

# Expert review of TvGids.nl by group voorwielaandrijving

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# 1 Introduction

The TvGids.nl app offers an overview of TV programs on all TV channels. Furthermore, users can select their favorite channels and it is possible to set reminders for certain programs. The user rating of this app is 3,9 out of 5, which indicates that this app might have some usability issues.

The usability of the app TvGids.nl will be reviewed by four evaluators and their findings are combined in this review. Every evaluator performed a review based on Jakob Nielsen's ten heuristics for interaction design. During the evaluation, three personas are kept in mind, which are representative for the target audience of TvGids.nl. In this way, a big part of the target audience is covered, without getting lost in details. The profiles of these personas can be found in Section 2. Furthermore, each evaluator performs three different scenario's during the evaluation. The scenario's are representative for the user goals of the target audience. Section 3.1 describes the scenario's used in this review. The results of the four reviews are gathered and the problems will be classified according to their severity. In Section 4 a conclusion is drawn based on the analysis of the four evaluators.

## 2 Personas

The target audience of TvGids.nl is the average Dutch TV user, which is a very broad audience. To perform a complete usability review we chose to divide the target audience into three different age categories: children, adults and elderly people. For each of these categories we have created one persona. The persona profiles are described below.

### 2.1 Persona: child

User Group	children
<b>Personal</b>	
Name	Felix Jansen
Age	16
Location	Houten
Education	4 vmbo
Home life	Lives with his parents in a terrace house
Hobbies	Playing soccer, video games
Favorite TV shows	Stop! Politie
Capacities	Has no cognitive or motoric disadvantages
Skills / Knowledge	Experienced user of mobile apps
<b>Interaction with the system</b>	
Extent of use of system	Daily use
Level of engagement	Watches TV the whole day
User goals	Share his favorite programs with his friends on Facebook

## 2.2 Persona: adult

User Group	adults
<b>Personal</b>	
Name	Lianne Vermeer
Age	38
Location	Amsterdam
Education	Master's in Biology
Home life	Lives with her husband in an apartment
Hobbies	Reading, walking
Favorite TV shows	Everything on National Geographic
Capacities	Has no cognitive or motoric disadvantages
Skills / Knowledge	Medium experience in use of mobile apps
<b>Interaction with the system</b>	
Extent of use of system	Weekly use
Level of engagement	Not very interested in TV and apps
User goals	Get a reminder for her favorite weekly TV show

## 2.3 Persona: elderly person

User Group	elderly people
<b>Personal</b>	
Name	Wouter van Kampen
Age	79
Location	IJzendijke
Education	High school teacher
Home life	Lives in a retirement home
Hobbies	Playing card games
Favorite TV shows	NOS Journaal
Capacities	Visual capacity is less than average and bad fine motor skills
Skills / Knowledge	Hardly any experience with mobile apps
<b>Interaction with the system</b>	
Extent of use of system	Monthly use
Level of engagement	Not very interested in mobile apps
User goals	Mainly uses WhatsApp to stay in touch with his grandchildren Read background information on TV programs

## 3 Heuristic Evaluation

Four evaluators will evaluate three different scenarios keeping the three personas in mind. The scenario's are evaluated on Jakob Nielsen's ten general principles for interaction design, which are listed below (Nielsen, 1995).

1. Visibility of system status  
The system should always keep users informed about what is going on, through appropriate feedback within reasonable time.
2. Match between system and the real world  
The system should speak the users' language, with words, phrases and concepts familiar to the user, rather than system-oriented terms. Follow real-world conventions, making information appear in a natural and logical order.

3. User control and freedom  
Users often choose system functions by mistake and will need a clearly marked "emergency exit" to leave the unwanted state without having to go through an extended dialogue. Support undo and redo.
4. Consistency and standards  
Users should not have to wonder whether different words, situations, or actions mean the same thing. Follow platform conventions.
5. Error prevention  
Even better than good error messages is a careful design which prevents a problem from occurring in the first place. Either eliminate error-prone conditions or check for them and present users with a confirmation option before they commit to the action.
6. Recognition rather than recall  
Minimize the user's memory load by making objects, actions, and options visible. The user should not have to remember information from one part of the dialogue to another. Instructions for use of the system should be visible or easily retrievable whenever appropriate.
7. Flexibility and efficiency of use  
Accelerators – unseen by the novice user – may often speed up the interaction for the expert user such that the system can cater to both inexperienced and experienced users. Allow users to tailor frequent actions.
8. Aesthetic and minimalist design  
Dialogues should not contain information which is irrelevant or rarely needed. Every extra unit of information in a dialogue competes with the relevant units of information and diminishes their relative visibility.
9. Help users recognize, diagnose, and recover from errors  
Error messages should be expressed in plain language (no codes), precisely indicate the problem, and constructively suggest a solution.
10. Help and documentation  
Even though it is better if the system can be used without documentation, it may be necessary to provide help and documentation. Any such information should be easy to search, focused on the user's task, list concrete steps to be carried out, and not be too large.

