

Appendix A: Barcodes

There are three types of barcodes today— linear, stacked and matrix.

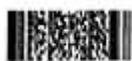
Linear codes



Most used is the linear, which is built by thin and thick lines with gaps. The longer the codes are horizontally, the more information they carry. The vertical size has no effect on the information capacity, but the bigger they are the easier it is to read them. Different standards to build the linear codes are EAN (standard for the retail trade. 13 or 8 characters), Code 39, Interleaved 2 of 5 and Code 128.



Stacked codes



The stacked codes are build by putting several codes above each other into one. With advanced data compressing techniques you can store thousands of bits in one code.



Matrix codes



The matrix codes are build by cells in a 2-dimensional matrix. In a compressed space you can store a lot of information. Compared to the linear code, the matrix code can contain 50-100 times more information per unit area. Can be good when marking for example small electronic components. (CS, 1999)



Appendix B: A description of an in car navigation system

With the following description we aim to describe the navigation system that inspired us. When the engine is started the in-car computer screen turns on and shows a menu. From this menu it is possible to choose different features for example the equalizer or the drive computer. When choosing to use the navigation system the first text that meets the driver is:

‘Please drive safely. Wear your safety belt. The navigation system is no substitute for the observance of traffic laws and constant attention to actual traffic situations. For your safety do not enter data into the navigation system while driving. Please press the rotary knob to accept’. (750, 1999-04-10 14.41 EST).

Perhaps the text should be seen as just another disclaimer that it is the driver that drives the car although it theoretically would not be necessary to be the case.

For the driver a rotary knob on the panel accesses the system. The system in it self is a part of a bigger in-car computer system that controls everything related to for example the radio and the data about the fuel consumption. The interface consists of buttons, a screen and a rotary knob. By pressing the knob the driver chooses the different functions. Behind the interface there are a GPS sender connected to a CD-based map system. When the GPS-unit receives signals from the satellites the coordinates are mapped to the digitized. The first thing the driver has to do when using the navigation system is to choose where to go. The system also makes it possible to tell the driver where he or she is at the moment. The system has some guiding modes, for example:

1. A female voice and a map or schemes for the road design
2. A map – showing where the car is related to the goal

It is possible to zoom in on the map from 10 miles to 400 feet of height, closer to the ground show more of the details. It is also possible to instruct the system to show the map having north on top, or to have it mapped in accordance with the direction of the car. On the screen the car is represented by a small triangle within a circle.

To program the navigation system the driver has to concentrate upon the screen and what is said there. Going to the 3rd avenue has to be programmed, due to our understanding, in terms of city, state and intersection. The warning quoted above seems rightful regarding the system at hand. What is suggesting further thinking is whether the navigation system not to be programmed during drive should be in the car at all and if it is designed for the context. Rather than ‘not’ the driver should be told ‘not to hesitate to’ put in data when driving.

Appendix C The Sjuhalla Example— transcription from tape Hi8-1

  1999-04-30	
Interaction analysis	Tape Hi8-1
Short description:	This episode was filmed during the first field observation, 1999-02-23. We followed a young truck driver during a day. Translated transcription. Translated by Mårten, 1999-04-30
Filmat av	
Comment	

Introduction: Setting the scene

After unloading at a store in Karlskrona we drove towards Nätraby to do a delivery to a construction site. The driver said that he had never before been in the area where to deliver the load. Earlier in the morning the driver had asked another driver and the traffic leader if they knew where the location Sjuhalla was. The colleague gave a description of how to drive and mentioned Sjuhalla Bridge. The driver we followed, Joey, had a waybill with the address “Lövsjö Byggarbetsplats [trans. Construction site], Sjuhalla”. The driver had loaded the truck the day before in Gothenburg. The load to deliver was three blue semi-round windows.

