DC 126 See the music 2003

Eric Toering Laurie Scholten **Paul Hellings Rutger Menges** Jasper Dekker





TU/e technische universiteit eindhoven faculteit industrial design

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Project Introduction

Many commercial music players are very "black-boxish" (even when they are white). They are non-expressive boxes with non-expressive buttons. Consider the Apple iPod. It's a white box with a screen and a rotary disk. It is a beautiful object, beautiful according to the UIm school of design. It expresses a sort of 1930's elegance. Is this the future of consumer product design? or the past?

Project and Objectives

If these players have to become more expressive, what should they express? And by what means could they make clear how to operate them. In this project you are asked to design a MP3 player that expresses a certain music style. Gather knowledge and get a feeling on:

- how listening to music influences vision. Look at synaesthesia. Try it out.
- how objects express meaning. Look at semantics. Look at existing players and try them out. Where do things go wrong?
- how buttons make clear to the user how to use them. Look at semiotics. Look at affordances. Again, look at existing buttons.
- how cultural factors influence the "look" of objects. Look at product design history.
- how people experience products. Look at emotion and design Try it out for with different products.

Research technology innovation

- what are the newest trends in MP3 (MP4?) technology?
- what about portable technology?
- what about new materials?
- what about the combination of the above in wearables?
- how do people interact with products?

Deliverables

You are to design individually an MP3 music player. Follow this procedure:

- the knowledge gathering and research is done by the team.
- each member of the team choses one of the following music styles (each style has to be represented by one member of the group.
- the styles are classical/nederlands levenslied/ nu-metal/ dance/ lounge/latin
- each member designs a player AND the interaction with it. The player expresses the music style. Make collages, sketches, models, based on the knowledge and experience gathered.

• the group does a little experiment. Let 5 people (not ID students) listen to the music styles and match style and players..

Deliverables are:

- research results
- scenario's illustrating the use of the player, how it interprets the music as a visual language, through form and operational interaction of the product.
- a working 3D model illustring the use of novel technology.
- demonstration of the novel operation of the device
- results of the experiment as a presentation, A4 report, recorded CD.

The final version

This version is agreed by all the parties involved in this project, based on <u>the orinal version from the stakeholders</u> and the best effort of the team's understanding.

Our interpretation of the Project Description.

After the kick off meeting we all read the project description that was on the ID portal. We discovered that it wasn't the same as what we learned in the kick off meeting. The project description that we had in mind was quite different than the description that was written down for us.

In the written description we read that each member should make a model based on a music style. We think that we have to come up with one mp3-player at the end of the project and concentrate on one music style.

The road to the model is not very simple and we made the following out of that:

- First of all we start with existing music devices. What is on the market, what does it cost and what are the functions of it. Also what's good and what's bad about the players will be in the research.
- Also the users are very important. Therefore we do a lot of research about them. Every team member has one specific music style and will do research about this style and the people who listen to it. After every one presented his research results we choose 3 music styles to work out better.
- When the chosen music styles are worked out better we'll come up with ideas about the interface, design, materials and maybe simple models.

At this point we'll have the interim meeting where we'll discuss about our findings and ideas. We hope that we can extract one concept out of that meeting that we will work out so we can give a presentation of one concept at the end of the project.

Some things we find very important in our final model:

- The interface should be innovative and more user friendly than the exiting products.
- The looks of the player should express the music style where it's created for.
- Visualization with posters, model, foamboards, etc.

Planning of the project

From the beginning of the project the planning has been a difficult issue in our team. Especially the making of a long term planning was difficult because we had no idea of what was waiting. After the kickoff meeting we had to go our own way, and we had no experience except Paul, but we had to do it altogether. So we first made a short term planning for the first week and the week thereafter.

The day of the kickoff meeting we were starting immediately very active. Planning the first weeks and thinking of possible activities. Also in the first days we started to do some research. Only the research existed mostly out of finding info on the internet

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Also it was clear that not all the time in the project was spend as useful as it could be.

This was also because we had to become convenient with the fast internet connection and freedom on the TU. We had to make agreements on some things. First we decided to be present at 9.00 in the morning. Second we would first enjoy our coffee and then go to work. That was a good planning for the morning. Further we would spend as much effort to the project as we could. In the afternoons most of the team would spent time to work on assignments. But there was practically always someone present to work further.

After the planning showed many difficulties, it was time to make another planning, this took some time and meetings with the coach to settle it down. The main difficulty was to plan things after the interim meeting. But after all we made solid agreements on things like: making and finishing the model (in the end it still was postponed 4 days), writing down the final concept, and finishing this document (it's now the evening before the presentation as I write ... planning we didn't work).

