OVERLOAD OF INFORMATION
TWITTER TIMELINE IMPROVEMENT

Master Thesis
School of Computer and Communications

Prof Denis Gillet,

Lausanne, EPFL, 2014

Wings are a constraint that makes
it possible to fly.
— Robert Bringhurst

To my parents. . .

Acknowledgements

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Lausanne, 12 Mars 2011 D. K.

Abstract

- Motivation
- Sum ip
- Results

Key words:

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Introduction

Since the sudden upsurge of Social Networks at the beginning of the 2000's, the time spent on social media has growing considerably. In 2006, two years after Facebook's creation, users were connected for only 5.5 min. per day. Five years later, the number of users has been multiplied by 70 and the time spent by 2.5. With these increases social networks have become very appealing to several sectors, such as marketing, insurance and investing. However, social medias have to deal with many constraints coming from from their users and the internet itself. Today, there exists more than twenty virtual communities with more than 100 million active users. As a result, there is a vast amount of information available to the public, and this is increasing at an ever-increasing rate. In 1970, Alvin Toffler talked about Information overload in cognitive psychology. Over the decades, following the technology evolution, this expression was more and more applicable to the web and to social media. In addition, companies like Twitter or Facebook have to deal with the engagement of their users. Despite its 500 million active users, the microblogging service saw its stock price drop of more than 23% because of low engagement of its users. The time spent online is now considered more important than the number of users.

After having grown their number of users, the social media companies are now focusing on increasing the engagement and the time spent on their sites. In order to retain users, Facebook conducted research in the field of sociology linked to big data analysis. Thanks to this research, the EdgeRank algorithm was launched in 2010, and was designed to optimize users News Feed. In 2012, Facebook launched its new design in order to improve the user experience and the workflow of its platform. Following its big brother, Twitter launched in its new design in April 2004. The design was considered by many bloggers as the copy of Facebook's one. However, Wall Street answered positively to this strategy which reassured many investors. In this project, we perform an A/B test on Twitter users in order to measure their engagement. In order to avoid Information overload, we use a simple design which allows the candidate to engage with their tweets one by one. Our two dependent variables are interest and time, we attempt to measure their impact on the engagement in a non overloaded environnement.

Firstly, the paper discusses the studies related to this field and explain the motivation this topic is outlined. Second, the paper describes the protocol which was followed and the technical implementation done in Python. Third, the method of data acquisition is recalled. Finally, we analysis and discuss the data is analysed and discussed in order to come to a conclusion.

Related works

This project is at the intersection of Social media, overload of information and User Experience is relatively new and evolves quickly. As mentioned in the introduction, social networks appeared at the beginning of the 2000's and continue to be in perpetual movements. We can thus observe the transformation of the Facebook page since its creation or the one of the news feed. The criteria of immutability is not an benefit in this area and it would be interesting to see if the failure of MySpace for example is linked to it. We will give an overview of three related articles.
Firstly, we will talk about EdgeRank [3], the algorithm which sort the Facebook News Feed. Secondly, we will deep dive into the engagement on Twitter depending of the content of the tweets. Finally, we will recall the redesign of Twitter and its comparison with the Facebook page.

0.1 EdgeRank

In 2006, Facebook launched the News Feed, defined as: "News Feed is a constantly updating list of stories from people and Pages that you follow on Facebook. News Feed stories include status updates, photos, videos, links, app activity and likes". This new service is a success, although Facebook noticed that if it displayed all the news, the user has a good chance of being overwhelmed by the information. At the beginning, the News Feed ranking was determined by step-by-step fine-tuning or "turning knobs" [4], and it quickly evolved into a serious project called EdgeRank [3]. It was fired by Facebook in order to diminish the overload of information that users felt looking at their Timeline. Then, an algorithm in charge of the News Feed Optimisation (NFO) was invented. As you can see on Figure 1, the NFO takes three parameters into consideration: affinity, time and weight. With this method, an object has more importance and is more likely to appear in your News Feed if your friends have been interacting with it recently, such as "likes" or "comments".
Today, the company is using a more complex ranking algorithm based on machine learning. The News Feed is influenced by 100 000 individual weights that are customised by user fine-tuning. Then, when you flag a person as "close friend" or choose to "get notifications" from a particular person, the new algorithm adds this parameters to your profile.
After having researched what other companies are doing to struggle against the overload of

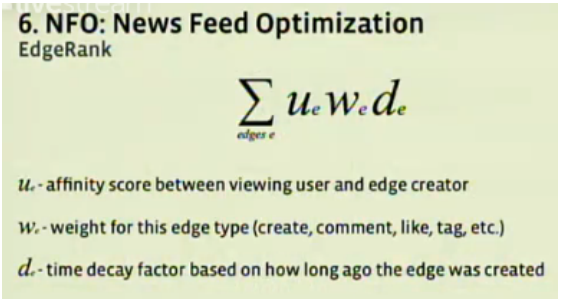


Figure 1: NFO was designed to reduce the overload of information in Facebook NewsFeed. The algorithm took three parameters: affinity, time and weight. More information are available at http://www.whatisedgerank.com/. Source: [5]

information, we decide to focus our interest on Twitter, especially what drives the engagement on this platform.

0.2 Twitter engagement

For a long time, Facebook has optimised its News Feed to spare its users from being overwhelmed by the vast amount of content that they receive. Research on Twitter is slightly different because the content is public and relatively controlled, seeing as a tweet is a message of less than 140 characters. The user can attach a photo, a video and hashtag. Thanks to this study [6], we have a better understanding of what facilitates engagement on twitter. The formula used to measure the rate is giving below Figure 2.

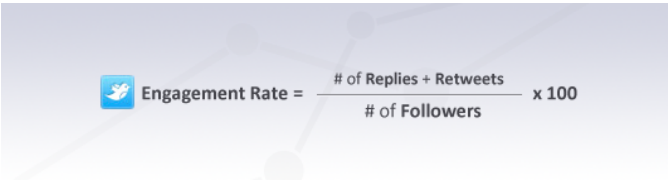


Figure 2: The engagement rate is depending on the platform and the functionalities available. It is not an easy metrics to measure and has not a single formula. Find more information about it source [7]

This study shows that people do not engage equally with every Tweet. Indeed, adding extra content to the 140 limited characters increases considerably the engagement of the users. The Figure 3, illustrates the fact that photos, videos and links are influential factors in increasing the number of retweets.
After considering the content of the tweets and the fact that images are increasing the number of retweets, we will discuss the design change that Twitter adopted in April 2014.

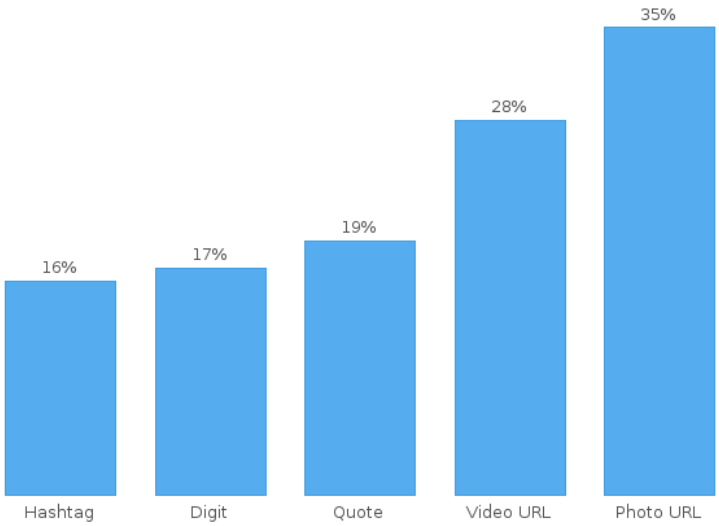


Figure 3: Engagement of people depending on the content added to the tweets, got from this source [6]

0.3 Twitter redesign

In April 2014, Twitter launched its new design, instilling confidence in their investors. This modification, as shown in figure 4, is modeled directly after the Facebook design. With this adjustment, Twitter aimed to cut off the overload of information [8], taking the user back to the center of the platform. As with Facebook, users can now enjoy a larger profile photo, customize their header, and show off his best Tweets.

Moreover, Twitter has developed some features to improve the content of the News Feed as it is mentioned on its blog [9]:

- **Best Tweets**: Tweets that have received more engagement will appear slightly larger, so your best content is easy to find.
- **Pinned Tweet**: Pin one of your Tweets to the top of your page, so it's easy for your followers to see what you're all about.
- **Filtered Tweets**: Now you can choose which timeline to view when checking out other profiles.

Engagement is a big issue for Social media companies, though its unclear definition makes it difficult to measure. We will try here to measure the difference between interest and engagement time and then find a way to increase the time spent on the Twitter news feed. In the next chapter, we will talk about the reasons why we chose this topic and how we reached it.