### 3.1 Scenario's

The evaluators will base their review on the following three scenario's. The scenario's are typical actions users want to perform, so they are representative for the user goals of the target audience. The scenario's cover different aspects of the TvGids.nl app, to cover as much of the usability as possible.

- Scenario 1: Set a reminder in the TvGids.nl app 30 minutes before the program Late Night on channel RTL 4 starts on Friday May 1st.
- Scenario 2: Read information about all films that are on TV on Friday May 1st and share the film Unstoppable via facebook.
- Scenario 3: Set up a watchlist of all current 'Net gemist tips'.

## 3.2 Problem classification

The problems found during the four evaluations using these heuristics, scenario's and personas are classified according to their importance with respect to the development of the application. In the Appendix the evaluation of the four evaluators can be found. The evaluations are structured around Jakob Nielsen's ten heuristics. Within these ten heuristics the relevant scenario's and personas are mentioned, where applicable. The results are aggregated and the problems are classified. Four categories are distinguished: show-stoppers, big issues, small issues and cosmetic issues. Show-stoppers are clearly unacceptable. Big issues have a significant impact on usability. Small issues have lower priority, but do have to be mentioned. Cosmetic issues only have to be solved when it does not take too much effort and time. An overview of the problem classification is given below.

### Show-stoppers

- The app crashes on some devices without giving a cause to the user.

### Big issues

- Overview of TV channels disappears when you leave the app for a while.
- The start-up screen is very confusing.
- The instructions are hidden and can only be reached via the settings in the Home menu.
- The "Net gemist" screen is confusing and disordered.

### Small issues

- Users can scroll in ads to make them disappear.
- If the user has no internet connection, the app does not show an error message immediately but after 30 seconds.
- The menu disappears when you set a notification.
- The use of font size and font boldness is not consistent.

### Cosmetic issues

- The last button of the introduction is called "Overslaan", but you do not skip anything, because it is already finished. A better name like "To the app" would be better.

## 4 Conclusion

After reviewing the app, we came to the conclusion that the app is useful if you watch TV regularly. With the problems we mentioned, it could be easier to just look the TV program up on the internet without using the app. If the problems are fixed, this could be a really useful app for everyone who watches TV regularly.

The heuristics on which a lot of improvement can be made are 'Help users recognize, diagnose, and recover from errors' and 'Aesthetic and minimalist design'. From this evaluation one can conclude that the app TvGids.nl needs to undergo some redevelopment. The kind of errors differs per device, but we found errors on four different types of devices. Error messaging and visibility of the system status should be improved to inform users about the cause of errors and the duration of loading a page. Furthermore, to increase the usability the Home menu and the "Net gemist" page should both be modified, because they might confuse users. The "Tv-gids" page could be used as an example of a user friendly design.

Our suggestion for further development, next to solving the issues mentioned above, is to enable users to set notifications for special national happenings. For example on special days like Prince's day users who

enabled this notification will be notified. At the moment, users can only set notification for programs that are already in TvGids, but they cannot set them ahead in time for this type of national happenings. Another suggestion for further development is to add a search function which enables users to find the TV channel and the broadcast day and time of a specific TV program.

## 5 References

J. Nielsen (1995). 10 Usability Heuristics for User Interface Design. *Nielsen Norman Group*: [www.nngroup.com/articles/ten-usability-heuristics/](http://www.nngroup.com/articles/ten-usability-heuristics/).

## Appendix

### Review by Meike

1. Visibility of system status

It is visible that a page is loading, but loading a page can take a lot of time. After a while the message "Er is een fout opgetreden bij het ophalen van het programma." is shown to inform the user that the page will not be loaded anymore. This message is sent by Android, so the app itself does not have a way to show the system status.

2. Match between system and the real world

The icons of the TV channels used in the app match the real world, which makes it easy for users to recognize the TV channel.

3. User control and freedom

It is possible to undo an action using the undo button of your mobile phone, which is very user friendly, since this is common in a lot of applications.

4. Consistency and standards

The app uses consistent names and symbols.