Time on tape	Speech translated	Action	Version original	Comments

9.14.59	There it stands Sjuhalla	The driver reads on a way sign	Där står Sjuhalla	On a road sign at the side of the road one stands Sjuhalla
9.15.05	Then we will drive upp wards here		Då skall vi köra uppåt här	
9.15.10	What does it stand there... Huvsvägen	Reads at the waybill.	[vad står det där] Huvsvägen	[very quiet]. Huvsvägen is the address that is on the waybill.
9.15.13	H-U-V-S-road		H-U-V-S-vägen	The driver spells the delivery address
... [cut]				
9.16.20	(brick road)		(tegelvägen)	J reads from a road sign
9.16.24	I think there shall say... it says Huvsvägen		Jag tror det skall stå... det står Huvsvägen... (mumlar)	
9.16.31	(mumble)		(mumel)	
9.16.37	Up there seems to be something big	J: Looks to his left	Där uppe verkar vara något stort	
9.16.46	Sjuhalla		Sjuhalla	A road sign
[cut]				

9.18.04	Working site, you should be able to see that. I think it can be a such a nice villa towards the sea that perhaps is over here. Because it was of course no small windows. Not such a like cheepness windows, that I do not think. Quite exclusive stuff.		Arbetsplats, det borde man väl se. Jag tror att det kan vara en nån sån där jättefin villautmot havet som kanske ligger här borta. För det var ju liksom inga småfönster. Det var inga sådana där billighetsfönster, tror jag inte heller. Rätt så exklusiva grejor.	J had loaded the windows by himself in Gothenburg the day before.
9.18.23	At last we are in Sjuhalla		Nu är vi äntligen i Sjuhalla.	Drives past a way sign with the locality name "Sjuhalla"
9.18.35	Here is the big ??? (mumble)		Här är det stora... ???mumlar	Probably he speaks about large houses
9.18.44	Let's see here little friend. Then you have to drive in to your neighbour there, yes like that. Beach road		Nu ska vi se här lilla vännen. Så får du köra in till din grann där, så ja. Strandvägen.	J talks to the driver in a meeting car
9.18.55	Sjuhalla farm		Sjuhalla gård	

9.19.03	Now the deal is to hunt right on the first one you find here, to ask for the way. Let's see here. (Whistle)		Nu är det bud på att jaga rätt på första man hittar här, till att fråga efter vägen. Nu ska vi se här. (visslar)	
[cut]				
9.20.26	[/Mårten/ There is a construction site, if you...]		[/Mårten/ Där är en byggplats, om du...]	
9.20.33	It should surprise me if that should be the case. No, it is not the right windows.		Det skulle i och för sig förvåna mig om det skulle vara så. Nej, det är inte dom rutorna.	J makes the truck slow down
9.20.40	There! (mumble) That is probably a quite newly built house as well. The windows are too large (laughs)		Där! (mummel) Det är nog rätt så nybyggt det huset också. Rutorna är för stora (laughs)	
9.20.55	Now we have to look around a bit, this is quite fun		Nu får vi se oss om lite, riktigt roligt det här ju [/Mårten/ mmm...]	
[cut]				
9.22.04	Sightseeing...		Sightseeing...	

9.22.07	Road construction work! Aa, but look here this look very good, look... Sjuhalla, Sjuhalla bridge		Vägarbete! Aa, men titta här det ser ju jädra bra ut, kolla... Sjuhalla, Sjuhalla brygga	The road we have driven on ends in a way cross. There are signs warning for construction work.
9.22.19	And there it stands... Not our... Here it stands Huvsvägen. [/Mårten/ Havsvägen [sea road]] So it could be. Havsvägen (Sea road), lets go for that, it sounds good, it sounds more realistic, Havsvägen than Huvsvägen.		Och där står... Inte vår... Det står här Huvsvägen. [/Mårten/ Havsvägen./]. Det kan det vara. Havsvägen, det kör vi på, det låter bra, det låter mer realistiskt, Havsvägen än Huvsvägen	
9.22.38	There is the construction site. Thank you for that Telephone Company		Där är bygget. Tack för det Televerket.	Televerket is the old name on the Swedish national telephone company now a day named Telia.
9.22.46	[/Mårten/ Did it say wrong on the waybill, or... ?] Yes it did a little too.		[/Mårten/ Stod det fel på fraktsedeln eller... ?] Ja det gjorde det lite också.	