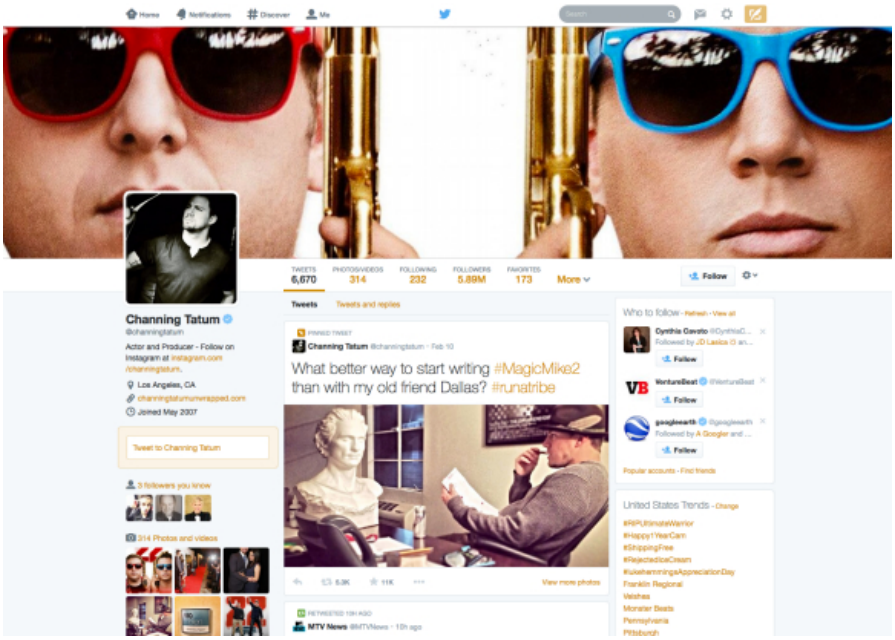


Figure 4: New design of a Twitter page. The profile picture and the Timeline remembers the Facebook design. The user is the central element of the page. Source: [10]

1 Motivations & Evolution

To do

1.1 Motivations

Social media has an important role in the real world and has an impact that was probably under-estimated a couple of years ago. Historical events like the arab spring or the election in Cambodia [12] are two examples that show how social media can be a powerful force for change when compared to other media. These events lead to studies about human behavior and engagement on these platforms.
For users, one of the main goals is to increase the time efficiency on social media. Today, you can see on Figure 1.1 that 16 minutes per hour, or 27% of each hour, spent online is on social media. There are many methods used to try to make users' time on social media more efficient. As we saw with EdgeRank, the filtering of the information is one of the main ones.

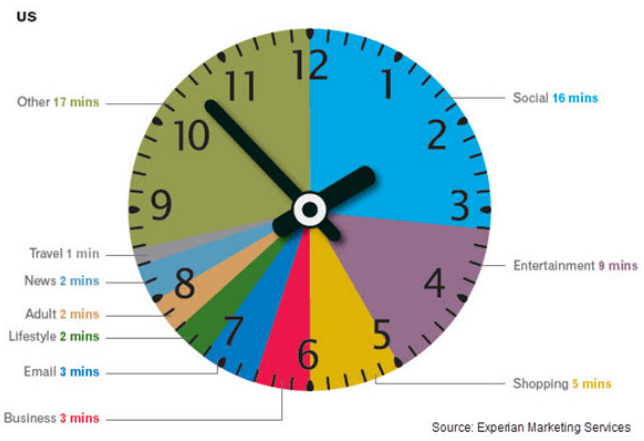


Figure 1.1: This clock shows the distribution of an hour online spent by US people. 16 min are on social network and forum. Source: [13]

Recently, Twitter had to deal with an engagement problem. As we can see on Figure 1.2, despite is 550 million users, Twitter has an engagement lower than Facebook or Instagram: this weakness led to a drop in its stock price. However, "engagement" has no scientific definition and by consequence, there is no unique solution to this problem. By considering a new design which reduce the overload of information, it will be possible to analyse more details relating to the problem of engagement. By doing this it will be possible to improve user time efficiency and twitter engagement issues.

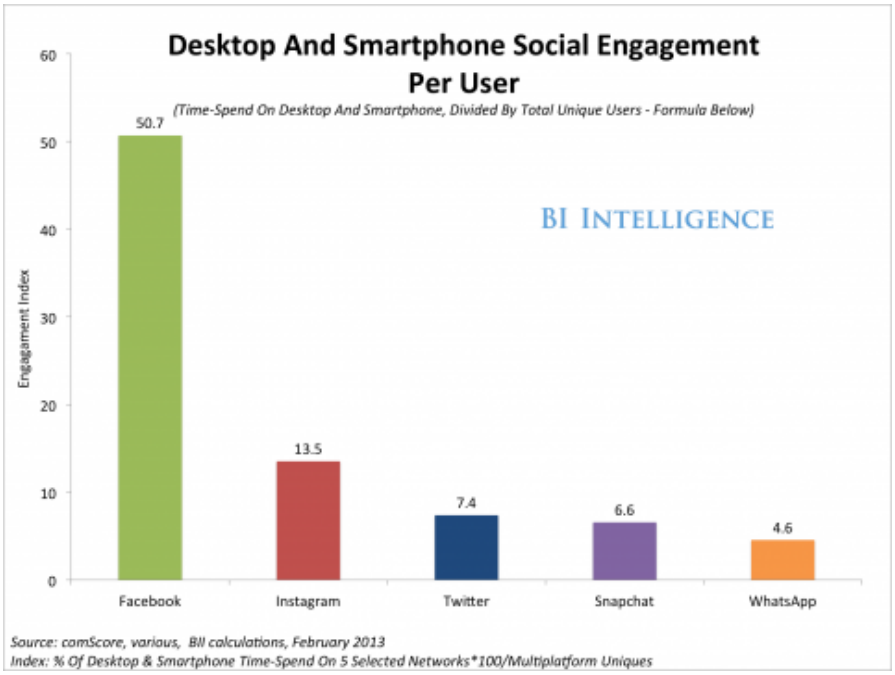


Figure 1.2: The graph gives us the social engagement per website. Facebook is from far the first one, it attracts roughly seven time more than Twitter. Source: [14]

1.2 Project evolution

Information overload is a large topic and many aspects could have been approached. By viewing Figure 1.3 can understand better why it was decide to focus the research on Twitter. Our three main criteria are: privacy, content and technique. Firstly, with Gmail, privacy and content were being dealt with. Due to the email variate and the personal characters of email, it was difficult to establish a protocol in order to improve the filtering of the emails.Secondly, we started to develop, with a similar design, applications based on different social media like Reddit or Tumblr. Finally, Tinder and Twitter were found to be of particular interest, due to the design of the Tinder app and the 140 character limit of Twitter. For these two reasons and Twitter's simple API The idea of Twinder was arrived upon.
You can find in annex the diagram [source] showing the evolution of the project through three aspects: technique, apps implementation and research.

	Gmail	Feedly	Reddit	Tumblr	Twitter	Facebook
Privacy	✗	✓	✓	✓	✓	✗
Content	✗	✓	✗*	✗*	✓✓**	✓
API	✓	✗	✓	✓	✓	✓

Figure 1.3: In order to pick the best platform, we did a revue of 6 websites based on three criteria which are: privacy, content and API.
You can find the explanation below:
Red: problem for implementing the experiment.
Green: ok for implementing the experiment.
* : content is not constant.
** : 140 char with image or not.

2 Methodology

In this section, we describe our methodology for estimating behaviours of users in social media sites from observational data. Thanks to the literature we reviewed, we noticed that the interest and engagement are two crucial metrics for social media. These two values are dependant on many parameters which are not easy to determine. The user and the platform (Facebook, Twitter...) are the two main sources of variation. From the user perspective, their mood, stress and age [1] are factors modifying the two metrics. From the service side, the factors are well known from the companies, many engineers are focusing on developing better solutions for the user. These solutions are taking into consideration the content, the display, meta-data and are today more accurate thanks to Big Data (Facebook 100000 weight [4]).
Due to three main reasons mentioned in the previous chapter which are privacy,content and technique, we based our experiment on Twitter. In this way, the content is normalised and the user is used to it because we embed the tweet: the design of each tweet is similar to the one on Twitter. In order to add fun, we picked the Tinder concept of binary classifications of girls and applied it to the tweets. This approach helped us to design a protocol based on tweets classification which differentiates the user interest and engagement. Firstly, we give an overview of the methodology, explaining the test that we ran and the metrics used. Secondly, we introduce our Twitter dataset, composed of embedded tweets from user timelines. Final, we delve into the process itself.

2.1 Big picture

In order to measure our users behaviours, we decided to run A/B testing with two different B tests. It allows us to compare our dependent variables which are the number of likes and the time spent on a tweet. To be sure that we only keep in consideration the two dependent variables, a simple graphical design is used. This design is exactly like a PowerPoint document, where the content of each slide is an embedded tweet. The user has to decide for each slide, if he likes or dislikes a tweet by pressing one of two different keys on the keyboard. Based on this design, we create an A/B test with one initial experiment called "Calibration" (test A) and two other ones taking in input the time (test B1) and the numbers of likes (test B2). Because of the

unique design, we are going to explain how we select the tweets for the calibration part and the two other tests.

metrics: the time that a user is spending on a tweet, the decision (like / dislike)

2.2 Experiment

2.2.1 Dataset

As mentioned before, we decided to do a binary classification (like / dislike) of the tweets coming from the user's timeline. Because we use tweets from the timeline, it is assumed that users are interested by the content to a certain extent: they follow the writer of the tweet. In order to reduce external factors, we limit the timeline at a group of 10 people who the person follows, called "friends". We select 10 friends randomly who published at least 25 tweets. Thanks to this data, we create a simple timeline that we suppose is similar to the real one. When a user logs in to Twinder, we retrieve in total 250 tweets: 25 tweets coming from 10 different friends. In order to keep the timeline chronological, we select the most recent 25 tweets from each user.
In the motivation chapter, we said in the Figure 1.3 that the content of twitter is standardised with a maximum of 140 characters. However, the content can take several forms, like photos, videos, text and it starts to become a little tricky to differentiate each case. We finally consider them similar to a pure text because the majority of the tweets with images contain text. After having considered the content of the tweets, the next problem that we faced was the layout of each tweet. Indeed, after displaying only the text of the tweets, we realised that the embed layout was something important for the user. It allow him to contextualise the information and link it to twitter. (img difference of embed not).
The methodology of the experiment is based on the dataset assumption that we enumerated previously. The A/B test will be explained, it is composed of the test A (calibration) and the test B1 or B2.

