Performance Testing

Date	03 November 2022
Team ID	PNT2022TMID28579
Project Name	SmartFarmer – IoT Enabled Smart Farming Application

NFT – Risk Assessment

S.No	Project Name	Scope /Feature	Functional Changes	Hardware Changes	Software Changes	Impact of Downtime	Load/Volume changes	Risk Score	Justification
1	Smart Farmer	Query Form	Low	No Changes	Low		>5 to 10%	Green	As we seen changes
2	Smart Farmer	Manual Guide	Low	No changes	Low		>5 to 10%	Green	As we seen changes
3	Smart Farmer	Motor on for 30 minutes	High	No changes	Moderate		>5 to 10%	Green	Because it provides new control
4	Smart Farmer	Login	Moderate	No Changes	Low		>5 to 10%	Red	Because it can block certain functional
4	Smart Farmer	Sign Out	Moderate	No changes	Low		>5 to 10%	Green	It doesn’t have that much functionality but have some impact.

NFT – DETAILED PLAN

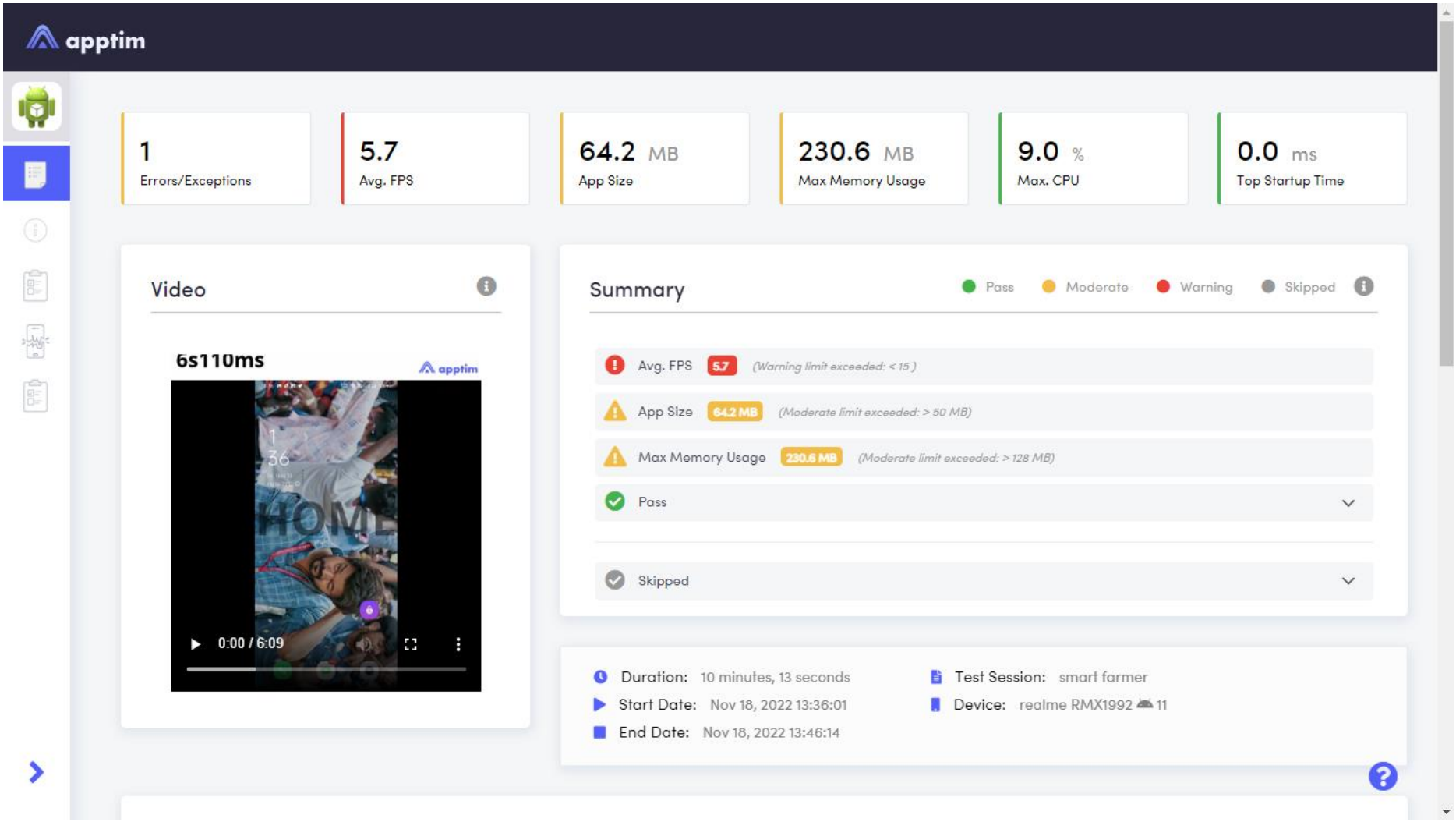
S.no	Project Overview	NFT Approach	Assumptions/Dependencies/Risks	Approvals/SignOff
1	SmartFarmer	Scalability Testing		Shanmugam(Team Lead)