5. Error prevention

When you are in the "TV-gids" menu, an overview of the different TV channels should be visible at the top of the view. After leaving the app for a while, for example when you get a message in WhatsApp, the overview of TV channels disappears. It will only reappear when you go to a different menu and then reenter the "Tv-gids" menu. This error should be fixed or prevented. It could be prevented by asking a user whether or not he/she is sure to leave the TvGids.nl app. If so, the user can leave and when the user opens the app again, the main menu is shown. In this case the icons of the TV channels will be reloaded when entering the "Tv-gids" menu again.

6. Recognition rather than recall

A user does not have to remember any information while using the app. When clicking on a TV program, the details like the time and the TV channel are still visible at the top of the page or in the "Details" tab.

7. Flexibility and efficiency of use

Users can select their favorite TV channels to make it easier to find their favorite TV programs. Personally, I miss the option to search for a specific TV program. I could imagine that you want to find out at what time and on which channel a specific TV program will be broadcast. This is not possible in the current version of the TvGids.nl app. Using this app is probably hard for elderly people. The start up screen is very confusing with a lot of different information, this makes it hard to figure out where to start if you are not used to using mobile apps. Furthermore it might be hard for some

people to use the swipe function in the time-bar and the channel-bar at the top of the page. You have to have a steady hand to swipe to exactly the right time or channel.

8. Aesthetic and minimalist design

The app has a very confusing design. A lot of information is shown on every page, which makes it unclear where you have to look. It would be better if the design is more like the "Tv-gids" menu, which is way more minimalistic.

9. Help users recognize, diagnose, and recover from errors

It is possible for users to scroll in ads to make them disappear. This issue should be resolved. The error message "Er is een fout opgetreden bij het ophalen van het programma." while loading a page is not constructive at all. A user does not know what the cause of the problem is and no solution is suggested. Users can only choose "Opnieuw proberen" or "Annuleren", but both will not approach the cause of the problem. The error message is sent by Android, because the app itself does not support any form of error messaging.

10. Help and documentation

For scenario 3, constructing a watchlist, the help and documentation was not sufficient. In the settings menu a user can see the constructed watchlist. Initially it is empty. It is not clear how to add programs to this watchlist. Reading the short introduction manual again does not solve this problem. After clicking on a lot of different programs and videos it appears that it is only possible to put "Net gemist" videos in your watchlist. This is not clear at all and help from other evaluators was needed to figure this out.

## Review by Tiko

1. Visibility of system status

Good, the one time I turned off my internet connection, the app immediately recognized it and told me connection was lost.

2. Match between system and the real world

No comments

3. User control and freedom

The menu-bar at the bottom is always visible and gives you always a possibility to go to the home-screen. It is strange that the

4. Consistency and standards

As soon as we open up the app for the first time, we get an introduction. This is nice to help new users who need a little extra help. For the users who don't want this at the top right corner there is a button 'Overslaan' (skip) to skip the introduction. But when you get at the end of the 8 page introduction, the button doesn't change into 'Klaar' (Finish) or 'Sluiten' (Close). It just stays 'Overslaan' (Skip) which is not the right word in this case. This could cause confusion to the users who don't want to skip the introduction.

5. Error prevention

I slid on the bottom menu from right to left and four of the five buttons disappeared and just became white space. When this bug is reproducible on my phone by setting a alarm/notification for a program. This will give a small notification that the alarm is set. This notification makes the two left buttons disappear or turn white.

6. Recognition rather than recall

Except for the home page, the app has a natural interface and information.



7. Flexibility and efficiency of use

The horizontal navigation menu on the bottom suggests there are five pages next to each other. This makes it feel like it is possible to switch between pages by swiping horizontally but it isn't. A missed chance.

When browsing in the 'Tv-gids', there is a possibility to swipe. However, this does not feel natural or efficient because of the bouncing effect during the swipes. When a user swipes to fast, more than one page will be skipped at once. When it reaches the page where it ends, it first bounces back and forth between two pages as if it is like a lottery which page it will end on. This may look fancy but it is not useful and it may be annoying to some users.

8. Aesthetic and minimalist design

The design on the 'Home' page is not minimalistic at all. The page is full of small moving objects with pictures and text.

9. Help users recognize, diagnose, and recover from errors

After the one bug I had with the disappearance of the buttons, they came back within a few seconds.

10. Help and documentation

No comments

## Review by Conny

1. Visibility of system status

The app does not inform the user if something is not working how it should. When I cutted my internet connection, the app still tried to load a video when I clicked it. 30 seconds later the app gave the information "De opgevraagde aflevering is niet beschikbaar (live)". Such information should come faster, if something is not working.