2.2.2 A/B Test

A Test

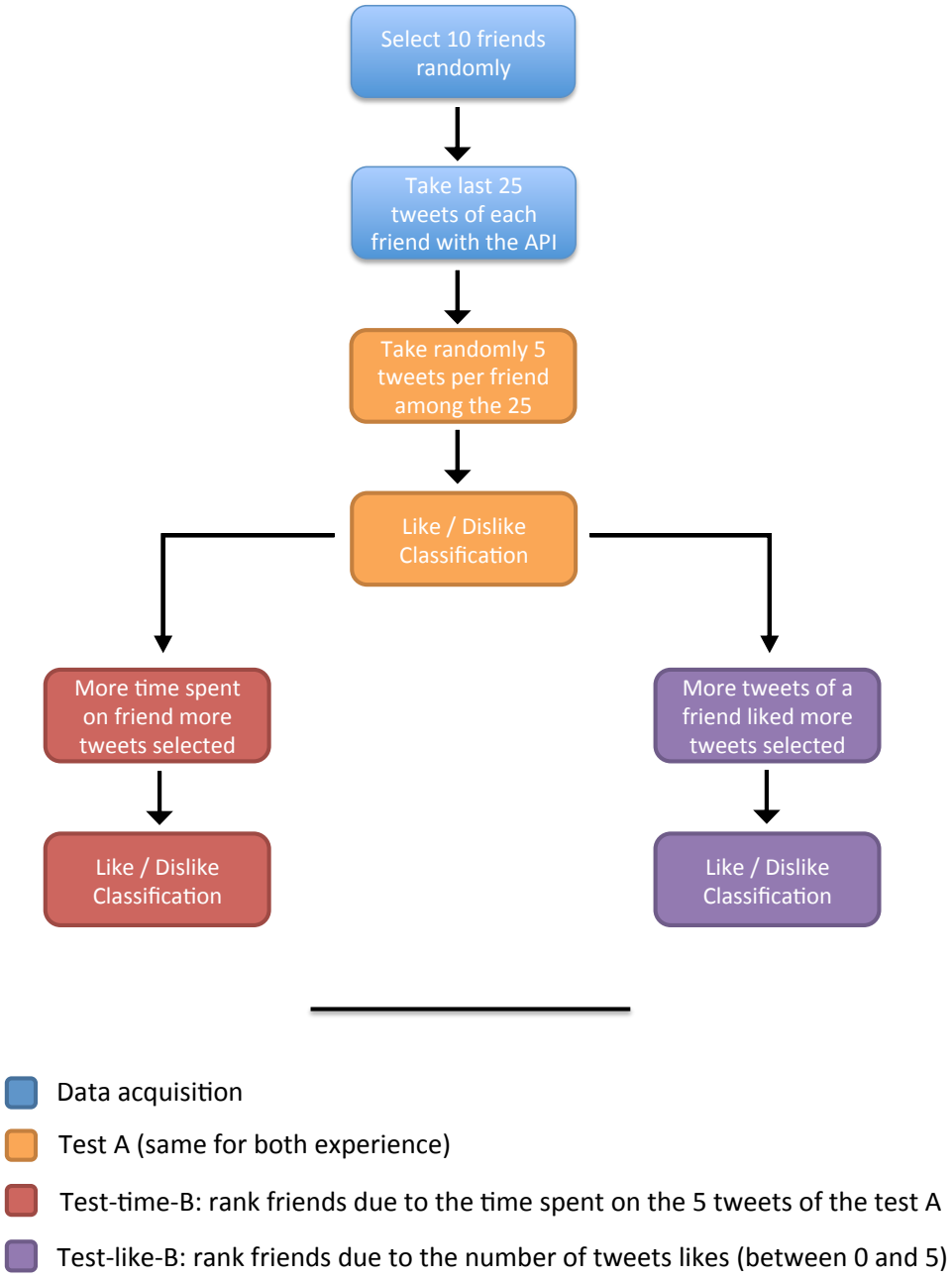


Figure 2.1: This clock shows the distribution of an hour online spent by US people. 16 min are on social network and forum. Source: [13]

3 Technical Implementation

In this chapter we will see some examples of tables and figures.

3.1 Tables

Let's see how to make a well designed table.

The table 6.1 is a floating table and was obtained with the following code:

```
\begin{table}[tb]
\caption[A floating table]{A floating table.}
\label{tab:example}
\centering
\begin{tabular}{ccc}
\toprule
    name    & weight & food   \\
\midrule
    mouse   & 10  g  & cheese \\
    cat     &  1 kg  & mice   \\
    dog     & 10 kg  & cats   \\
    t-rex   & 10 Mg  & dogs   \\
\bottomrule
\end{tabular}
\end{table}
```

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis. Curabitur dictum gravida mauris. Nam arcu libero, nonummy eget,

Table 3.1: A floating table.

name	weight	food
mouse	10 g	cheese
cat	1 kg	mice
dog	10 kg	cats
t-rex	10 Mg	dogs

consectetuer id, vulputate a, magna. Donec vehicula augue eu neque. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Mauris ut leo. Cras viverra metus rhoncus sem. Nulla et lectus vestibulum urna fringilla ultrices. Phasellus eu tellus sit amet tortor gravida placerat. Integer sapien est, iaculis in, pretium quis, viverra ac, nunc. Praesent eget sem vel leo ultrices bibendum. Aenean faucibus. Morbi dolor nulla, malesuada eu, pulvinar at, mollis ac, nulla. Curabitur auctor semper nulla. Donec varius orci eget risus. Duis nibh mi, congue eu, accumsan eleifend, sagittis quis, diam. Duis eget orci sit amet orci dignissim rutrum.

Nam dui ligula, fringilla a, euismod sodales, sollicitudin vel, wisi. Morbi auctor lorem non justo. Nam lacus libero, pretium at, lobortis vitae, ultricies et, tellus. Donec aliquet, tortor sed accumsan bibendum, erat ligula aliquet magna, vitae ornare odio metus a mi. Morbi ac orci et nisl hendrerit mollis. Suspendisse ut massa. Cras nec ante. Pellentesque a nulla. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Aliquam tincidunt urna. Nulla ullamcorper vestibulum turpis. Pellentesque cursus luctus mauris.

```
#authentification procedure
def authentification(user):
    instance = UserSocialAuth.objects.filter(user=user).get()
    auth = tweepy.OAuthHandler(SOCIAL_AUTH_TWITTER_KEY, SOCIAL_AUTH_TWITTER_
      SECRET)
    auth.set_access_token((instance.tokens).get('oauth_token'), (instance.tokens)
      .get('oauth_token_secret'))
    return tweepy.API(auth)
```

```
{% extends 'base.html' %}
{% load staticfiles %}
{% block main %}
    {%if error %}
    problem
    {% else %}
        {% if user and not user.is_anonymous %}
            <div class = "reveal">
                <div class = "slides">
                    <section id="1" name="0" value="0">
                        Ready!</br>
                        Press L to start.
                    </section>
                </div>
            </div>

        {% else %}
            <div class = "reveal">
                <div class = "slides">
                    <section>
                        <h3>w e l c o me</h3>
                        click <a href="{% url 'social:begin' 'twitter' %}?next={{
                           request.path }}">Here</a> to login to Twitter
                    </section>
                </div>
            </div>
        {% endif %}

    {% endif %}

```

```
30      {%if le_json %}
31      <script type="text/javascript">
32           var tweets_f = $.parseJSON("{{le_json|escapejs}}");
33      </script>
34      {% else %}
35      <script type="text/javascript">
36      var tweets_f = '';
37      </script>
38      {% endif %}
39
40
41  <script type="text/javascript">
42
43       display();
44
45       //display tweet after streaming them
46       function display(){
47
48          for (i=0;i<tweets_f.length;i++){
49              var tweet_id=tweets_f[i].tweet_id;
50              var friend_id=tweets_f[i].friend_id;
51              var txt_length=tweets_f[i].tweet_txt;
52              streaming(tweet_id,friend_id,txt_length.length);
53          }
54       }
55
56      //Stream tweets tks to ajax call
57      function streaming(id,friend,txt_length){
58                  $.ajax({
59                      dataType: "jsonp",
60                      url: "https://api.twitter.com/1/statuses/oembed.json?id="+id
                          +'&align=center',
61                      type: 'GET',
62                          success: function(data,args) {
63                              if (data.html){
64                                  $(".slides").append('<section id="'+id+'" value
                                      ="'+friend+'" name="'+txt_length+'">'+data.html
                                      +'</section>');
65                              }
66                          },
67                          error: function(Xhr, textStatus, errorThrown) {
68                              alert(Xhr);
69                          },
70              });
71      }
72
73      //add last page
74      function add_last(){
75          if ($('section').length=== 51){
76              $(".slides").append('<section><h3> Thanks {{ user.get_full_name|
                    default:user.username }}!</h3>This is the end</section>');
77          }
78      }
79
80  </script>
81
82  {% endblock %}
```

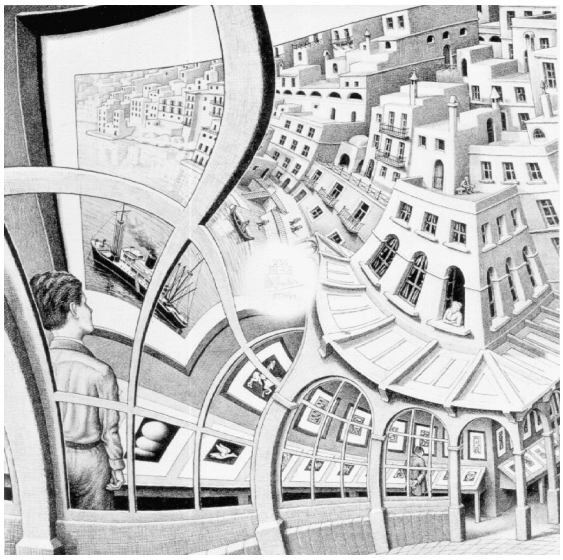


Figure 3.1: A floating figure (the lithograph *Galleria di stampe*, of M. Escher, got from http://www.mcescher.com/).

