NIVY Watch App Platform

# Overview

**Custom mobile applications** are useful tools for companies to increase the productivity of workers. This also applies to smartwatch devices that are used for business purposes. Hovewer, smartwatch app development is very specific because of some serious limitations.

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**Before you start,** you must take into consideration the very small rounded display, which provides limited space for UI elements and controls for operating the final app.

**This restriction prevents** the use of rich and complicated apps, which can be difficult to operate and may result in being rarely used, if at all. On the other hand, smartwatches can be very useful tools for simple checklists or data collection applications.

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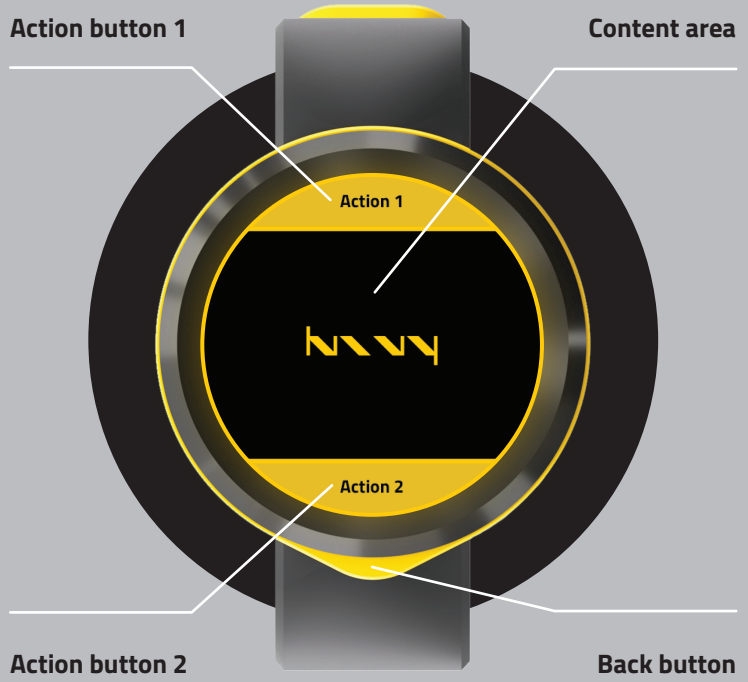
**The NIVY Watch App Platform** is a specialized business app development environment targeting smartwatch devices. This cloud-based platform is built on top of Resco's proven technology - listed in the Gartner Magic Quadrant for Multiexperience Developer Platforms.

