SMS INNOVATIONS

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We know that everyone has physical needs necessary for life. The food is probably the most important need among all. By the standards of good nutrition a person should consume a certain amount of nutrients, vitamins and minerals daily. Most of them he gets from food. However, the central question of modern dietetics - "How to implement a proper nutrition in our modern life?"

Today, we have paid special attention to the students, because these people will build our world tomorrow. Nutrition of the student in such an intense way of life is a problem of many universities, including the Tomsk Polytechnic University. And the problem is not just in price. Students usually do not have time for lunch because of the small breaks between classes and long lines in canteens. And if a student takes homemade food with him, it can quickly cool down which also does not bring satisfaction.

To solve this problem, our creative team launched a few ideas. The first idea is to create a generic database, which will include nearby cafes and canteens. Any person will be able to register in this database and send a special massage to one of the canteens or cafes to order the food (even during the class, with SMS) and after 15-20 minutes (to allow for cooking time) his hot meal will be ready. So, a student should only go to a café and take away his hot tasty launch. Creation of such system will greatly reduce the size of queues in canteens during a break between pairs and make life easier for students and business people.

The second idea is about creating a special container for food equipped with a heating food system with the self-timer, which allows you to heat your food at a convenient time. It seems to be a device such as a mobile container, which tends to be expensive, but our main goal was to create a device that each student could afford.

Operating principle of this container is based on the effect of transcalency - energy transfers from hotter parts to a less heated ones and leads to a uniform temperature throughout the container.

• A plate with high resistivity is used in the container as the heating element which is heated when current passes through them. These plates occupy a large part of the inner space of the container to contact to provide the maximum contact with the product.

• A galvanic cell battery is used as the power source which allows you to make the device completely autonomous.

• Also a remote control system is used in the container. There is a GSM module, which is used for receiving SMS text messages from any cell phone to activate the heating process.

Duration of the heating process in the container is limited by a timer. The working time of this timer is programmed by a computer in advance and you can change it if you want. Initially, the electronic timer is set on 540 seconds after start.

Smart Meal Shell (SMS)

Weight	370 gr
Volume	400 ml
Maximum temperature	75°c
Duration of heating process	540 sec
Heating elements	Two plates with high resistivity
Power source	Rechargeable batteries (completely autonomous)
Activation of heating process	One SMS
Duration of heating process (limited by a timer)	540 sec
Price	1100 rub

Figure 1. SMS container

Let's see how it works.
First of all we should press the button to switch it on.

Figure 2. Power button

Then we should look at this small lamp and wait until it turns from red into green. It'll take half a minute. (GSM module should catch a mobile network).

Figure 3. The process of switching the device on

So, we see the lamp is green. And our next step is to send a message with a special code to our container. (It's got its own number!!)

Figure 4. SMS with a special code (to activate the heating process)

As soon as the message is sent, the container starts heating. Also, you can always check the temperature inside the container. You should just send a message to your container and it'll send message with a temperature back to you.

Figure 5. SMS with a temperature (which container sends back to you)

Duration of the heating process in the container is limited by a timer. The working time of this timer is programmed by a computer and you can change it if you want. In this container the electronic timer is set on 540 seconds after start, but you can switched it off sending another SMS (also with a special code).

Figure 6. SMS with a special code (to stop the heating process)

The idea of "smart containers" can gain popularity not only among students but also among people with an active lifestyle, tourists, sportsmen and businessmen. Our team is planning to improve this product by inventing new features and options. So, we want to create a universal product for the modern man.

The implementation of this idea will allow many people discover the world of proper nutrition, eat high-quality hot food, in spite of the limiting factors dictated by time.

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