3.2 Figures

Let's see now how to put one or several images in your text.

The figure 6.1 is a floating figure and was obtained with the following code:

```
\begin{figure}[tb]
\centering
\includegraphics[width=0.5\columnwidth]{galleria_stampe}
\caption[A floating figure]{A floating figure ... }
\label{fig:galleria}
\end{figure}
```

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis. Curabitur dictum gravida mauris. Nam arcu libero, nonummy eget, consectetuer id, vulputate a, magna. Donec vehicula augue eu neque. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Mauris ut leo. Cras viverra metus rhoncus sem. Nulla et lectus vestibulum urna fringilla ultrices. Phasellus eu tellus sit amet tortor gravida placerat. Integer sapien est, iaculis in, pretium quis, viverra ac, nunc. Praesent eget sem vel leo ultrices bibendum. Aenean faucibus. Morbi dolor nulla, malesuada eu, pulvinar at, mollis ac, nulla. Curabitur auctor semper nulla. Donec varius orci eget risus. Duis nibh mi, congue eu, accumsan eleifend, sagittis quis, diam. Duis eget orci sit amet orci dignissim rutrum.

Nam dui ligula, fringilla a, euismod sodales, sollicitudin vel, wisi. Morbi auctor lorem non justo. Nam lacus libero, pretium at, lobortis vitae, ultricies et, tellus. Donec aliquet, tortor sed accumsan bibendum, erat ligula aliquet magna, vitae ornare odio metus a mi. Morbi ac orci et nisl hendrerit mollis. Suspendisse ut massa. Cras nec ante. Pellentesque a nulla. Cum

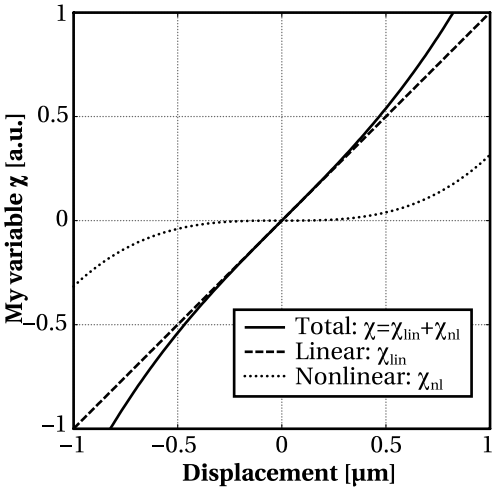


Figure 3.2: A floating figure with text typeset in "Utopia Latex", a font provided in the template-folder for typesetting figures with greek characters. The text has been "outlined" for best compatibility with the repro during the printing.

sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Aliquam tincidunt urna. Nulla ullamcorper vestibulum turpis. Pellentesque cursus luctus mauris.

The figure 6.3 is a floating figure and was obtained with the following code:

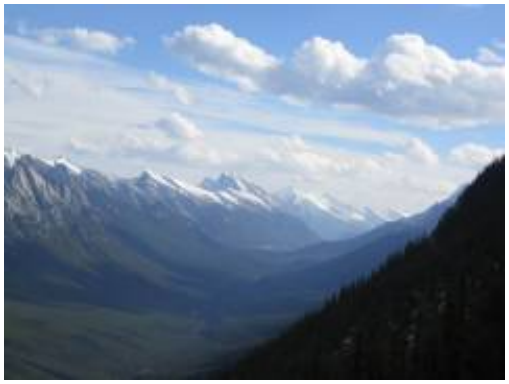
```
\begin{figure}[tb]
\centering
\subfloat[Asia personas duo.]
{\includegraphics[width=.45\columnwidth]{lorem}} \quad
\subfloat[Pan ma signo.]
{\label{fig:ipsum}%
\includegraphics[width=.45\columnwidth]{ipsum}} \\
\subfloat[Methodicamente o uno.]
{\includegraphics[width=.45\columnwidth]{dolor}} \quad
\subfloat[Titulo debitas.]
{\includegraphics[width=.45\columnwidth]{sit}}
\caption[Tu duo titulo debitas latente]{Tu duo titulo debitas latente.}
\label{fig:esempio}
\end{figure}
```

Nulla malesuada porttitor diam. Donec felis erat, congue non, volutpat at, tincidunt tristique, libero. Vivamus viverra fermentum felis. Donec nonummy pellentesque ante. Phasellus adipiscing semper elit. Proin fermentum massa ac quam. Sed diam turpis, molestie vitae, placerat a, molestie nec, leo. Maecenas lacinia. Nam ipsum ligula, eleifend at, accumsan nec, suscipit a, ipsum. Morbi blandit ligula feugiat magna. Nunc eleifend consequat lorem. Sed lacinia nulla vitae enim. Pellentesque tincidunt purus vel magna. Integer non enim. Praesent euismod nunc eu purus. Donec bibendum quam in tellus. Nullam cursus pulvinar lectus. Donec et mi. Nam vulputate metus eu enim. Vestibulum pellentesque felis eu massa.

Quisque ullamcorper placerat ipsum. Cras nibh. Morbi vel justo vitae lacus tincidunt ultrices. Lorem ipsum dolor sit amet, consectetuer adipiscing elit. In hac habitasse platea dictumst.

(a) Asia personas duo.

(b) Pan ma signo.



(c) Methodicamente o uno.

(d) Titulo debitas.

Figure 3.3: Tu duo titulo debitas latente.

Integer tempus convallis augue. Etiam facilisis. Nunc elementum fermentum wisi. Aenean placerat. Ut imperdiet, enim sed gravida sollicitudin, felis odio placerat quam, ac pulvinar elit purus eget enim. Nunc vitae tortor. Proin tempus nibh sit amet nisl. Vivamus quis tortor vitae risus porta vehicula.

Fusce mauris. Vestibulum luctus nibh at lectus. Sed bibendum, nulla a faucibus semper, leo velit ultricies tellus, ac venenatis arcu wisi vel nisl. Vestibulum diam. Aliquam pellentesque, augue quis sagittis posuere, turpis lacus congue quam, in hendrerit risus eros eget felis. Maecenas eget erat in sapien mattis porttitor. Vestibulum porttitor. Nulla facilisi. Sed a turpis eu lacus commodo facilisis. Morbi fringilla, wisi in dignissim interdum, justo lectus sagittis dui, et vehicula libero dui cursus dui. Mauris tempor ligula sed lacus. Duis cursus enim ut augue. Cras ac magna. Cras nulla. Nulla egestas. Curabitur a leo. Quisque egestas wisi eget nunc. Nam feugiat lacus vel est. Curabitur consectetuer.

Suspendisse vel felis. Ut lorem lorem, interdum eu, tincidunt sit amet, laoreet vitae, arcu. Aenean faucibus pede eu ante. Praesent enim elit, rutrum at, molestie non, nonummy vel, nisl. Ut lectus eros, malesuada sit amet, fermentum eu, sodales cursus, magna. Donec eu purus. Quisque vehicula, urna sed ultricies auctor, pede lorem egestas dui, et convallis elit erat sed

nulla. Donec luctus. Curabitur et nunc. Aliquam dolor odio, commodo pretium, ultricies non, pharetra in, velit. Integer arcu est, nonummy in, fermentum faucibus, egestas vel, odio.

Sed commodo posuere pede. Mauris ut est. Ut quis purus. Sed ac odio. Sed vehicula hendrerit sem. Duis non odio. Morbi ut dui. Sed accumsan risus eget odio. In hac habitasse platea dictumst. Pellentesque non elit. Fusce sed justo eu urna porta tincidunt. Mauris felis odio, sollicitudin sed, volutpat a, ornare ac, erat. Morbi quis dolor. Donec pellentesque, erat ac sagittis semper, nunc dui lobortis purus, quis congue purus metus ultricies tellus. Proin et quam. Class aptent taciti sociosqu ad litora torquent per conubia nostra, per inceptos hymenaeos. Praesent sapien turpis, fermentum vel, eleifend faucibus, vehicula eu, lacus.

Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Donec odio elit, dictum in, hendrerit sit amet, egestas sed, leo. Praesent feugiat sapien aliquet odio. Integer vitae justo. Aliquam vestibulum fringilla lorem. Sed neque lectus, consectetuer at, consectetuer sed, eleifend ac, lectus. Nulla facilisi. Pellentesque eget lectus. Proin eu metus. Sed porttitor. In hac habitasse platea dictumst. Suspendisse eu lectus. Ut mi mi, lacinia sit amet, placerat et, mollis vitae, dui. Sed ante tellus, tristique ut, iaculis eu, malesuada ac, dui. Mauris nibh leo, facilisis non, adipiscing quis, ultrices a, dui.

4 Data acquisition

In this chapter we will see some examples of tables and figures.

4.1 Tables

Let's see how to make a well designed table.