9.22.50	And here we can just forget... There the big window, that I have, will be. Here we can just forget to be able to unload it. We have to go out and talk with...		Och här kan vi bara glömma... Där skall den stora rutan, jag har, vara. Här kan vi bara glömma att vi kan lossa den. Vi får gå ut och prata med...	Jumps out of the cabin
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Closing comment

When the camera was turned off Mårten and Joey visit the construction site to find somebody to talk with. J looks and observes where the window will fit in the house being built. He walks in to the house and says that it is fair. The construction workers sits in a small house besides the other house and tells the driver that the unloading can be done in the crossing (about 70 meters from the construction site). They call the forklift. About 20 minutes later a loading truck comes and successfully unloads the windows.

Appendix D: The Ystad Print Shop Example

  1999-05-03	
Interaction analysis	Tape Dv-1
Short description:	Transcription Perry – Central Print
Filmat av	Mårten Pettersson
Comment	

Introduction: Setting the scene

During our day with Perry we went from Karlshamn to Malmö, via Österlen. This transcription starts at a picnic area outside Ystad and ends outside the delivery-place inside the town.

Index on tape	Speech translated	Action	Version original	Comments

17.30		Perry stops the trucks at a picnic area with a information board with three maps at different details.		The picnic area was dimensioned for one truck. How should they manage if there already was a truck parked at the way?
18.16		Perry takes a map.		He climbs into the cabin again and takes a coffee break. During the break he looks at the map and says that it is no good, because he can't find the road he is looking for. He saves the map in his pocket. It was later during the day used as for noting an address.
18.41		Perry looks at a big road.		
19.07		He ponders about something		He found the road name in the index, but since the map is on a higher level of detail it is not set out at the map Perry looks at, but the map that is more detailed.
19.45		He tries to find the right square in which to find the address		
20.20		Checks the index again		
21.40	I would have it to the old regiment. Stable road.		Här kommer jag vill ha det till att det ska vara till det gamla regementet. Stallgatan.	The old regiment was in the early times a cavalry regiment.

21.49	This I do not get wise on.		Det här blir jag inte klok på.	
21.59		Finds the more detailed map and start looking at it.		
22.23		Perry puffs frustrated		
22.27	I would like it to be in the middle of the centrum.		Jag vill ha det till mitt uppe i centrum	Perry has both a truck and trailer
22.39	Where are we?	Perry tries to find where he is on the low-level detail map and the higher-level.	Var är vi?	The place is marked at the overview map. After a while he finds where he is and climbs into the cabin again.
26.00		Drives away.		Back in the cabin
26.14	<i>Mårten</i> : Did you find it, or? <i>Perry</i> : Yes, but I can't be wise on how I shall get there. Hee...		<i>Mårten</i> : Hittade du det, eller? <i>Perry</i> : Jo men jag blir inte klok på hur jag ska komma dit. Hää	To find it and to figure out how to get there is not the same. Perry drives into Ystad and seeks for the right address. Hee = laughs
34.04		Detaches the trailer.		

37.20	Ystad Printer. We drive somewhere and then we can see where we ends up.	Turns right, towards the central part of the city.	Ystad Tryckeri. Kör någonstans så får vi se var vi hamnar.	
38.43	No, to drive here and spin is completely meaningless		Nej, att köra här och snurra är fullständigt meningslöst.	
39.30		Looks for somebody to ask.		
39.48	No, I have to ask someone...	Takes the waybill with him.	Nej, jag får fråga nån...	Perry first stops at front of a hamburger-stand, but regret himself and continue driving until he stops in front of a delivery firm.
39.54	...no, I can take the delivery firm instead		...nej, jag kan ta budservice istället.	How did he find out that it was a delivery firm? No signs at all. The answer can be that he saw a truck at the side in front of the delivery firm.
40.03	Meaningless to spin around here		Meningslöst att hålla på och snurra här	
40.17		Opens the door and climbs out		
40.27		Walks in to the delivery firm		
40.41		Walks out again.		