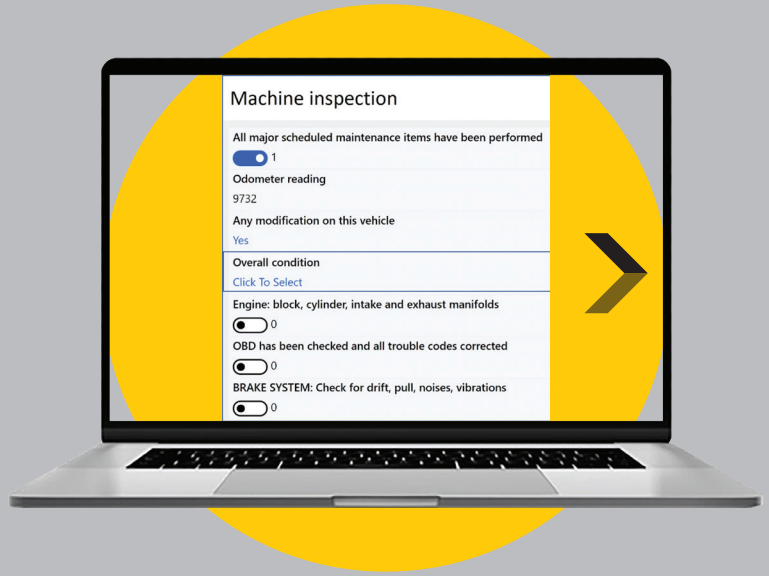
# User Interface Characteristics

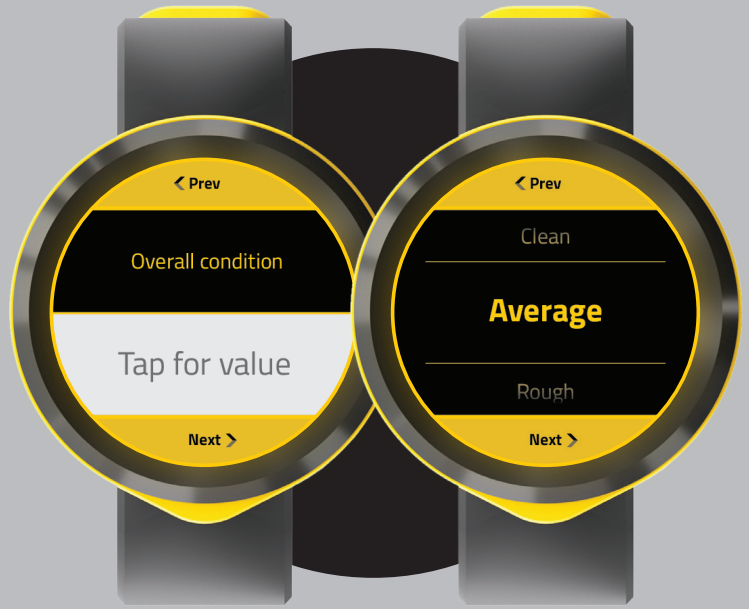
**Because of the small and circular display** of smartwatches, developers must take into consideration a few important restrictions.

- **Limit the number of UI elements** of one form to a minimum. Data should be easy to read.
- **You should use large fonts only**. Many employees (business users) can be of an older age with impaired vision.
- **Graphical elements** (icons, graphics) can be difficult to identify and as such, care must be taken to use them properly.
- **Alphanumeric input** can be very problematic, or even impossible.
- **App logic must be very simple**. Complicated logic can cause users to get lost and the process could end up incomplete.
- **It is recommended to use** the same navigation controls throughout the whole application.



# Two UI Controls




**Field Editor** **Value List**

# Field Editor

**Instead of a multiple Field Form,** typical for smartphones or tablets, the UI control provides access to only one fixated Field.

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**Navigation controls (Prev, Next)** provide an easy way of navigation between other Fields on the entire Form.

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The following Field Types are available:

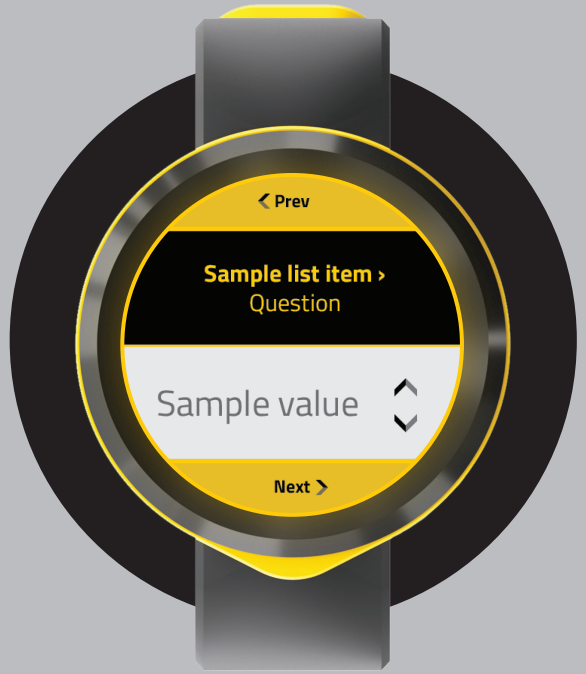
\ **Single choice**

\ **Multiple choice**

\ **Option set**

\ **Check box**

\ **Whole number**



# Value List

**This UI control provides** an interface for choosing value(s) from a simple list. Selection can be made only from the value shown in the middle of the list, with a significantly larger height and text size. Such designs avoid situations of accidental unwanted selection.