The table 6.1 is a floating table and was obtained with the following code:

```
\begin{table}[tb]
\caption[A floating table]{A floating table.}
\label{tab:example}
\centering
\begin{tabular}{ccc}
\toprule
    name    & weight & food   \\
\midrule
    mouse   & 10  g  & cheese \\
    cat     &  1 kg  & mice   \\
    dog     & 10 kg  & cats   \\
    t-rex   & 10 Mg  & dogs   \\
\bottomrule
\end{tabular}
\end{table}
```

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis. Curabitur dictum gravida mauris. Nam arcu libero, nonummy eget,

Table 4.1: A floating table.

name	weight	food
mouse	10 g	cheese
cat	1 kg	mice
dog	10 kg	cats
t-rex	10 Mg	dogs

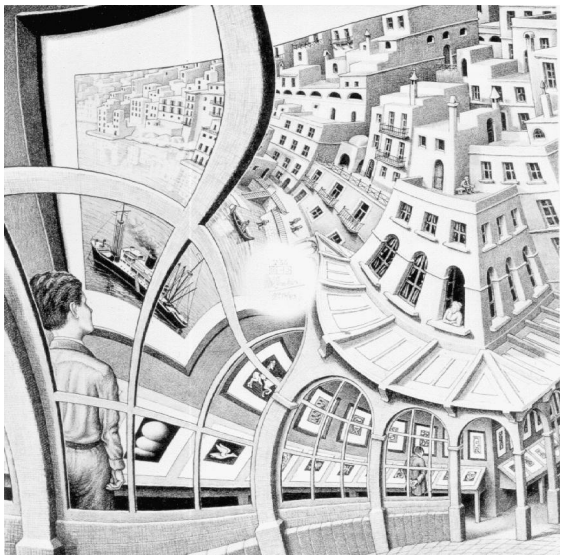


Figure 4.1: A floating figure (the lithograph *Galleria di stampe*, of M. Escher, got from http://www.mcescher.com/).

consectetuer id, vulputate a, magna. Donec vehicula augue eu neque. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Mauris ut leo. Cras viverra metus rhoncus sem. Nulla et lectus vestibulum urna fringilla ultrices. Phasellus eu tellus sit amet tortor gravida placerat. Integer sapien est, iaculis in, pretium quis, viverra ac, nunc. Praesent eget sem vel leo ultrices bibendum. Aenean faucibus. Morbi dolor nulla, malesuada eu, pulvinar at, mollis ac, nulla. Curabitur auctor semper nulla. Donec varius orci eget risus. Duis nibh mi, congue eu, accumsan eleifend, sagittis quis, diam. Duis eget orci sit amet orci dignissim rutrum.

Nam dui ligula, fringilla a, euismod sodales, sollicitudin vel, wisi. Morbi auctor lorem non justo. Nam lacus libero, pretium at, lobortis vitae, ultricies et, tellus. Donec aliquet, tortor sed accumsan bibendum, erat ligula aliquet magna, vitae ornare odio metus a mi. Morbi ac orci et nisl hendrerit mollis. Suspendisse ut massa. Cras nec ante. Pellentesque a nulla. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Aliquam tincidunt urna. Nulla ullamcorper vestibulum turpis. Pellentesque cursus luctus mauris.

4.2 Figures

Let's see now how to put one or several images in your text.

The figure 6.1 is a floating figure and was obtained with the following code:

```
1 \begin{figure}[tb]
2 \centering
3 \includegraphics[width=0.5\columnwidth]{galleria_stampe}
4 \caption[A floating figure]{A floating figure ... }
5 \label{fig:galleria}
```

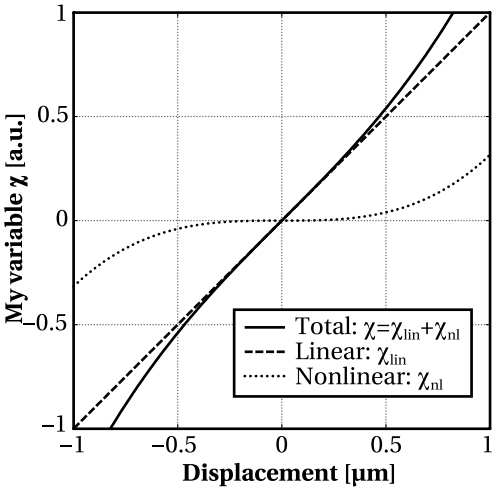


Figure 4.2: A floating figure with text typeset in "Utopia Latex", a font provided in the template-folder for typesetting figures with greek characters. The text has been "outlined" for best compatibility with the repro during the printing.

```
\end{figure}
```

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis. Curabitur dictum gravida mauris. Nam arcu libero, nonummy eget, consectetuer id, vulputate a, magna. Donec vehicula augue eu neque. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Mauris ut leo. Cras viverra metus rhoncus sem. Nulla et lectus vestibulum urna fringilla ultrices. Phasellus eu tellus sit amet tortor gravida placerat. Integer sapien est, iaculis in, pretium quis, viverra ac, nunc. Praesent eget sem vel leo ultrices bibendum. Aenean faucibus. Morbi dolor nulla, malesuada eu, pulvinar at, mollis ac, nulla. Curabitur auctor semper nulla. Donec varius orci eget risus. Duis nibh mi, congue eu, accumsan eleifend, sagittis quis, diam. Duis eget orci sit amet orci dignissim rutrum.

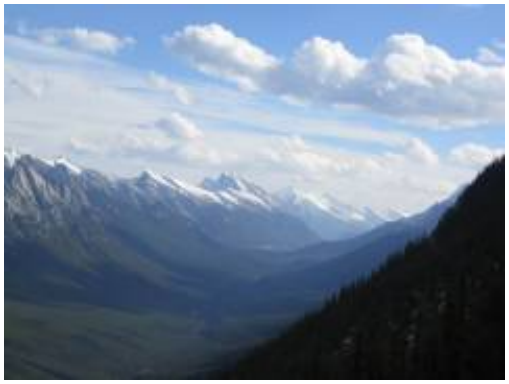
Nam dui ligula, fringilla a, euismod sodales, sollicitudin vel, wisi. Morbi auctor lorem non justo. Nam lacus libero, pretium at, lobortis vitae, ultricies et, tellus. Donec aliquet, tortor sed accumsan bibendum, erat ligula aliquet magna, vitae ornare odio metus a mi. Morbi ac orci et nisl hendrerit mollis. Suspendisse ut massa. Cras nec ante. Pellentesque a nulla. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Aliquam tincidunt urna. Nulla ullamcorper vestibulum turpis. Pellentesque cursus luctus mauris.

The figure 6.3 is a floating figure and was obtained with the following code:

```
\begin{figure}[tb]
\centering
\subfloat[Asia personas duo.]
{\includegraphics[width=.45\columnwidth]{lorem}} \quad
\subfloat[Pan ma signo.]
{\label{fig:ipsum}%
\includegraphics[width=.45\columnwidth]{ipsum}} \\
```

(a) Asia personas duo.

(b) Pan ma signo.



(c) Methodicamente o uno.

(d) Titulo debitas.

Figure 4.3: Tu duo titulo debitas latente.

```
\subfloat[Methodicamente o uno.]
{\includegraphics[width=.45\columnwidth]{dolor}} \quad
\subfloat[Titulo debitas.]
{\includegraphics[width=.45\columnwidth]{sit}}
\caption[Tu duo titulo debitas latente]{Tu duo titulo debitas latente.}
\label{fig:esempio}
\end{figure}
```

Nulla malesuada porttitor diam. Donec felis erat, congue non, volutpat at, tincidunt tristique, libero. Vivamus viverra fermentum felis. Donec nonummy pellentesque ante. Phasellus adipiscing semper elit. Proin fermentum massa ac quam. Sed diam turpis, molestie vitae, placerat a, molestie nec, leo. Maecenas lacinia. Nam ipsum ligula, eleifend at, accumsan nec, suscipit a, ipsum. Morbi blandit ligula feugiat magna. Nunc eleifend consequat lorem. Sed lacinia nulla vitae enim. Pellentesque tincidunt purus vel magna. Integer non enim. Praesent euismod nunc eu purus. Donec bibendum quam in tellus. Nullam cursus pulvinar lectus. Donec et mi. Nam vulputate metus eu enim. Vestibulum pellentesque felis eu massa.

Quisque ullamcorper placerat ipsum. Cras nibh. Morbi vel justo vitae lacus tincidunt ultrices. Lorem ipsum dolor sit amet, consectetuer adipiscing elit. In hac habitasse platea dictumst.

Integer tempus convallis augue. Etiam facilisis. Nunc elementum fermentum wisi. Aenean placerat. Ut imperdiet, enim sed gravida sollicitudin, felis odio placerat quam, ac pulvinar elit purus eget enim. Nunc vitae tortor. Proin tempus nibh sit amet nisl. Vivamus quis tortor vitae risus porta vehicula.

Fusce mauris. Vestibulum luctus nibh at lectus. Sed bibendum, nulla a faucibus semper, leo velit ultricies tellus, ac venenatis arcu wisi vel nisl. Vestibulum diam. Aliquam pellentesque, augue quis sagittis posuere, turpis lacus congue quam, in hendrerit risus eros eget felis. Maecenas eget erat in sapien mattis porttitor. Vestibulum porttitor. Nulla facilisi. Sed a turpis eu lacus commodo facilisis. Morbi fringilla, wisi in dignissim interdum, justo lectus sagittis dui, et vehicula libero dui cursus dui. Mauris tempor ligula sed lacus. Duis cursus enim ut augue. Cras ac magna. Cras nulla. Nulla egestas. Curabitur a leo. Quisque egestas wisi eget nunc. Nam feugiat lacus vel est. Curabitur consectetuer.

