PowerPoint
Presentation

Infographic Style



Simple PowerPoint Presentation

- You can simply impress your audience and add a unique zing and appeal to your Presentations.
- Get a modern PowerPoint Presentation that is beautifully designed.

Simple PowerPoint Presentation

- You can simply impress your audience and add a unique zing and appeal to your Presentations.
- Get a modern PowerPoint Presentation that is beautifully designed.



Business Plan

Columns Infographic Style



You can simply impress your audience and add a unique zing and appeal to your Presentations. Easy to change colors, photos and Text. Get a modern PowerPoint Presentation that is beautifully designed. I hope and I believe that this Template will your Time, Money and Reputation. Easy to change colors, photos and Text. I hope and I believe that this Template will your Time, Money and Reputation. You can simply impress your audience and add a unique zing and appeal to your Presentations. Easy to change colors, photos and Text. You can simply impress your audience and add a unique zing and appeal to your Presentations. Easy to change colors, photos and Text. You can simply impress your audience and add a unique zing and appeal to your Presentations.

Get a modern PowerPoint Presentation that is beautifully designed. I hope and I believe that this Template will your Time, Money and Reputation.



Columns Infographic Style

You can simply impress your audience and add a unique zing and appeal to your Reports and Presentations with our Templates. Easy to change colors, photos and Text. I hope and I believe that this Template will your Time, Money and Reputation.

You can simply impress your audience and add a unique zing and appeal to your Presentations. Easy to change colors, photos and Text. I hope and I believe that this Template will your Time, Money and Reputation. You can simply impress your audience and add a unique zing and appeal to your Presentations. Easy to change colors, photos and Text.

You can simply impress your audience and add a unique zing and appeal to your Presentations. Easy to change colors, photos and Text. I hope and I believe that this Template will your Time, Money and Reputation. Get a modern PowerPoint Presentation that is beautifully designed.

Get a modern PowerPoint Presentation that is beautifully designed. You can simply impress your audience and add a unique zing and appeal to your Presentations. You can simply impress your audience and add a unique zing and appeal to your Presentations.

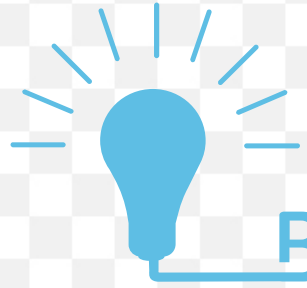
You can simply impress your audience and add a unique zing and appeal to your Presentations. Easy to change colors, photos and Text. I hope and I believe that this Template will your Time, Money and Reputation. Get a modern PowerPoint Presentation that is beautifully designed. Get a modern PowerPoint Presentation that is beautifully designed. You can simply impress your audience and add a unique zing and appeal to your Presentations. You can simply impress your audience and add a unique zing.

Get a modern PowerPoint Presentation that is beautifully designed. You can simply impress your audience and add a unique zing and appeal to your Presentations. You can simply impress your audience and add a unique zing and appeal to your Presentations. Get a modern PowerPoint Presentation that is beautifully designed. You can simply impress your audience and add a unique zing and appeal to your Presentations. You can simply impress your audience and add a unique zing.

