

# HOW TO PREVENT MOBILE CACHING with the iForm App



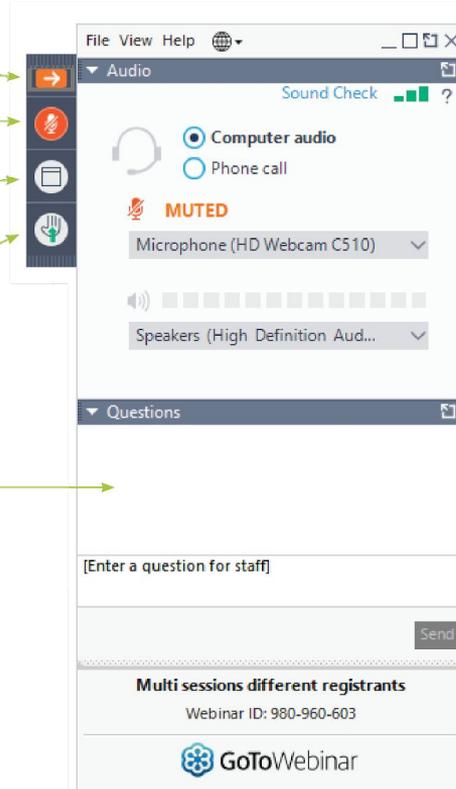
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*Customer Success Manager*

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# POLL

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# AGENDA

- What is mobile caching
- Why does it happen
- Strategies to prevent caching
- A look to the future



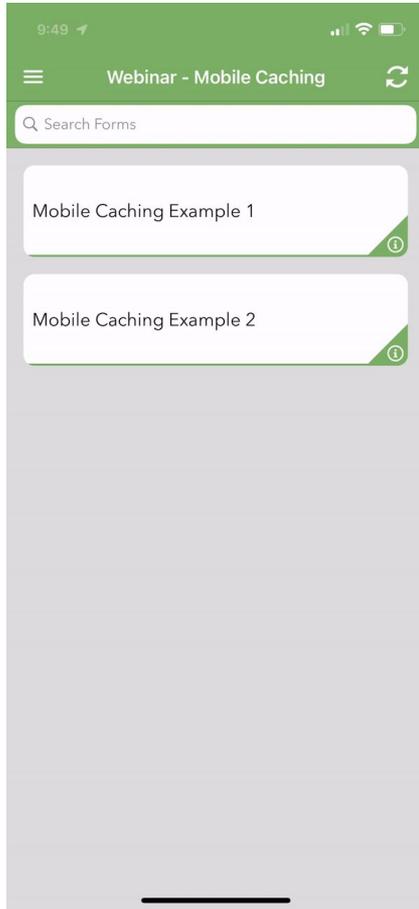
# What is mobile caching?



# What is mobile caching?

## When a value is present from another record.





# Why Does Mobile Caching Happen?

- A **dependency tree** is the **relationship between elements** that defines **when to re-evaluate** the state of an element **based on changes**.
- Element values are stored in memory two separate ways
  - **Easy References**: use the element name by itself
  - **Form Path**: use a path reference starting from the parent form name
- Easy references **hold their value until overwritten**, while the form path is **cleaned up each time** a new screen is displayed.

*Caching is caused by the combination of using easy references and then using Dynamic Value to counteract their behavior.*

# A Simple Example

With a simple Dynamic Value, we fill out the form's first two elements, but when opening a new record, we see the old value.

`first_name + " " + last_name`

Historically, the solution has been to "clear" elements using the Dynamic Value...