Suspendisse vel felis. Ut lorem lorem, interdum eu, tincidunt sit amet, laoreet vitae, arcu. Aenean faucibus pede eu ante. Praesent enim elit, rutrum at, molestie non, nonummy vel, nisl. Ut lectus eros, malesuada sit amet, fermentum eu, sodales cursus, magna. Donec eu purus. Quisque vehicula, urna sed ultricies auctor, pede lorem egestas dui, et convallis elit erat sed nulla. Donec luctus. Curabitur et nunc. Aliquam dolor odio, commodo pretium, ultricies non, pharetra in, velit. Integer arcu est, nonummy in, fermentum faucibus, egestas vel, odio.

Sed commodo posuere pede. Mauris ut est. Ut quis purus. Sed ac odio. Sed vehicula hendrerit sem. Duis non odio. Morbi ut dui. Sed accumsan risus eget odio. In hac habitasse platea dictumst. Pellentesque non elit. Fusce sed justo eu urna porta tincidunt. Mauris felis odio, sollicitudin sed, volutpat a, ornare ac, erat. Morbi quis dolor. Donec pellentesque, erat ac sagittis semper, nunc dui lobortis purus, quis congue purus metus ultricies tellus. Proin et quam. Class aptent taciti sociosqu ad litora torquent per conubia nostra, per inceptos hymenaeos. Praesent sapien turpis, fermentum vel, eleifend faucibus, vehicula eu, lacus.

Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Donec odio elit, dictum in, hendrerit sit amet, egestas sed, leo. Praesent feugiat sapien aliquet odio. Integer vitae justo. Aliquam vestibulum fringilla lorem. Sed neque lectus, consectetuer at, consectetuer sed, eleifend ac, lectus. Nulla facilisi. Pellentesque eget lectus. Proin eu metus. Sed porttitor. In hac habitasse platea dictumst. Suspendisse eu lectus. Ut mi mi, lacinia sit amet, placerat et, mollis vitae, dui. Sed ante tellus, tristique ut, iaculis eu, malesuada ac, dui. Mauris nibh leo, facilisis non, adipiscing quis, ultrices a, dui.

5 Results

In this chapter we will see some examples of tables and figures.

5.1 Tables

Let's see how to make a well designed table.

The table 6.1 is a floating table and was obtained with the following code:

```
\begin{table}[tb]
\caption[A floating table]{A floating table.}
\label{tab:example}
\centering
\begin{tabular}{ccc}
\toprule
    name    & weight & food   \\
\midrule
    mouse   & 10  g  & cheese \\
    cat     &  1 kg  & mice   \\
    dog     & 10 kg  & cats   \\
    t-rex   & 10 Mg  & dogs   \\
\bottomrule
\end{tabular}
\end{table}
```

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis. Curabitur dictum gravida mauris. Nam arcu libero, nonummy eget,

Table 5.1: A floating table.

name	weight	food
mouse	10 g	cheese
cat	1 kg	mice
dog	10 kg	cats
t-rex	10 Mg	dogs

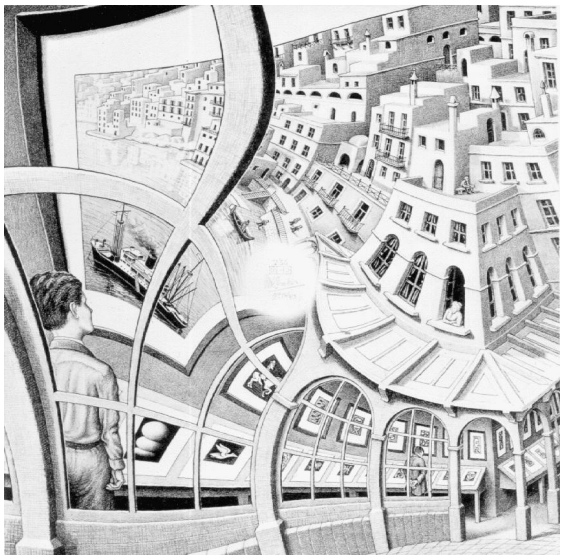


Figure 5.1: A floating figure (the lithograph *Galleria di stampe*, of M. Escher, got from http://www.mcescher.com/).

consectetuer id, vulputate a, magna. Donec vehicula augue eu neque. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Mauris ut leo. Cras viverra metus rhoncus sem. Nulla et lectus vestibulum urna fringilla ultrices. Phasellus eu tellus sit amet tortor gravida placerat. Integer sapien est, iaculis in, pretium quis, viverra ac, nunc. Praesent eget sem vel leo ultrices bibendum. Aenean faucibus. Morbi dolor nulla, malesuada eu, pulvinar at, mollis ac, nulla. Curabitur auctor semper nulla. Donec varius orci eget risus. Duis nibh mi, congue eu, accumsan eleifend, sagittis quis, diam. Duis eget orci sit amet orci dignissim rutrum.

Nam dui ligula, fringilla a, euismod sodales, sollicitudin vel, wisi. Morbi auctor lorem non justo. Nam lacus libero, pretium at, lobortis vitae, ultricies et, tellus. Donec aliquet, tortor sed accumsan bibendum, erat ligula aliquet magna, vitae ornare odio metus a mi. Morbi ac orci et nisl hendrerit mollis. Suspendisse ut massa. Cras nec ante. Pellentesque a nulla. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Aliquam tincidunt urna. Nulla ullamcorper vestibulum turpis. Pellentesque cursus luctus mauris.

5.2 Figures

Let's see now how to put one or several images in your text.

The figure 6.1 is a floating figure and was obtained with the following code:

```
1 \begin{figure}[tb]
2 \centering
3 \includegraphics[width=0.5\columnwidth]{galleria_stampe}
4 \caption[A floating figure]{A floating figure ... }
5 \label{fig:galleria}
```

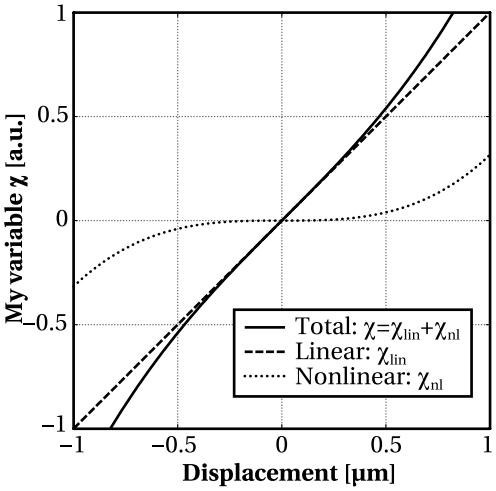


Figure 5.2: A floating figure with text typeset in "Utopia Latex", a font provided in the template-folder for typesetting figures with greek characters. The text has been "outlined" for best compatibility with the repro during the printing.

```
\end{figure}
```

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis. Curabitur dictum gravida mauris. Nam arcu libero, nonummy eget, consectetuer id, vulputate a, magna. Donec vehicula augue eu neque. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Mauris ut leo. Cras viverra metus rhoncus sem. Nulla et lectus vestibulum urna fringilla ultrices. Phasellus eu tellus sit amet tortor gravida placerat. Integer sapien est, iaculis in, pretium quis, viverra ac, nunc. Praesent eget sem vel leo ultrices bibendum. Aenean faucibus. Morbi dolor nulla, malesuada eu, pulvinar at, mollis ac, nulla. Curabitur auctor semper nulla. Donec varius orci eget risus. Duis nibh mi, congue eu, accumsan eleifend, sagittis quis, diam. Duis eget orci sit amet orci dignissim rutrum.

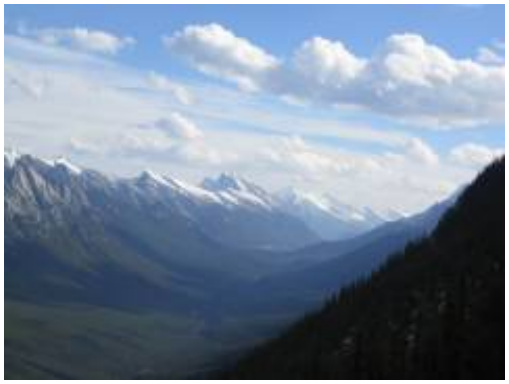
Nam dui ligula, fringilla a, euismod sodales, sollicitudin vel, wisi. Morbi auctor lorem non justo. Nam lacus libero, pretium at, lobortis vitae, ultricies et, tellus. Donec aliquet, tortor sed accumsan bibendum, erat ligula aliquet magna, vitae ornare odio metus a mi. Morbi ac orci et nisl hendrerit mollis. Suspendisse ut massa. Cras nec ante. Pellentesque a nulla. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Aliquam tincidunt urna. Nulla ullamcorper vestibulum turpis. Pellentesque cursus luctus mauris.

The figure 6.3 is a floating figure and was obtained with the following code:

```
\begin{figure}[tb]
\centering
\subfloat[Asia personas duo.]
{\includegraphics[width=.45\columnwidth]{lorem}} \quad
\subfloat[Pan ma signo.]
{\label{fig:ipsum}%
\includegraphics[width=.45\columnwidth]{ipsum}} \\
```

(a) Asia personas duo.

(b) Pan ma signo.



(c) Methodicamente o uno.

(d) Titulo debitas.