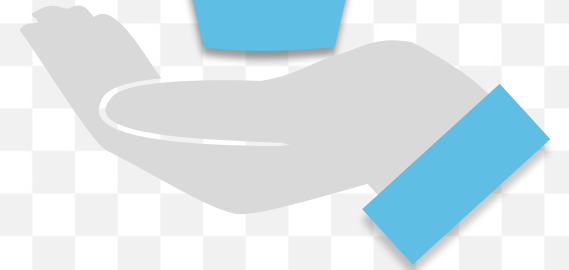
Fully Editable Shapes



Fully Editable Shapes



Business Plan



PNG & Shapes Layout



Fully Editable Icon Sets: A

You can Resize without
losing quality

You can Change Fill
Color &
Line Color

**FREE
PPT
TEMPLATES**

www.allppt.com



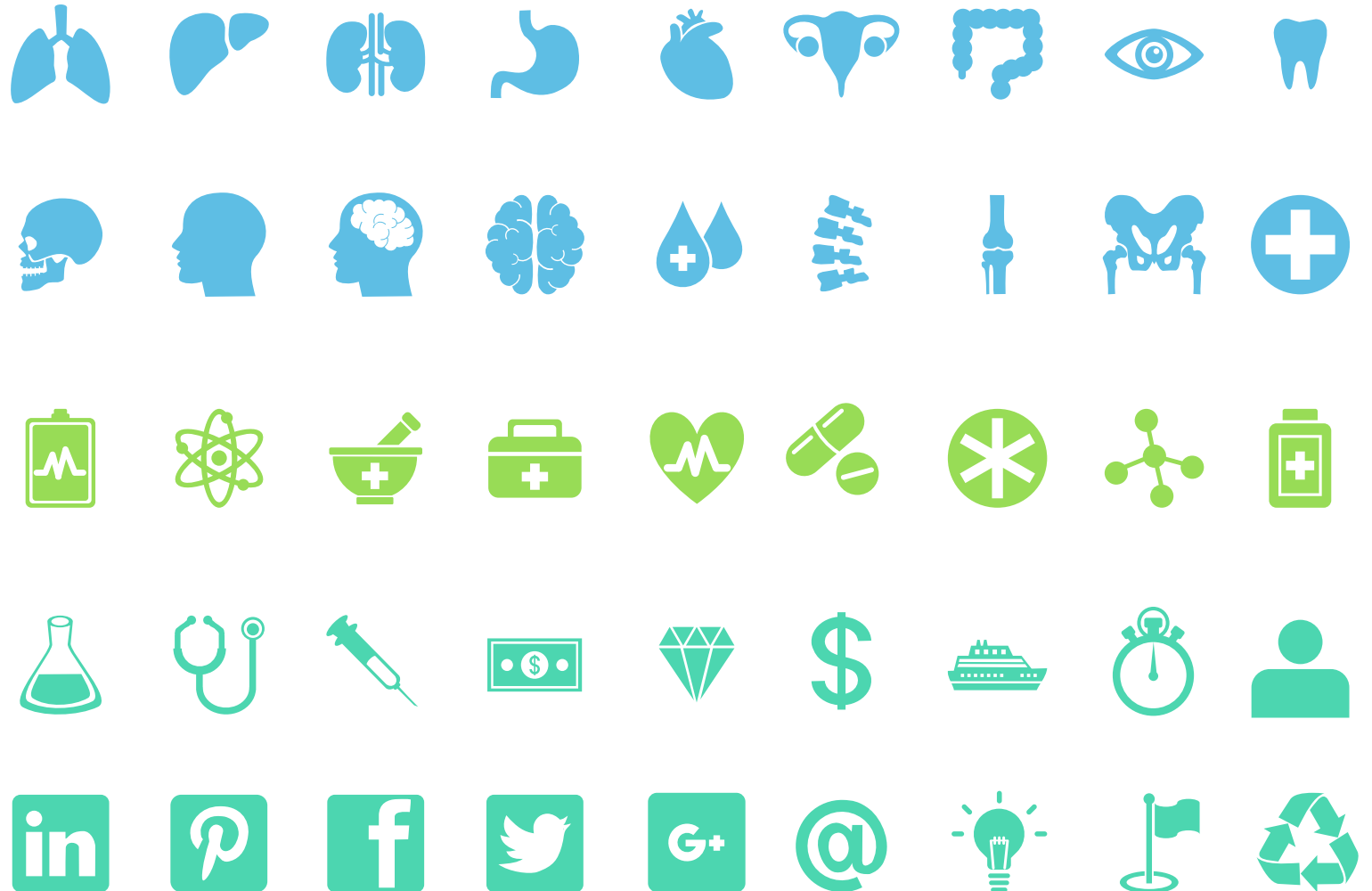
Fully Editable Icon Sets: B

You can Resize without
losing quality

You can Change Fill
Color &
Line Color

**FREE
PPT
TEMPLATES**

www.allppt.com



Fully Editable Icon Sets: C

You can Resize without
losing quality

You can Change Fill
Color &
Line Color

**FREE
PPT
TEMPLATES**

www.allppt.com