END OF TEST REPORT

S. No	Project Overview	NFT Test Approach	NFR - Met	Test Outcome	Go/No-Go Decision	Recommendations	Identified Defects (Detected/Closed/ Open)	Approvals/ Signoff
1	Smartfarmer	Scalability Testing	Exceptations Satisfied	Cpu Usage, Memory Usage, Startup Time Etc	Go Decision	Nothing	Closed	Shanmugam (Team Lead)

Test Reports Attached Below :- Performance test are tested by using Apptim Software (Default Settings)

MOBILE 1


apptim
1
Errors/Exceptions
5.7
Avg. FPS
64.2 MB
App Size
230.6 MB
Max Memory Usage
9.0 %
Max. CPU
0.0 ms
Top Startup Time
Video
6s110ms
apptim
0:00 / 6:09
Summary
Pass
Moderate
Warning
Skipped
Avg. FPS 5.7 (Warning limit exceeded: < 15)
App Size 64.2 MB (Moderate limit exceeded: > 50 MB)
Max Memory Usage 230.6 MB (Moderate limit exceeded: > 128 MB)
Pass
Skipped
Duration: 10 minutes, 13 seconds
Start Date: Nov 18, 2022 13:36:01
End Date: Nov 18, 2022 13:46:14
Test Session: smart farmer
Device: realme RMX1992 11

apptim
Resources
Select charts mode
Single
Multiple
Click and drag to filter.
100%
80%
60%
40%
20%
0%
280 1050KB
240 900KB
200 750KB
160 600KB
120 450KB
80 300KB
40 150KB
0 0KB
Network Download
Memory Total
Threads Count
Render FPS
CPU Usage
0
00:01
00:02
00:03
00:04
00:05
00:06
00:07
00:08
00:09
00:10
Marks
No marks found for this session.
CPU
Memory
Render
Network
Storage

apptim

Test Environment

realme RMX1992

Android version:	11
Manufacturer:	realme
Model:	RMX1992
CPU Architecture:	arm64-v8a
Number of cores:	8
RAM:	5.86GB