Figure 5.3: Tu duo titulo debitas latente.

```
\subfloat[Methodicamente o uno.]
{\includegraphics[width=.45\columnwidth]{dolor}} \quad
\subfloat[Titulo debitas.]
{\includegraphics[width=.45\columnwidth]{sit}}
\caption[Tu duo titulo debitas latente]{Tu duo titulo debitas latente.}
\label{fig:esempio}
\end{figure}
```

Nulla malesuada porttitor diam. Donec felis erat, congue non, volutpat at, tincidunt tristique, libero. Vivamus viverra fermentum felis. Donec nonummy pellentesque ante. Phasellus adipiscing semper elit. Proin fermentum massa ac quam. Sed diam turpis, molestie vitae, placerat a, molestie nec, leo. Maecenas lacinia. Nam ipsum ligula, eleifend at, accumsan nec, suscipit a, ipsum. Morbi blandit ligula feugiat magna. Nunc eleifend consequat lorem. Sed lacinia nulla vitae enim. Pellentesque tincidunt purus vel magna. Integer non enim. Praesent euismod nunc eu purus. Donec bibendum quam in tellus. Nullam cursus pulvinar lectus. Donec et mi. Nam vulputate metus eu enim. Vestibulum pellentesque felis eu massa.

Quisque ullamcorper placerat ipsum. Cras nibh. Morbi vel justo vitae lacus tincidunt ultrices. Lorem ipsum dolor sit amet, consectetuer adipiscing elit. In hac habitasse platea dictumst.

Integer tempus convallis augue. Etiam facilisis. Nunc elementum fermentum wisi. Aenean placerat. Ut imperdiet, enim sed gravida sollicitudin, felis odio placerat quam, ac pulvinar elit purus eget enim. Nunc vitae tortor. Proin tempus nibh sit amet nisl. Vivamus quis tortor vitae risus porta vehicula.

Fusce mauris. Vestibulum luctus nibh at lectus. Sed bibendum, nulla a faucibus semper, leo velit ultricies tellus, ac venenatis arcu wisi vel nisl. Vestibulum diam. Aliquam pellentesque, augue quis sagittis posuere, turpis lacus congue quam, in hendrerit risus eros eget felis. Maecenas eget erat in sapien mattis porttitor. Vestibulum porttitor. Nulla facilisi. Sed a turpis eu lacus commodo facilisis. Morbi fringilla, wisi in dignissim interdum, justo lectus sagittis dui, et vehicula libero dui cursus dui. Mauris tempor ligula sed lacus. Duis cursus enim ut augue. Cras ac magna. Cras nulla. Nulla egestas. Curabitur a leo. Quisque egestas wisi eget nunc. Nam feugiat lacus vel est. Curabitur consectetuer.

Suspendisse vel felis. Ut lorem lorem, interdum eu, tincidunt sit amet, laoreet vitae, arcu. Aenean faucibus pede eu ante. Praesent enim elit, rutrum at, molestie non, nonummy vel, nisl. Ut lectus eros, malesuada sit amet, fermentum eu, sodales cursus, magna. Donec eu purus. Quisque vehicula, urna sed ultricies auctor, pede lorem egestas dui, et convallis elit erat sed nulla. Donec luctus. Curabitur et nunc. Aliquam dolor odio, commodo pretium, ultricies non, pharetra in, velit. Integer arcu est, nonummy in, fermentum faucibus, egestas vel, odio.

Sed commodo posuere pede. Mauris ut est. Ut quis purus. Sed ac odio. Sed vehicula hendrerit sem. Duis non odio. Morbi ut dui. Sed accumsan risus eget odio. In hac habitasse platea dictumst. Pellentesque non elit. Fusce sed justo eu urna porta tincidunt. Mauris felis odio, sollicitudin sed, volutpat a, ornare ac, erat. Morbi quis dolor. Donec pellentesque, erat ac sagittis semper, nunc dui lobortis purus, quis congue purus metus ultricies tellus. Proin et quam. Class aptent taciti sociosqu ad litora torquent per conubia nostra, per inceptos hymenaeos. Praesent sapien turpis, fermentum vel, eleifend faucibus, vehicula eu, lacus.

Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Donec odio elit, dictum in, hendrerit sit amet, egestas sed, leo. Praesent feugiat sapien aliquet odio. Integer vitae justo. Aliquam vestibulum fringilla lorem. Sed neque lectus, consectetuer at, consectetuer sed, eleifend ac, lectus. Nulla facilisi. Pellentesque eget lectus. Proin eu metus. Sed porttitor. In hac habitasse platea dictumst. Suspendisse eu lectus. Ut mi mi, lacinia sit amet, placerat et, mollis vitae, dui. Sed ante tellus, tristique ut, iaculis eu, malesuada ac, dui. Mauris nibh leo, facilisis non, adipiscing quis, ultrices a, dui.

6 Discussion

In this chapter we will see some examples of tables and figures.

6.1 Tables

Let's see how to make a well designed table.

The table 6.1 is a floating table and was obtained with the following code:

```
\begin{table}[tb]
\caption[A floating table]{A floating table.}
\label{tab:example}
\centering
\begin{tabular}{ccc}
\toprule
    name    & weight & food   \\
\midrule
    mouse   & 10  g  & cheese \\
    cat     &  1 kg  & mice   \\
    dog     & 10 kg  & cats   \\
    t-rex   & 10 Mg  & dogs   \\
\bottomrule
\end{tabular}
\end{table}
```

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis. Curabitur dictum gravida mauris. Nam arcu libero, nonummy eget,

Table 6.1: A floating table.

name	weight	food
mouse	10 g	cheese
cat	1 kg	mice
dog	10 kg	cats
t-rex	10 Mg	dogs

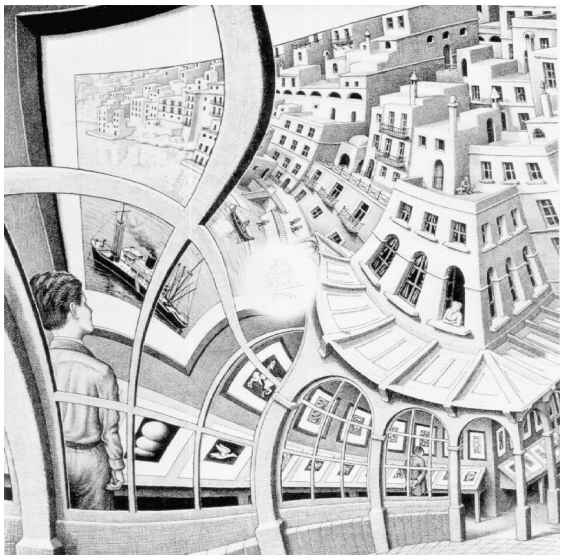


Figure 6.1: A floating figure (the lithograph *Galleria di stampe*, of M. Escher, got from http://www.mcescher.com/).

consectetuer id, vulputate a, magna. Donec vehicula augue eu neque. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Mauris ut leo. Cras viverra metus rhoncus sem. Nulla et lectus vestibulum urna fringilla ultrices. Phasellus eu tellus sit amet tortor gravida placerat. Integer sapien est, iaculis in, pretium quis, viverra ac, nunc. Praesent eget sem vel leo ultrices bibendum. Aenean faucibus. Morbi dolor nulla, malesuada eu, pulvinar at, mollis ac, nulla. Curabitur auctor semper nulla. Donec varius orci eget risus. Duis nibh mi, congue eu, accumsan eleifend, sagittis quis, diam. Duis eget orci sit amet orci dignissim rutrum.

Nam dui ligula, fringilla a, euismod sodales, sollicitudin vel, wisi. Morbi auctor lorem non justo. Nam lacus libero, pretium at, lobortis vitae, ultricies et, tellus. Donec aliquet, tortor sed accumsan bibendum, erat ligula aliquet magna, vitae ornare odio metus a mi. Morbi ac orci et nisl hendrerit mollis. Suspendisse ut massa. Cras nec ante. Pellentesque a nulla. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Aliquam tincidunt urna. Nulla ullamcorper vestibulum turpis. Pellentesque cursus luctus mauris.

6.2 Figures

Let's see now how to put one or several images in your text.

The figure 6.1 is a floating figure and was obtained with the following code:

```
1 \begin{figure}[tb]
2 \centering
3 \includegraphics[width=0.5\columnwidth]{galleria_stampe}
4 \caption[A floating figure]{A floating figure ... }
5 \label{fig:galleria}
```

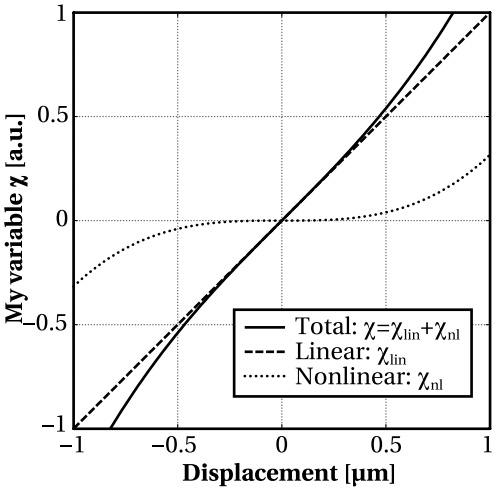


Figure 6.2: A floating figure with text typeset in "Utopia Latex", a font provided in the template-folder for typesetting figures with greek characters. The text has been "outlined" for best compatibility with the repro during the printing.

```
\end{figure}
```

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis. Curabitur dictum gravida mauris. Nam arcu libero, nonummy eget, consectetuer id, vulputate a, magna. Donec vehicula augue eu neque. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Mauris ut leo. Cras viverra metus rhoncus sem. Nulla et lectus vestibulum urna fringilla ultrices. Phasellus eu tellus sit amet tortor gravida placerat. Integer sapien est, iaculis in, pretium quis, viverra ac, nunc. Praesent eget sem vel leo ultrices bibendum. Aenean faucibus. Morbi dolor nulla, malesuada eu, pulvinar at, mollis ac, nulla. Curabitur auctor semper nulla. Donec varius orci eget risus. Duis nibh mi, congue eu, accumsan eleifend, sagittis quis, diam. Duis eget orci sit amet orci dignissim rutrum.