2. Match between system and the real world

The icons of the TV-channels, which are used in the app, are the same like in the real world. The channels in the app are shown in the same order, in which they appear in the TV. This helps the users to find the channel, for which they are looking for, faster.

3. User control and freedom

The app supports a 'Home' button, which brings the user back to the main menu. This button is always available except the user is watching a video in fullscreen-mode.

4. Consistency and standards

Some buttons and menu settings are English, while nearly the whole app is in dutch. This could confuse users, which does not understand English. This is for example the "home" button, which was mentioned before or the menu "Instellingen > Alerts". The app should stay in one language to not confuse the user.

5. Error prevention

I could not achieve to crash the app or to do something strange.

6. Recognition rather than recall

The most important information like time and channel are shown in the header when needed. The user always has the option to change the time or the channel without scrolling to the top of the page.

7. Flexibility and efficiency of use

While using the "TV-Gids"-menu, the user is able to switch the channels at the top of the screen. The icons, which indicate the channels, could be bigger to make it easier for the user to find the channel he is looking for.

8. Aesthetic and minimalist design  
On the homescreen of the app are, besides the information about the current tv program, also news about tv shows and recommended videos, which may be interesting for the user. This is just too much information for the home screen. Most young people are not interested in background information about shows. The recommended videos are chosen randomly, which could lead to uninteresting video hints for some users.
9. Help users recognize, diagnose, and recover from errors  
I had no bug using the app, so there was no error message shown.
10. Help and documentation  
When the app is started for the first time an introduction guide is shown which explains how to use the app. It is also possible to get back to this introduction once it was skipped. The option to redo the introduction is hard to find in the settings.

## Review by Olivier

1. Visibility of system status  
When the app is loading, a dialog with a load animation is shown. This is the only visual feedback about background processes. The load dialog does, however, not show the progress, only the process. The "TV-gids" tab loads without showing progress. It seems as if the application needs a lot of calculation power to execute the actions induced by the user. Switching between TV-channels by swiping left and right over the screen does not always work. The application sometimes skips over one channel, or the process stalls during execution.
2. Match between system and the real world  
All screens - apart from the home screen - have an intuitive design. The visual representation of the TV-shows, together with a small description provide all the information that a user needs in a quick glance. The time line on the "Nu & Straks" tab looks busy and unstructured, because of the list view that is used.
3. User control and freedom  
The app's main functionality is to show visual information, so the need for an undo or redo function is limited. Unintentional navigation can be undone by pressing the back button on the phone. There is no possibility to perform a redo action. The navigation bar at the bottom of the screen remains visible and click-able at every page in the app. That is a great feature. Some icons in menu's are rather small and that could make the app harder to use for, for example, elderly people.
4. Consistency and standards  
A lot of information is shown more than once in the application, but it is not ambiguous. All views provide different information to the user. This information is consistent.
5. Error prevention  
The application does crash sometimes. It is unclear how or why the app crashes. The only notification is a system notification telling that the application has stopped. The user is not provided with any information on how to prevent the error from occurring in the future.
6. Recognition rather than recall  
Information is easily accessible and constantly visible. Navigating to a TV-show of choice might take a lot of navigational actions. This is not user-friendly, as the user has to remember all navigational steps. Application instructions are hidden under the settings button, which is only accessible from the home-page. For new users, it is hard to find these instructions. The settings button should be visible on all tabs of the application.

7. Flexibility and Efficiency of Use

The only possibility to tailor frequent actions is to set the TV-channels that are shown in the horizontal scroll bar at the "TV-gids" page. This feature could improve the efficiency of use - in terms of navigational actions - very much. The order in which the TV-channels are shown can be customized, so every user can put his/her favourite channel in front.

8. Aesthetic and minimalist design

Some views within the application have a minimalistic design, such as the Application Introduction page, the TV-guide page and the Settings page. The Home-page and the "Net gemist" page, are rather messy, disordered and inconvenient. It seems as if different fonts and font sizes are used in this application.

9. Help users recognize, diagnose and recover from errors

The few error messages that are shown are generated by Android and thus provide no information that could be helpful for the user to fix the error. The problems are not indicated. Common errors are videos and pages that are unable to load. There is one particular error that might go unnoticed. If you are on the "TV-gids" page, start another app on your phone, and then re-open the TVGids.nl app, the horizontal scroll bar with icons of all the TV-channels disappears.

10. Help and documentation

A set of eight introduction slides is available, but they are hidden in the Settings menu, which is only accessible from the home page. The information provided is clear, but nothing is said about the personal alerts that can be set. These alerts are -in my opinion- of the main assets of this app.