41.50	/Mårten/ How did it go? /Perry/ We are going to go there, you know, to the public bath, then we shall go to the right. It is only narrow streets in here.		<i>Mårten:</i> Hur gick det? <i>Perry:</i> Vi ska ner där, vet du, vi badhuset, sen ska vi till höger. Det finns bara små gator här inne.	
42.19	Public bath, public bath		Badhus, badhus	
42.27	Where the h-ll is the public bath (mumbles)		Va f-n är badhus (mumlar)	
42.37	Here I am in the middle of the square, I remember that we should come here		Här är jag mitt på torget, hit kommer jag ihåg att vi skulle.	
42.55	But any public bath (inaudible... fan not see)		Men något badhus (ohörbart... ser jag inte).	The inaudible part is within the parentheses
43.05	Now we are down here		Nu är vi ju för f-n här nere ju.	
43.14	I can not see any public bath		Jag ser inget badhus.	

43.25	Have you seen any public bath? Here is the public bath! Yes, but then we are down here. Then he could have said the whole way down to Östergatan (east road)		Har du sett något badhus? Här är badhuset ju! Ja men då är vi ju här nere. Då hade han ju kunnat sagt ända ner till Östergatan.	
43.45	Yes, exactly, there is the ferry berth, there at that side.		För just det – där är färjeläget, där på den sidan.	
44.40	(Inaudible)	Stops the truck. Hesitates.	(Ohörbart...)	In front of the truck there is a smaller road. It does not seem that Perry knows where to go.
45.20	Stallgatan, Central Tryckeriet? /Man at bicycle/ Yes it is up there, where you held – you should have continued straightforward. /Perry/ Is it a street in there? ... /Man at bicycle/ Yes, there is the Central Printer. You probably have to back in... (inaudible)	Opens the door. Asks a man on a bicycle a question. ... climbs out.	Stallgatan, Central Tryckeriet? <i>Man på cykel</i> : Ja det ligger här uppe, där du höll – du skulle ha kört rakt fram. Perry: È de en gata där inne. ... <i>Man på cykel</i> : Ja, där ligger Central Tryckeriet. Du får nog backa in – (ohörbart).	The man at the bicycle tells Perry about how he has seen them doing when unloading. He tells him that they are using a forklift.

4610	He thought I had to reverse in		Han trodde jag fick backa in.	Back in the cabin again. Perry starts to reverse the truck in to the Central Printer.
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Closing comment

Perry backs in to the Central Printer and unloads the two pallets with paper.

Appendix E: The truck association in Kristianstad

In the beginning of the project we established a contact with a man at the truck association in Kristianstad. He was updated with the latest available technique for truck drivers. RouteLogix and Car Tex III was two programs he showed.

Route Logix is an ordinary route-planning program, which reminds of such available for the public. RouteLogix is especially designed for truck drivers in the way it takes consideration to passable roads for trucks. It was also possible to search for an address by entering post number and place name. The program could also on command optimize the route. It is not connected with the GPS system.

Car Tex III is a very fresh program. At the visit in February it was still not released. It is built on a digital version of the red, blue and green map from the Swedish Surveying office. The program is made for your laptop and by connecting a GPS-receiver it is possible to see your destination with a difference in +- 80 meters. We tried the Car Tex III program in reality and it worked satisfactory, but if you had not had any passenger beside, operating the laptop, it would have been quite difficult driving the car at the same time. With MS Access database connected to the program you could store information about customers and so on. Coordinates settled the address position on the map.