App Information

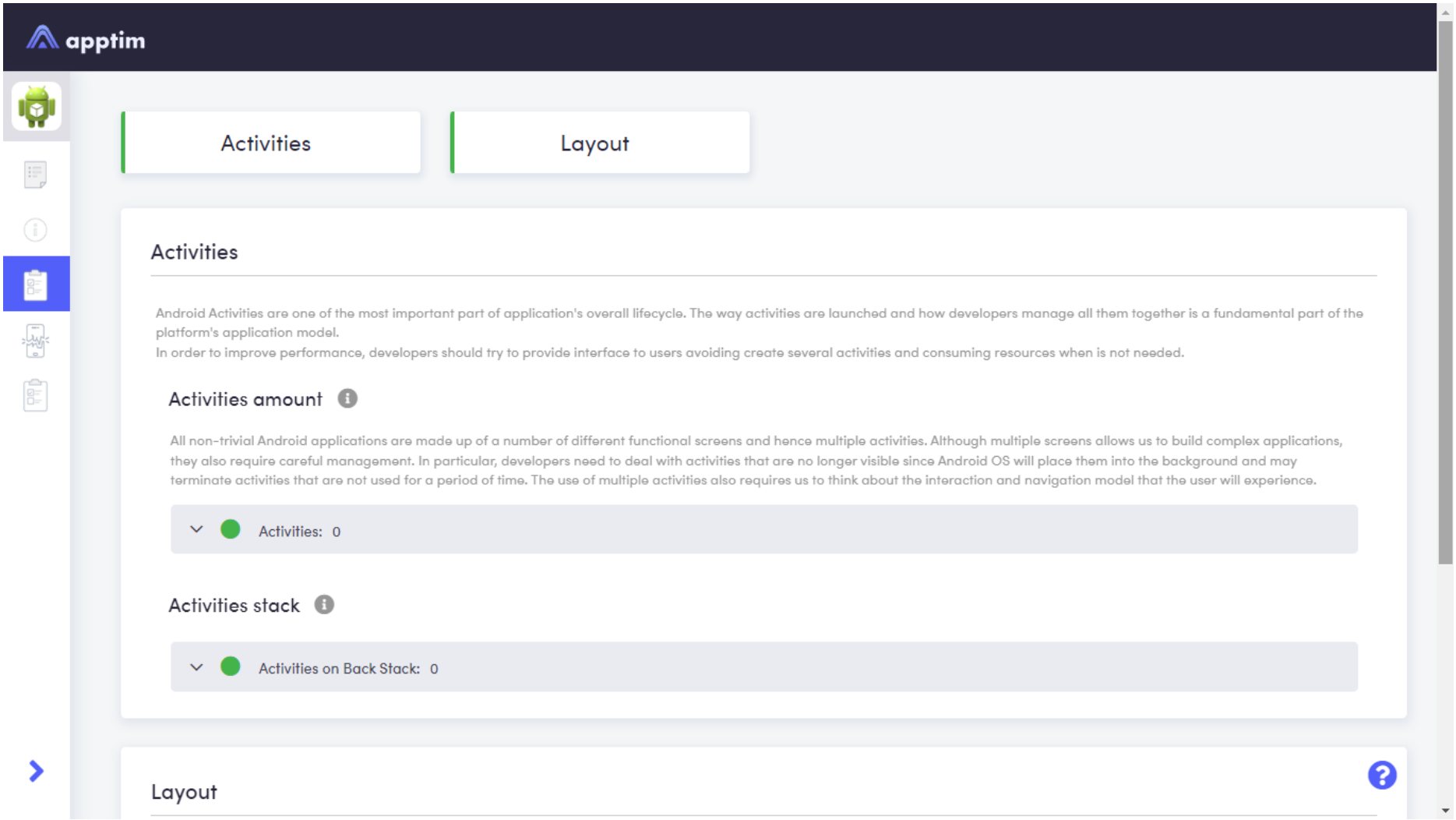
Default Label:	SmartFarmer
Version Code:	1
Version Name:	1.0.1
Package:	com.shandude.smartfarmer
Launch Activity:	host.exp.exponent.MainActivity
Use large heap:	false
Debuggable:	false