11:11 Mobile Caching Example 1 Save

First Name  
Jonathan

Last Name  
Hsu

Full Name (Easy Reference)  
Jonathan Hsu

Done

11:11 Mobile Caching Example 1 Save

First Name

Last Name

Full Name (Easy Reference)  
Jonathan Hsu

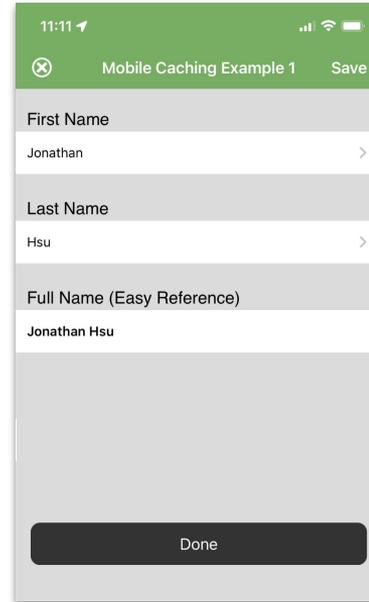
Done

# A Simple Example

```
first_name = ""
```

```
last_name = ""
```

```
first_name + " " + last_name
```



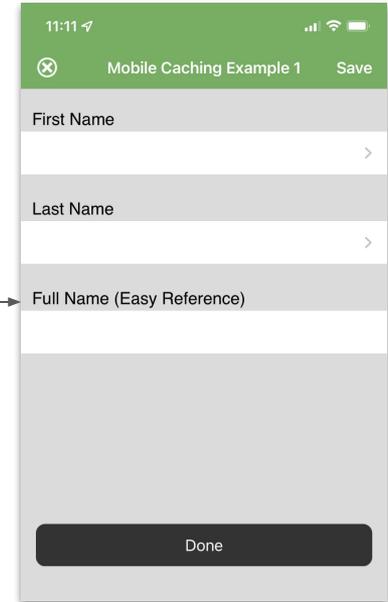
11:11 Mobile Caching Example 1 Save

First Name  
Jonathan >

Last Name  
Hsu >

Full Name (Easy Reference)  
Jonathan Hsu

Done



11:11 Mobile Caching Example 1 Save

First Name  
>

Last Name  
>

Full Name (Easy Reference)

Done

Article on how to clear certain elements  
<https://support.zerionsoftware.com/hc/en-us/articles/201697760-Clearing-widget-values>

# Real-World Implications

Formulas can be easily overlooked, leading to bad data

```
if(number_children > 2) { 2 } else
if(number_children <= 1) { 1 } else { 0 }
```

