Internet of Things: Presentation notes

1. **Greeting and introduction** ***[Ma]***
   - Hello and welcome to our presentation about the Internet of Things.
     My name is M. and this is my classmate M.
     We covered several aspects (positive and negative) and took a look at some use cases and existing applications of the IoT.

2. **General information** ***[Mo] (GI, Usage, Positive aspects)***
   The Internet of Things describes all devices that are connected to the internet or other devices. This includes sensors, actuators (execute operations, e.g. lights and door locks) and smart devices (e.g. smart Tvs).

   Now I'll talk about some positive aspects: The IoT made industrial automation a lot easier for manufacturers. Thanks to the Internet of Things, we can track ordered products on a website in real-time.
   Without the IoT, self-driving cars wouldn't even be possible. The cars have to be connected to a network to prevent accidents.

3. **Negative aspects [Ma]**
   Every new technology has a downside. When it comes to security, some IoT devices are a nightmare. Default passwords are the biggest problem. (e.g. admin/admin).

4. **Dash button [Ma]**
   The intended use for the Amazon Dash button is to buy a product just by pressing it.
   Creative people found ways to use it for their own projects by detecting if it's on the network or not. Amazon stopped selling the buttons since a German consumer protection organisation ruled that they break laws.

5. **Discussion [Mo]**
   We asked ourselves whether we really need the Internet of Things. We've come to the conclusion that smart devices are a useful thing and that we can't stop the future. The IoT will be a huge topic in the next years.

6. **Heating stats [Mo]**
   In our web app we're requesting data from a heating system. The requested data contains current settings as well as temperatures measured by different sensors – for example on the outside, the heating flow and the return flow. We load the data into two seperate tables on the website. The left table contains the current temperatures, the right table shows the settings and some stats, for example the working hours of the compressor. The data gets called up every minute and is then shown in the chart, which displays the history of the temperatures according to the selected timespan.

   You can choose the timespan with the slider. By clicking the rectangles you can hide/show a specific temperature curve.

7. **Explanation of used code [Ma]**
   Slides -> reverse engineering protocol, finding the mem. Addr.

8. **JavaScript code explained [Mo]**
   Down here, you can see the function that's called whenever you change the positon of the slider. It basically updates the displayed chart with the new timespan. The printChart() functions downloads the data for the selected timespan and filters the needed temperatures. We can then process the downloaded data to create appropriate spaces between each temperature that we want to display.

9. **Finally [Ma]**
   Thanks for your attention! Are there any questions?