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**Navigation is available** through the smartwatch touch screen or action buttons (Prev, Next).

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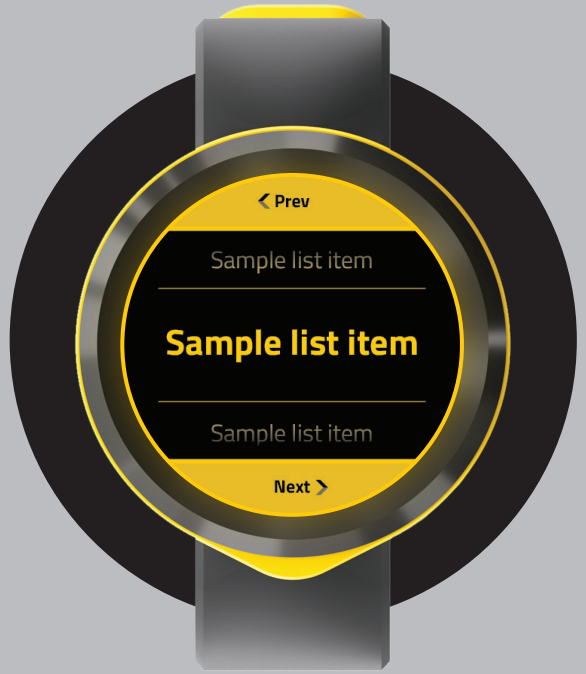
**In case of a long list,** it is recommended to divide it into categories or to use other ways of simplification.



# Two Layers of Custom Functionalities

## 1\ Work Activities

- Picking
- Completing
- Delivery
- **Machine Check >**
- Machine Operation
- Cleaning

## 2\ Check List

**Machine Check >**

1\ All maintenance items have been performed (Yes\No)

2\ Odometer reading (Numeric)

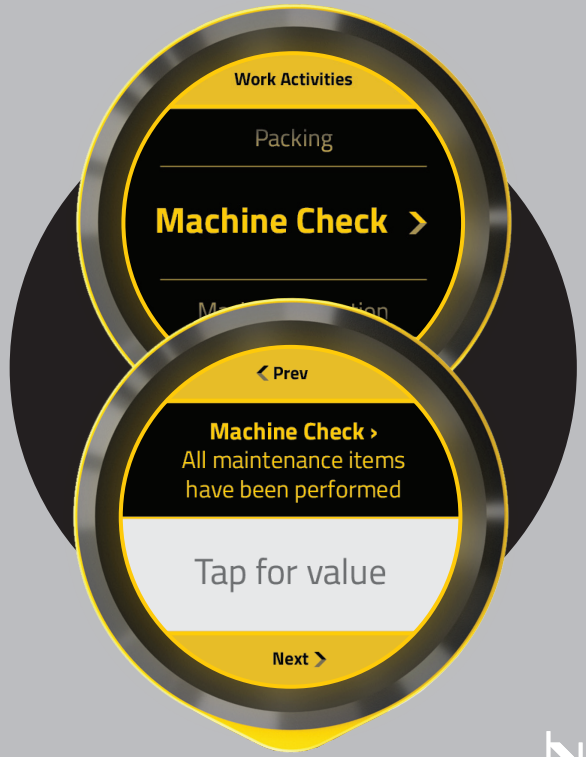
3\ Any modifications on this vehicle (Yes\No)

4\ Overall Condition (Clean\Average\Rough)

5\ Engine: block, cylinder, intake and exhaust manifolds (Yes\No)

6\ OBD has been checked and all trouble codes corrected (Yes\No)

7\ BRAKE SYSTEM: Check for drift, pull, noises, vibrations (Yes\No)



# Work Activities

**Work Activities functionality** is very useful and applicable for most work professions. The activation and customization process is simple and can be realized through the NIVY Data Factory.

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**On the client-side**, this functionality is activated by double-tapping the smartwatch main screen. After a work activity has been selected, a time tracker will be activated until it is cancelled or until another activity is selected.