Bad data can lead to errors in decision-making

11:38 Mobile Caching Example 2 Save

Do you have children?  
 Yes  No

How many children?  
 3 >

Benefit Code  
 2

Done

11:38 Mobile Caching Example 2 Save

Do you have children?  
 Yes  No

Benefit Code  
 2

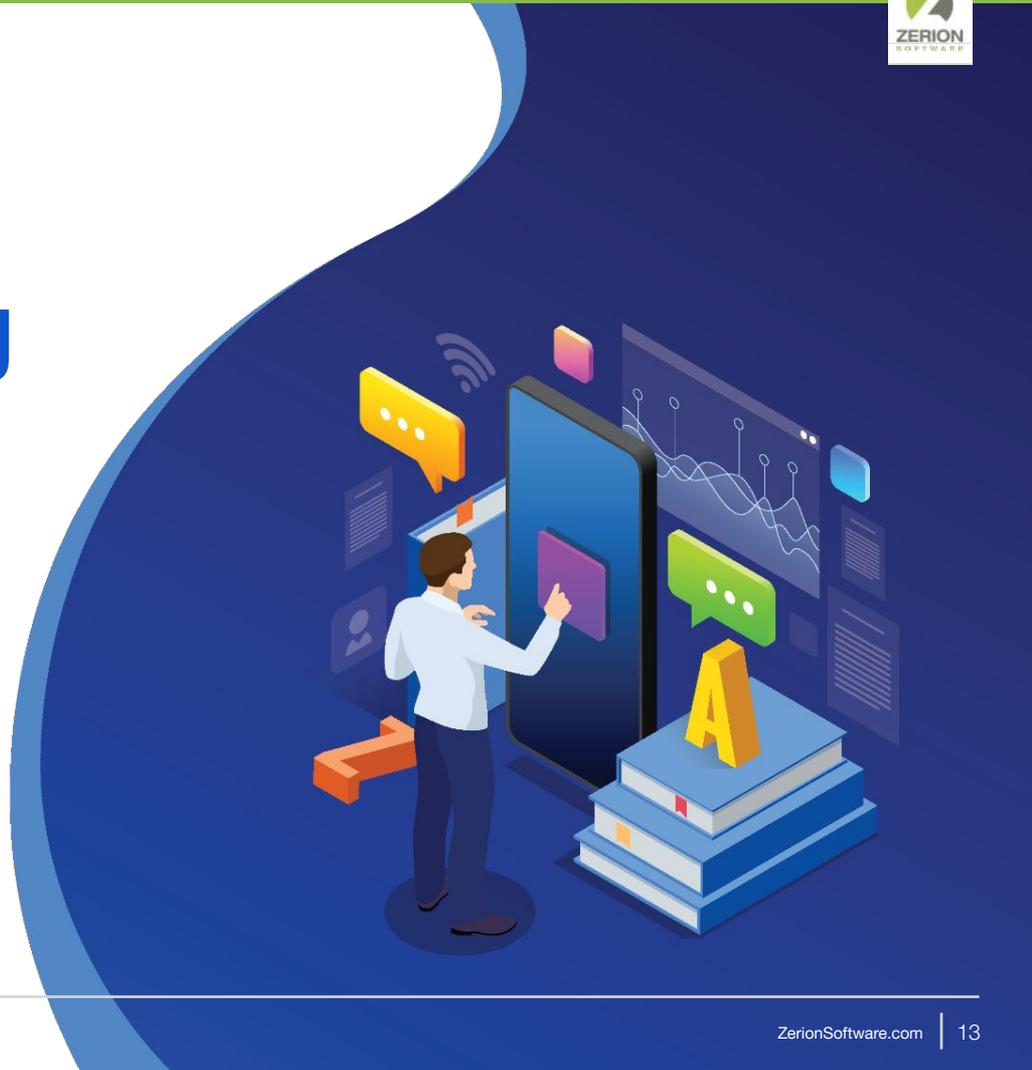
Done



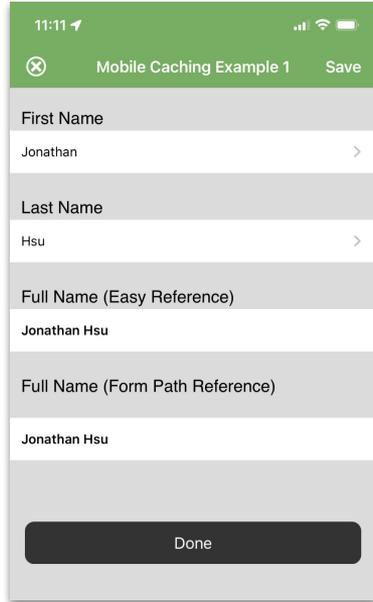
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# Strategies to prevent caching



# A Tale of Two Smart Controls



11:11 Mobile Caching Example 1 Save

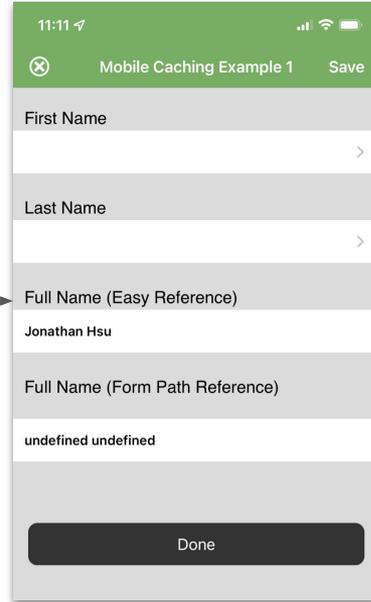
First Name  
Jonathan

Last Name  
Hsu

Full Name (Easy Reference)  
Jonathan Hsu

Full Name (Form Path Reference)  
Jonathan Hsu

Done



11:11 Mobile Caching Example 1 Save

First Name

Last Name

Full Name (Easy Reference)  
Jonathan Hsu

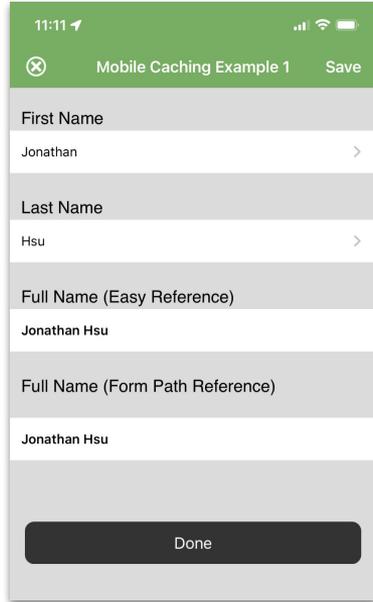
Full Name (Form Path Reference)  
undefined undefined