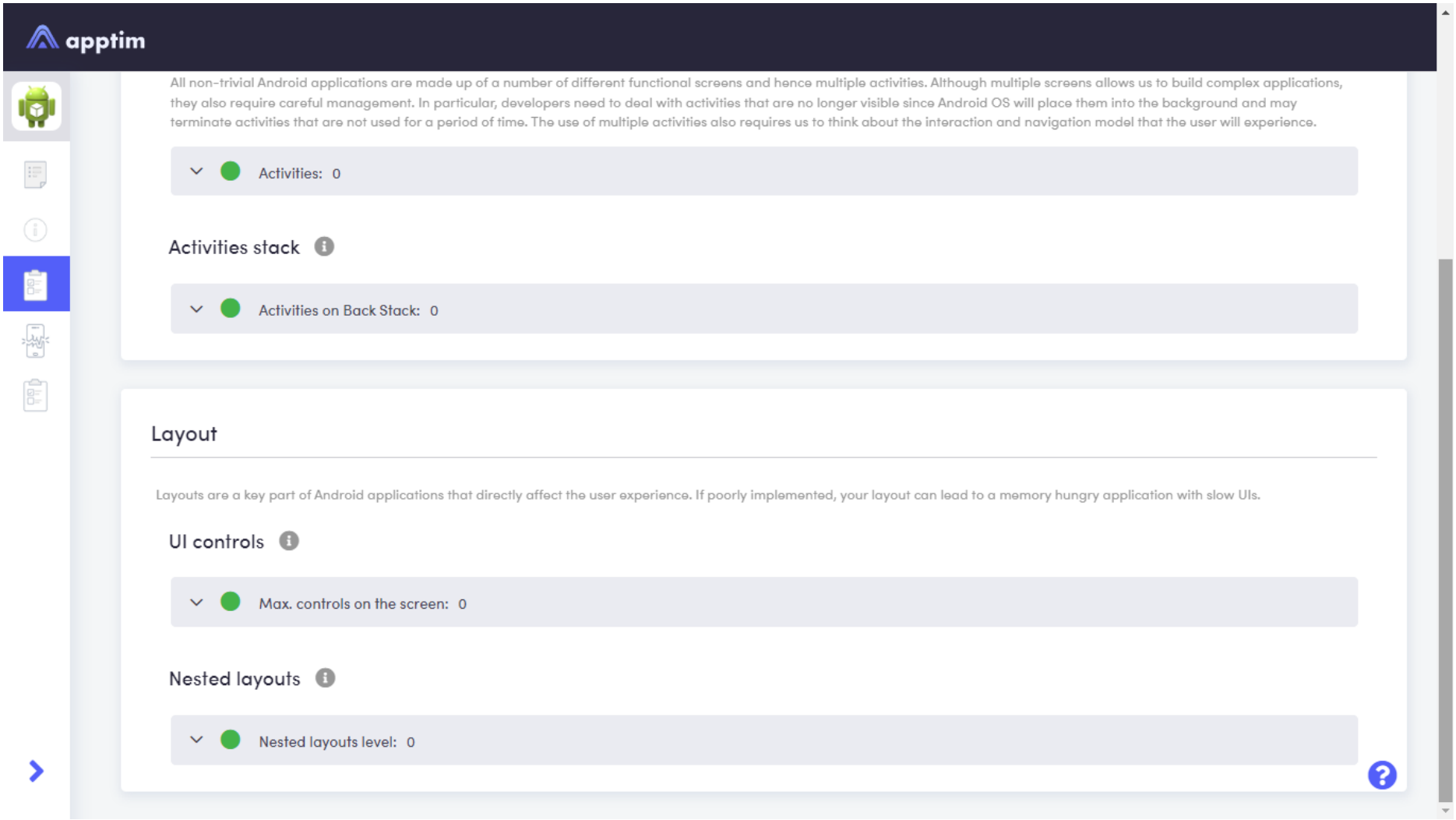
Screen Information

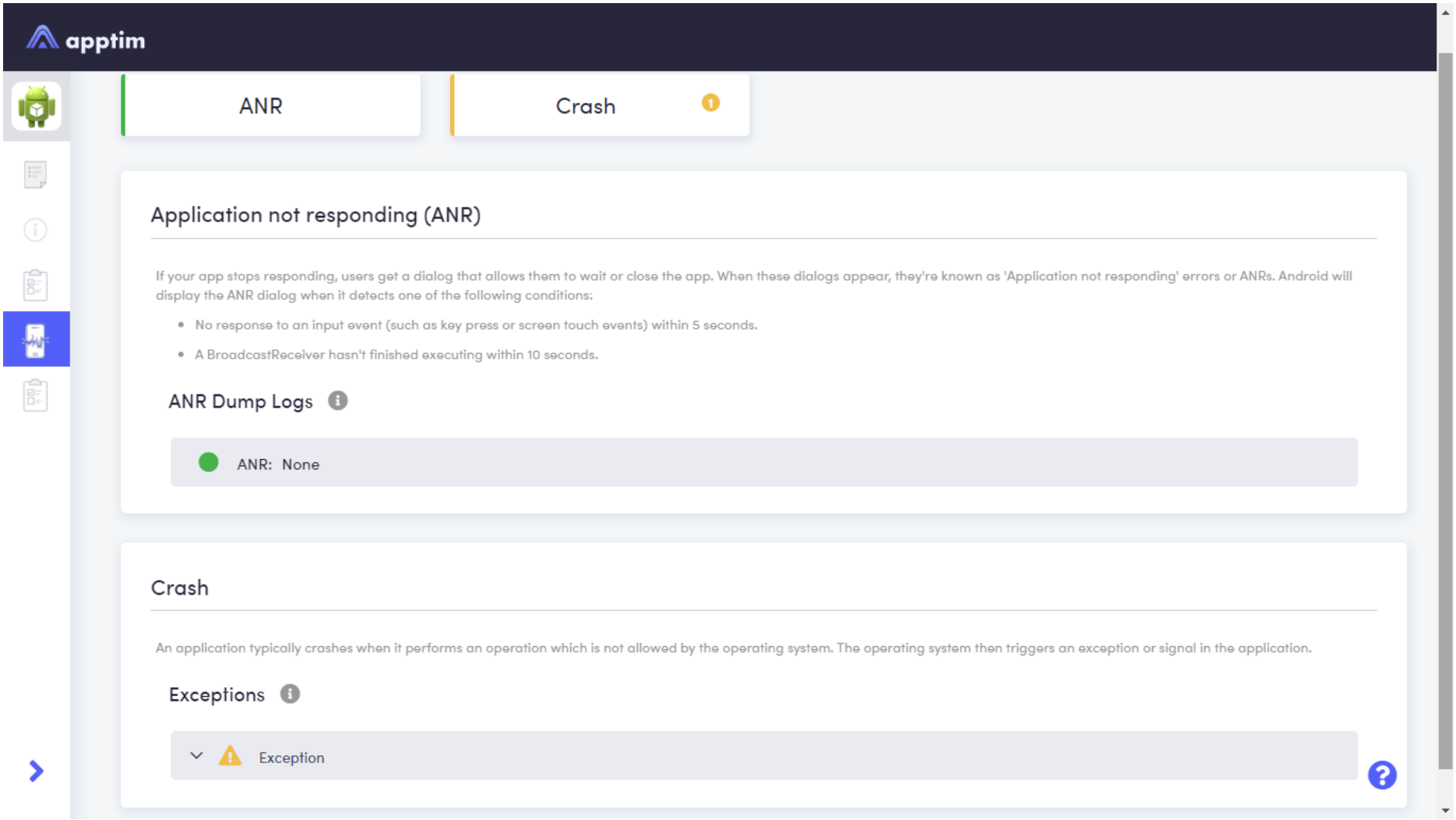
Screen orientation:	port
Screen resolution:	1080x2340
Layout size:	Normal
Display density:	480dpi (xxhdpi)
LOpenGL ES:	3.2