**There is a possibility** to define further custom functionality (Checklist) for a work activity. The Checklist can be developed in a specialized development environment and it can be activated by taping the work activity on the smartwatch device.

# Checklist

**Activity Checklist** is a custom application which uses UI elements designed specifically for smartwatch devices. It can be developed in the specialized cloud-based development environment.

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**It allows you to design custom UI** and functionality in a design which fits NIVY Watch user experience and is easy to operate in every business situation.

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This developer environment consists of:

\ **web-based Designer**

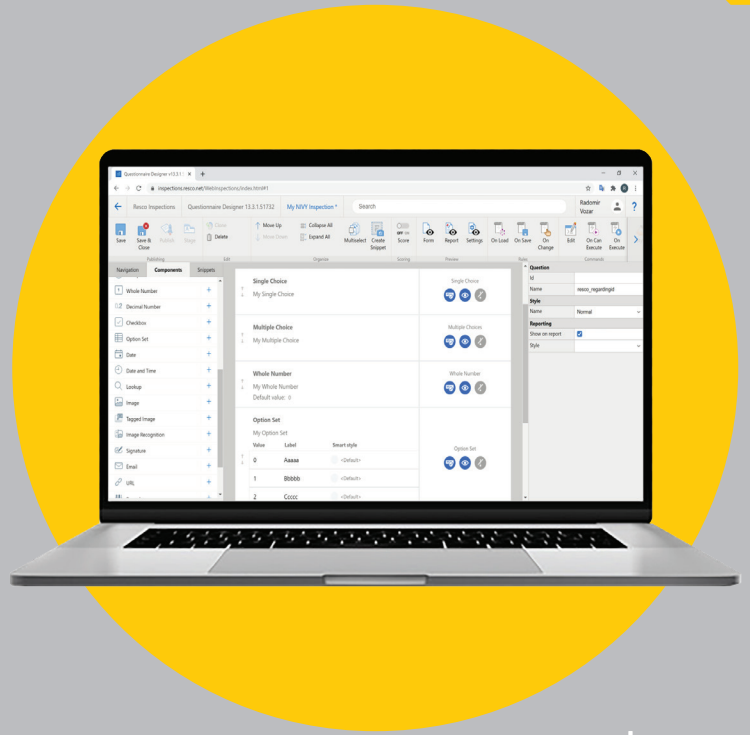
\ **smartwatch optimized Mobile Client**

\ **and Data Reporting tools**

Checklist can be built for every Work Activity.

# Designer

**A web-based designer**, allows you to design your custom UI and app logic. Programming skills are not needed. Simply define a collection of fields/ questions and add the application logic into the rules editor. The designer automatically creates the data layer necessary for the final app.



# Mobile Client

**Mobile client downloads** a definition of a custom application from the Designer. It executes the custom app based on the UI and app logic definitions.
The UI is represented by the Field Editor and Value List controls. Navigation between fields/questions can be operated through action buttons. Collected data is stored locally and then transferred to the cloud.

# Data Reporting

Collected data can be processed in various ways:

\ **Result Viewer** allows easy filtering and viewing of completed checklists

\ **Report builder** allows designing of PDF reports

\ **More sophisticated reporting** in 3rd party tools

\ **Exporting to csv or OData** connecting to Excel or other tools

**Machine Inspection - Report**

**General**

| | |
|---|---|
| All scheduled maintance items have been performed | Engine: block, cylinder, intake and exhaust manifolds |
| Odometer<br>5523 | OBD has been checked and all trouble codes corrected |
| Any modification on this vehicle<br>Yes | BRAKE SYSTEM: Checck for drift, pull, noises, vibrations |
| Overall condition<br>Average | |

| Machine Data | Name | | | |
|---|---|---|---|---|
| | ID | Status | Oil Level (ml) | Pressure (kPa) |
| #1 | Robotic Arm A2 | | | |
| | #087-A2-FE4 | Good | 257.00 | 305.00 |
| #2 | Robotic Arm B1 | | | |
| | #097-B1-C05 | New | 239.00 | 321.00 |

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For additional details

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