Done

`first_name + " " + last_name`

`example_1.first_name + " " + example_1.last_name`

# A Tale of Two Smart Controls



11:11 Mobile Caching Example 1 Save

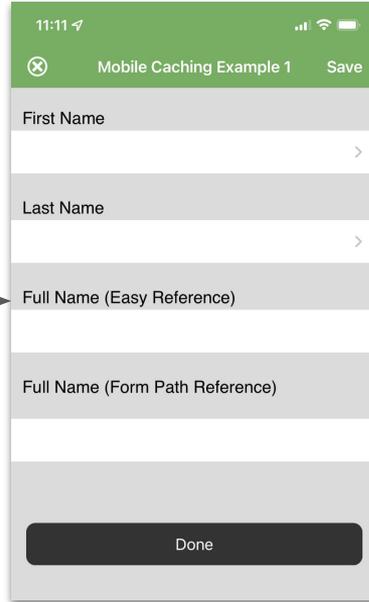
First Name  
Jonathan

Last Name  
Hsu

Full Name (Easy Reference)  
Jonathan Hsu

Full Name (Form Path Reference)  
Jonathan Hsu

Done



11:11 Mobile Caching Example 1 Save

First Name

Last Name

Full Name (Easy Reference)  
Jonathan Hsu

Full Name (Form Path Reference)  
Jonathan Hsu

Done

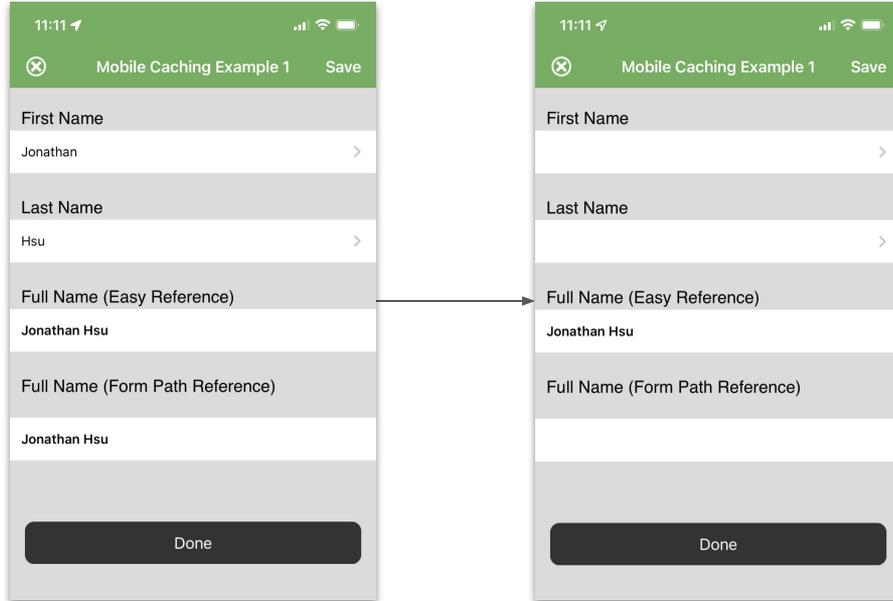
```
first_name = ""
```

```
last_name = ""
```

```
first_name + " " + last_name
```

```
example_1.first_name + " " + example_1.last_name
```

# A Tale of Two Smart Controls



The more precise your Smart Controls, the more reliable they will perform

```
first_name + " " + last_name
```

```
if(example_1.first_name && example_1.last_name) {
  example_1.first_name + " " + example_1.last_name }

```

We can improve the Dynamic Value by wrapping our code with an `if()` statement

# A Tale of Two Smart Controls

```
if(example_2.number_children > 2) { 2 } else
if(example_2.number_children <= 1) { 1 } else { 0 }
```

Unlike a Text element, which can be set to blank with empty quotes, there is no blank value for a Number element.

# Smart Control Best Practices

- ✓ Avoid generic element names (my\_element\_1, q1, etc)
- ✓ Avoid using the same element name within a form structure (parent and child)
- ✓ Remove any "clearing" Dynamic Values
- ✓ Replace easy references with form path references
- ✓ Guide to referencing Subform Values: <https://tinyurl.com/mry3rf79>
- ✓ When testing, complete sequential records (one record, then another)
- ✓ Simultaneously complete two records (start one, save, start another, etc)



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# A look to the future



# A look to the future

## Semantic References!

- Relative Scope
- Easy to Use
- Added to Existing Options
  
- Portable Smart Controls
- Rapid Troubleshooting
- Reliable Execution

# A look to the future

## Semantic References!

### Three Keyword Objects

- Self
- Parent
- Top

# Before and After

- Every record has exactly one self, parent, and top record
- Semantic references can overlap
- The goal is to accommodate 90% of use cases
- "self" in Q3, others to follow after feedback

Description	Form Path Reference	Semantic Reference
A simple reference on the parent level	<code>inspection.status</code>	<code>self.status</code>
Adding two Number elements in a subform	<code>inspection.safety[inspection.safety.index].puddles + inspection.safety[inspection.safety.index].loose_cables</code>	<code>self.puddles + self.loose_cables</code>
Creating an ID from the site name (parent) and the job code (grandchild)	<code>inspection.site_name + inspection.safety[inspection.safety.index].jobs[inspection.safety[inspection.safety.index].jobs.index].job_code</code>	<code>top.site_name + self.job_code</code>

# ANNOUNCEMENTS

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- [Register](#) for the last online iFormBuilder Form Builder Certification of 2023: June 27- June 30, 10 AM-12 PM EDT
- Save the Date! On-site iFormBuilder Form Builder Certification & Zerion Workshops in Hendon, VA: September 19- 22
- Next Webinar: July 19 - Converting Smart Table Search to Lookup Element

# THANK YOU!



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