App Compatibility

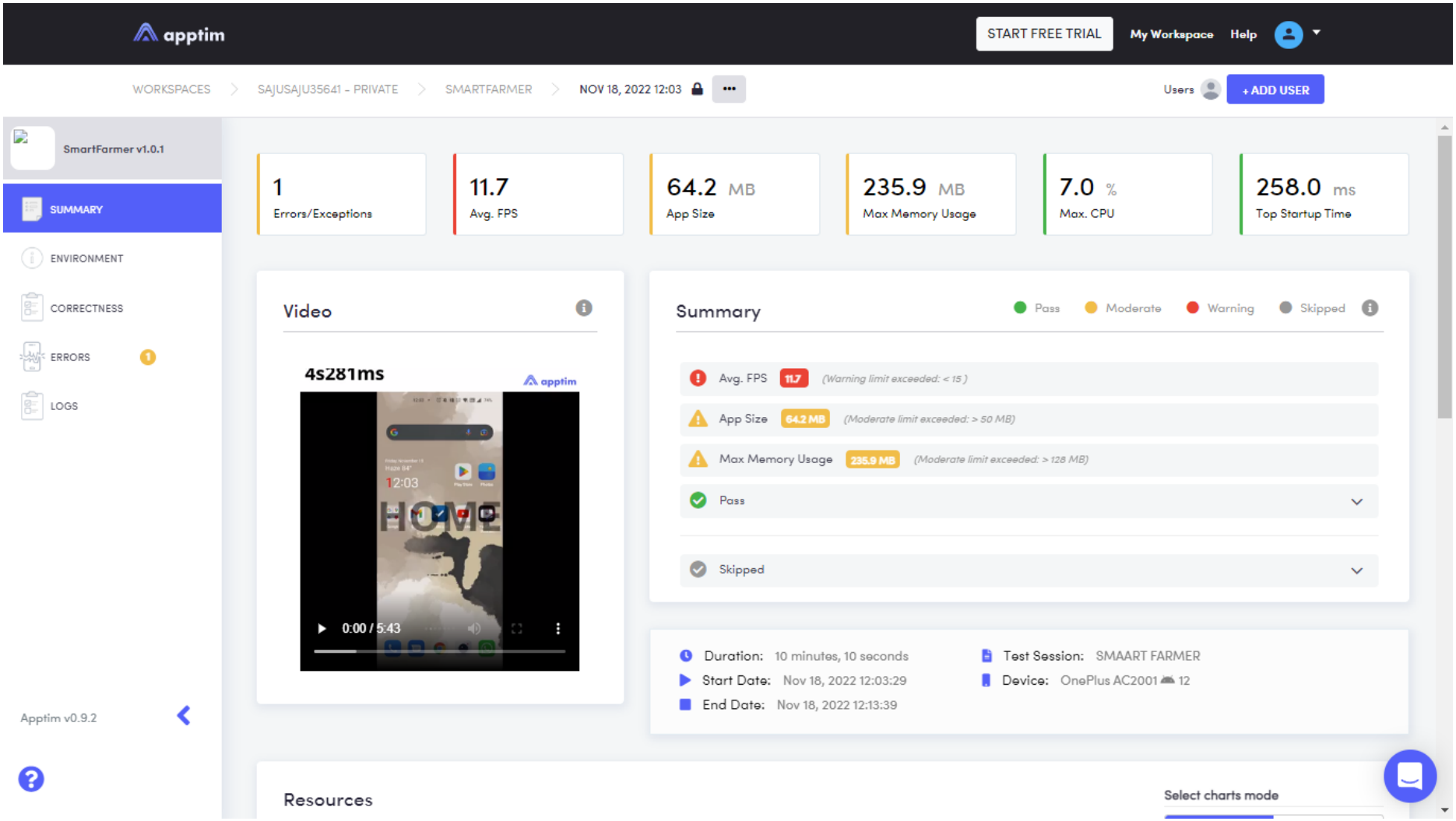
Min API Level:	21
Target API Level:	31
Max API Level:	Undefined
Native CPU architectures:	No
Screens:	small normal large xlarge
Support Any Density:	true
Densities:	120 160 240 320 480 640 65534