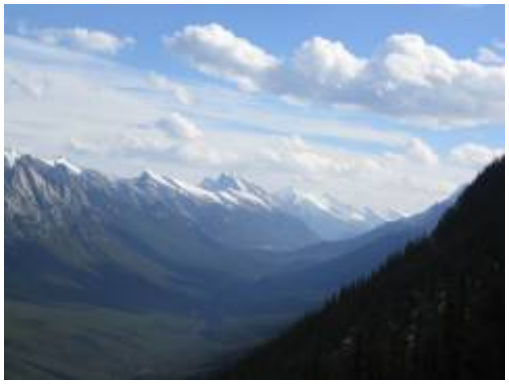
Nam dui ligula, fringilla a, euismod sodales, sollicitudin vel, wisi. Morbi auctor lorem non justo. Nam lacus libero, pretium at, lobortis vitae, ultricies et, tellus. Donec aliquet, tortor sed accumsan bibendum, erat ligula aliquet magna, vitae ornare odio metus a mi. Morbi ac orci et nisl hendrerit mollis. Suspendisse ut massa. Cras nec ante. Pellentesque a nulla. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Aliquam tincidunt urna. Nulla ullamcorper vestibulum turpis. Pellentesque cursus luctus mauris.

The figure 6.3 is a floating figure and was obtained with the following code:

```
\begin{figure}[tb]
\centering
\subfloat[Asia personas duo.]
{\includegraphics[width=.45\columnwidth]{lorem}} \quad
\subfloat[Pan ma signo.]
{\label{fig:ipsum}%
\includegraphics[width=.45\columnwidth]{ipsum}} \\
```

(a) Asia personas duo.

(b) Pan ma signo.



(c) Methodicamente o uno.

(d) Titulo debitas.

Figure 6.3: Tu duo titulo debitas latente.

```
\subfloat[Methodicamente o uno.]
{\includegraphics[width=.45\columnwidth]{dolor}} \quad
\subfloat[Titulo debitas.]
{\includegraphics[width=.45\columnwidth]{sit}}
\caption[Tu duo titulo debitas latente]{Tu duo titulo debitas latente.}
\label{fig:esempio}
\end{figure}
```

Nulla malesuada porttitor diam. Donec felis erat, congue non, volutpat at, tincidunt tristique, libero. Vivamus viverra fermentum felis. Donec nonummy pellentesque ante. Phasellus adipiscing semper elit. Proin fermentum massa ac quam. Sed diam turpis, molestie vitae, placerat a, molestie nec, leo. Maecenas lacinia. Nam ipsum ligula, eleifend at, accumsan nec, suscipit a, ipsum. Morbi blandit ligula feugiat magna. Nunc eleifend consequat lorem. Sed lacinia nulla vitae enim. Pellentesque tincidunt purus vel magna. Integer non enim. Praesent euismod nunc eu purus. Donec bibendum quam in tellus. Nullam cursus pulvinar lectus. Donec et mi. Nam vulputate metus eu enim. Vestibulum pellentesque felis eu massa.

Quisque ullamcorper placerat ipsum. Cras nibh. Morbi vel justo vitae lacus tincidunt ultrices. Lorem ipsum dolor sit amet, consectetuer adipiscing elit. In hac habitasse platea dictumst.

Integer tempus convallis augue. Etiam facilisis. Nunc elementum fermentum wisi. Aenean placerat. Ut imperdiet, enim sed gravida sollicitudin, felis odio placerat quam, ac pulvinar elit purus eget enim. Nunc vitae tortor. Proin tempus nibh sit amet nisl. Vivamus quis tortor vitae risus porta vehicula.

Fusce mauris. Vestibulum luctus nibh at lectus. Sed bibendum, nulla a faucibus semper, leo velit ultricies tellus, ac venenatis arcu wisi vel nisl. Vestibulum diam. Aliquam pellentesque, augue quis sagittis posuere, turpis lacus congue quam, in hendrerit risus eros eget felis. Maecenas eget erat in sapien mattis porttitor. Vestibulum porttitor. Nulla facilisi. Sed a turpis eu lacus commodo facilisis. Morbi fringilla, wisi in dignissim interdum, justo lectus sagittis dui, et vehicula libero dui cursus dui. Mauris tempor ligula sed lacus. Duis cursus enim ut augue. Cras ac magna. Cras nulla. Nulla egestas. Curabitur a leo. Quisque egestas wisi eget nunc. Nam feugiat lacus vel est. Curabitur consectetuer.

Suspendisse vel felis. Ut lorem lorem, interdum eu, tincidunt sit amet, laoreet vitae, arcu. Aenean faucibus pede eu ante. Praesent enim elit, rutrum at, molestie non, nonummy vel, nisl. Ut lectus eros, malesuada sit amet, fermentum eu, sodales cursus, magna. Donec eu purus. Quisque vehicula, urna sed ultricies auctor, pede lorem egestas dui, et convallis elit erat sed nulla. Donec luctus. Curabitur et nunc. Aliquam dolor odio, commodo pretium, ultricies non, pharetra in, velit. Integer arcu est, nonummy in, fermentum faucibus, egestas vel, odio.

Sed commodo posuere pede. Mauris ut est. Ut quis purus. Sed ac odio. Sed vehicula hendrerit sem. Duis non odio. Morbi ut dui. Sed accumsan risus eget odio. In hac habitasse platea dictumst. Pellentesque non elit. Fusce sed justo eu urna porta tincidunt. Mauris felis odio, sollicitudin sed, volutpat a, ornare ac, erat. Morbi quis dolor. Donec pellentesque, erat ac sagittis semper, nunc dui lobortis purus, quis congue purus metus ultricies tellus. Proin et quam. Class aptent taciti sociosqu ad litora torquent per conubia nostra, per inceptos hymenaeos. Praesent sapien turpis, fermentum vel, eleifend faucibus, vehicula eu, lacus.

Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Donec odio elit, dictum in, hendrerit sit amet, egestas sed, leo. Praesent feugiat sapien aliquet odio. Integer vitae justo. Aliquam vestibulum fringilla lorem. Sed neque lectus, consectetuer at, consectetuer sed, eleifend ac, lectus. Nulla facilisi. Pellentesque eget lectus. Proin eu metus. Sed porttitor. In hac habitasse platea dictumst. Suspendisse eu lectus. Ut mi mi, lacinia sit amet, placerat et, mollis vitae, dui. Sed ante tellus, tristique ut, iaculis eu, malesuada ac, dui. Mauris nibh leo, facilisis non, adipiscing quis, ultrices a, dui.

Bibliography

[1] http://www.marketingpilgrim.com/2013/03/facebook-admits-it-has-a-young-person-problem.html

[2] http://mashable.com/2014/02/06/twitter-stock-drop-earnings/

[3] http://www.whatisedgerank.com/

[4] http://marketingland.com/edgerank-is-dead-facebooks-news-feed-algorithm-now-has-close-to-100k-weight-factors-55908

[5] http://techcrunch.com/2010/04/22/facebook-edgerank/

[6] https://blog.twitter.com/2014/what-fuels-a-tweets-engagement

[7] http://www.socialbakers.com/blog/467-formulas-revealed-the-facebook-and-twitter-engagement-rate

[8] http://www.independent.co.uk/life-style/gadgets-and-tech/news/twitter-launches-custom-timelines-to-cut-down-on-information-overload-8936768.html

[9] https://blog.twitter.com/2014/coming-soon-a-whole-new-you-in-your-twitter-profile

[10] http://www.onlinesocialmedia.net/20140409/new-twitter-design-rollout-vs-old-design/

[11] http://www.marketingdive.com/news/one-small-design-change-boosted-twitters-engagement-617/292965/

[12] http://asiancorrespondent.com/111980/cambodia-election-proves-facebook-more-than-just-a-social-network/

[13] http://press.experian.com/united-states/press-release/experian-marketing-services-reveals-27-percent-of-time-spent-online-is-on-social-networking.aspx

[14] http://www.businessinsider.com/social-media-engagement-statistics-2013-12

[15] http://www.businessinsider.com/why-tinder-is-so-addictive-2014-7

[16] http://www.stanforddaily.com/2013/11/15/information-overload-and-social-media/

[17] http://arxiv.org/pdf/1403.6838.pdf

[18] http://www.pearanalytics.com/blog/2009/twitter-study-reveals-interesting-results-40-percent-pointless-babble/

[19] http://www.forbes.com/sites/markfidelman/2013/06/05/3-twitter-engagement-tricks-you-should-do-every-day-from-the-1-most-engaged-brand-on-twitter/

[20] http://mashable.com/2012/11/28/social-media-time/

[21] http://blog.shift.com/blog/2014/1/17/twitter-engagement-study-photo-vs-text-tweets.html

[22] http://blog.chartbeat.com/2013/03/18/using-engaged-time-to-understand-your-audience/

[23] https://blog.twitter.com/2013/api-v1-retirement-update

[24] https://dev.twitter.com/discussions/19022

[25] http://techcrunch.com/2014/08/01/facebook-is-down-for-many-2/