We put flipover sheets on the wall and put our planning on it so everyone always could look at the planning. After the project we can now say that we must plan things like writing concepts down and writing reports in a very early stadium. It is better to have a spare day at the end than do everything on the last moment. Planning is essential and it deserves a lot of effort.

The user research

For the user research we all chose a target group so we got a broad research. Everyone of us did it on his own manner so everything looks a bit different. Some people also had an idea already what will be put in this section.

Hip hop.

The first thing that struck us while we were doing research on the hip hop / R&B user group was the looks of the people who listened to that music. Though everybody looked different it was obvious that it was important to "show who you are". From that moment on we knew that the mp-3 player had to be something to show off. Something like a piece of jewelry. "Bling-Bling" like hip hoppers would say.

Another thing we noticed was that the artists had influence on the listeners. A lot of listeners copied looks from the artists. Like head- and wristbands, "cash-dollar" chains, golden teeth and baseball caps. We thought it would be nice to use an artist for the marketing purpose for the player(maybe that's just daydreaming).

When we were done doing the research on the user group we thought of a concept. We found it hard to find a right accessory for the mp3-player. But while we were thinking about the users and the music they listened to we thought of a turntable. It represented the music they listened to (On hip hop / R&B parties a lot of DJ's use vinyl records) and could be turned into a nice accessory. Further the controls would be totally intuitive. Put the needle on the "record" to start playing. Push the needle up and down for the next / previous song. And the use of the fade control to put the music louder and softer.

Further we thought of the social aspects. The user group was often "hanging out" on the street together. It would be nice if the users could share and listen to the music together. That's why we thought of a sort of a booster pack with an integrated speaker and a "mix panel" for the sharing.

As last we thought about the question: "How can you find the song you want to hear at that moment?" For this question we didn't came up with a complete answer. But we thought about a way in which we can test if the listener is enjoying the music he's listening to. This way we can provide the listener with more music of the same artist, atmosphere or BMP. The idea is based on the following. When somebody is really enjoying his hip hop / R&B music he will nod his head. With a motion sensor we can measure the movement and compare that to the beat of the music. If these two parameters match we can assume that the listener is enjoying the music.

So the last part of our concept was a headphone with a motion sensor.

Children

The research for the user-group children contained the research for the daily activities of children and how children interact with music(devices). The first thing we did was to find out the main activities of children and make a poster with all the children's main activities that might be of an influence to designing an mp3-player for them:

As seen on the poster to the right the useful main activities were:

- Playing
- Friends
- Watching T.V.
- Trading
- Dancing / Singing
- Idols



For making an mp3-player for children we decided to focus on trading, because that would be a nice, new feature for a music device. Children love to trade things, so we thought: Why not trade music?!

The player should have a trade function to encourage children to share music with there friends, this is good for they're social skills.

For the concept we came up with the idea of a half sphere, which is controlled by tilting it to one side. The idea was that by flipping the half sphere over there would be light on the round side of the ball and then the kids would have a disco.

The trading would take place by putting two half spheres together, and creating a ball, then shake this ball and so hustling the songs.

Metal

- Users are very critical to new developments on the market: They only buy a product if the product is already proven worth buying by other user groups.
- Their clothing is typical, with a lot of accessories such as bracelets and necklaces. But at the moment a musical device does not fit to the style of a metal head, although they listen to a lot of music in their spare time.
- They do not reckon it important showing off their style with a portable music player. There are ten thousand cheaper ways.
- If there would be a kind of portable device in metal style, it would only be bought if it really has a plus against other players
- The style seems to be focused on darkness. Clothing is dark; music is associated to darkness (incl. lyrics). Also chrome and metallic objects (in combination with dark fabrics)fit in their clothing style
- They seem to be very rebellious, but they rather follow the system, instead of going the other way (as punk does)

Dance Music

The people in the dance-scene want:

- High storage capacity
- Cool design, lightweight
- CD/DVD player (people buy CD's in the store and still want to play them)
- A headphone as small as possible with the best sound quality
- Recording possibility, FM radio (???)
- Displays
- High compatibility with other players (sharing)
- Internet-connectivity (???)
- No buttons would be cool
- Combination of memory card and CD/DVD
- Connectivity, Compatibility, Cool design, Quality

People who listen to dance music like to dance or go to parties and clubs. They dance making smooth, round moves. So the round shape would be very important in the design of the "dance-player". You also could think of the shape of a record, which is a big icon within the dance scene. These people also like design, not to let other people know what nice product they have, but just because they like to have a nice looking product for themselves. Beside the fact that they think it has to look nice, they want to have a small product, because the device also have to fit into their pockets. **Punk**

Punk is a style that can't be defined in one way, because there are a lot of different styles within the punk scene. Therefore it's hard to say some thing about punkers in general, but we tried to research as broad as we could and we think that the results are pretty much about many punk styles.