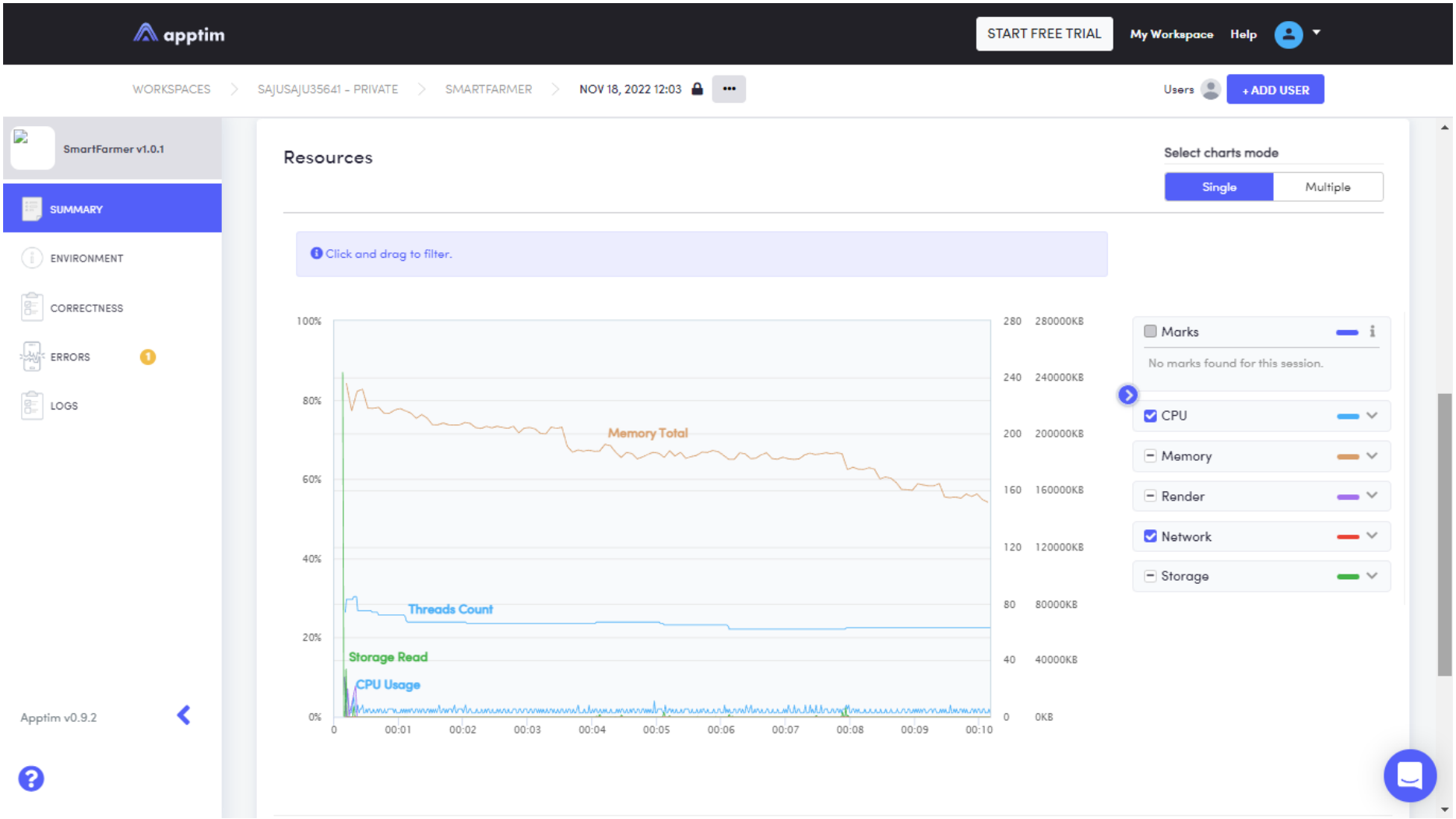

apptim
Activities
Layout
Activities
Android Activities are one of the most important part of application's overall lifecycle. The way activities are launched and how developers manage all them together is a fundamental part of the platform's application model.
In order to improve performance, developers should try to provide interface to users avoiding create several activities and consuming resources when is not needed.
Activities amount
All non-trivial Android applications are made up of a number of different functional screens and hence multiple activities. Although multiple screens allows us to build complex applications, they also require careful management. In particular, developers need to deal with activities that are no longer visible since Android OS will place them into the background and may terminate activities that are not used for a period of time. The use of multiple activities also requires us to think about the interaction and navigation model that the user will experience.
Activities: 0
Activities stack
Activities on Back Stack: 0
Layout