The people we interviewed and that filled out our questionnaire gave us pretty much the same answers about when they listen to their music on a portable device: while traveling. They use different kind of devices, from regular cd-player to mp3-player. The minidisk was also popular.

The people we interviewed are not interested in a very fancy player, because it will be in their pocket any way. For the inside they do have a lot of demands. The player should be shockproof and may not break if it falls a few times. It should have lots of memory where al their cd's can be put on. Punk cd's aren't very expensive so some of the punkers would like to have also the possibility to play their cd's on the road. They would like a good interface where you can easily find the music what you would like to hear. A good remote control is nice, but it should have a clip to attach it to your jacket, because otherwise the wire would be too heavy. Some of the punkers where very demandable: "make the player multifunctional multimedia". The player should be able to play DVD,DivX, Avi, etc. when connected to a Television...

The headphones varies from big headphones to ear plugs, it doesn't matter as long as to go very loud.

Requirements

After the interimmeeting we have choosen for the Kids concept. Before we began on the research we set some basic requirements for this concept. We did this to get a global idea of the things we have to focus on while doing the research. After our research we analyzed all the data and came up with the following requirements:

Controlls:

- <u>Understandable for kids</u>, kids live in their own world and are not able to use the systems and principals we know.
- <u>Big / clear symbols</u>, it has to be easy, so children will directly recognize the functions of the device
- <u>Durable /tough</u>, children usually through things around or just let the toy drop when they are finished playing with it, so it has to be tough
- <u>Non-toxic</u>, because of younger children have the habit of putting things in their mouth it has to be completely harmless for the child.

Portability:

We think the device should be portable within the house, on the street and to the houses of friends. We set the next requirements

- It needs a handle to make it easy to carry
- <u>Straps</u> to use it as a backpack. These can be used for travelling over longer distances, to school or to friends.

- Design: <u>Bright / clear colours</u>, children are attracted to colours, so if we need to attract children, we have to have a colourful product
 - <u>lcons</u>, because some children can't read, we need icons instead of text
 - <u>No sharp edges</u>, sharp edges are harmful for children if the play with the device
 - <u>Rigid, not only the controls</u>, but the entire device should be rigid. Children handle products roughly.
 - <u>Approximately 300 500 gram</u>, if the device is not to light, children will not trough it as easily.
 - <u>Built in speakers and a headphone</u>, we conclude from our research that children like to have noise, or to make noise themselves.
 - <u>Microphone (for karaoke)</u>, when we asked children to have a music player, they wouldn't like it, but when we add a microphone for karaoke, they would love it.
 - <u>No unnecessary functions</u>, we don't want to make it any harder for the children to control the device.

Concept.

With the requirements and the results from the user research we started to refine the concept we thought of in the first phase of the user research. The results are gathered in our player. The "Wiggle"



We will now discuss the design and the technology of the player.

The design

In this section we will discuss the different parts of the player.

We used a spherical shape to provoke the children to tilt the player. This, together with the clear icons (selected in cooperation with the children), forms the control of the player. Roll the player forward and back to start and stop the playback and roll it to the left and right for the next or previous song. Not only the bottom of the player is round. We paid a lot of attention that there were no sharp edges on the player or the accessories. This, of course, is for the safety of the children.

There's a microphone placed in the centre of the player. When not used the microphone is held in place with a click-system. The children can use the microphone to sing along (karaoke function) or record their own tracks.

On the sides of the player there are two handles. Easy to grab for parents as well as for the children. We considered handles the best way to make a good portable player. This was also result of the research done with children. If the children want to travel over longer distances with their player they can attach straps to it and use it like a sort of backpack.

When the player is placed upside down the disco effect is activated. Lights placed on the round side of the player will turn on and off in tune with the music. Because the player has got a built in speaker the children can have their own disco in their room.

Last but not least the player has got a sharing function. When to players are put together and being shaken the songs that are playing are exchanged. This way children can collect songs. It brings another social aspect to the player.

The technology used.

For the control of the player we use the combination of the tilt and capacitive switch as explained in the research section.

On the microphone there's button to start and stop the recording. The microphone is attached to the player with a wire.

Music can be send from one player to another via contact points on the top of the player. This concept isn't worked out yet.

The lights of the player shoud be controlled by an IC. We want the lights to express the music that is played. Is it sad or happy, fast or slow. Colours and speed of the lights can be adjusted that way.

Of course we want the player to support the latest technologies in audio compression. That's why we think it should be firmware upgradable