apptim
All non-trivial Android applications are made up of a number of different functional screens and hence multiple activities. Although multiple screens allows us to build complex applications, they also require careful management. In particular, developers need to deal with activities that are no longer visible since Android OS will place them into the background and may terminate activities that are not used for a period of time. The use of multiple activities also requires us to think about the interaction and navigation model that the user will experience.
Activities: 0
Activities stack
Activities on Back Stack: 0
Layout
Layouts are a key part of Android applications that directly affect the user experience. If poorly implemented, your layout can lead to a memory hungry application with slow UIs.
UI controls
Max. controls on the screen: 0
Nested layouts
Nested layouts level: 0


apptim
ANR
Crash
1
Application not responding (ANR)
If your app stops responding, users get a dialog that allows them to wait or close the app. When these dialogs appear, they're known as 'Application not responding' errors or ANRs. Android will display the ANR dialog when it detects one of the following conditions:
No response to an input event (such as key press or screen touch events) within 5 seconds.
A BroadcastReceiver hasn't finished executing within 10 seconds.
ANR Dump Logs
ANR: None
Crash
An application typically crashes when it performs an operation which is not allowed by the operating system. The operating system then triggers an exception or signal in the application.
Exceptions
Exception

MOBILE 2


apptim
START FREE TRIAL
My Workspace
Help
WORKSPACES
SAJUSAJU35641 - PRIVATE
SMARTFARMER
NOV 18, 2022 12:03
Users
+ ADD USER
SmartFarmer v1.0.1
SUMMARY
ENVIRONMENT
CORRECTNESS
ERRORS
LOGS
Apptim v0.9.2
1
Errors/Exceptions
11.7
Avg. FPS
64.2 MB
App Size
235.9 MB
Max Memory Usage
7.0 %
Max. CPU
258.0 ms
Top Startup Time
Video
4s281ms
apptim
0:00 / 5:43
Summary
Pass
Moderate
Warning
Skipped
Avg. FPS 11.7 (Warning limit exceeded: < 15)
App Size 64.2 MB (Moderate limit exceeded: > 50 MB)
Max Memory Usage 235.9 MB (Moderate limit exceeded: > 128 MB)
Pass
Skipped
Duration: 10 minutes, 10 seconds
Start Date: Nov 18, 2022 12:03:29
End Date: Nov 18, 2022 12:13:39
Test Session: SMAART FARMER
Device: OnePlus AC2001 12
Resources
Select charts mode


apptim
START FREE TRIAL
My Workspace
Help
WORKSPACES
SAJUSAJU35641 - PRIVATE
SMARTFARMER
NOV 18, 2022 12:03
Users
+ ADD USER
SmartFarmer v1.0.1
SUMMARY
ENVIRONMENT
CORRECTNESS
ERRORS
1
LOGS
Apptim v0.9.2
Resources
Select charts mode
Single
Multiple
Click and drag to filter.
100%
80%
60%
40%
20%
0%
280 280000KB
240 240000KB
200 200000KB
160 160000KB
120 120000KB
80 80000KB
40 40000KB
0 0KB
Memory Total
Threads Count
Storage Read
CPU Usage
0
00:01
00:02
00:03
00:04
00:05
00:06
00:07
00:08
00:09
00:10
Marks
No marks found for this session.
CPU
Memory
Render
Network
Storage

SmartFarmer v1.0.1
SUMMARY
ENVIRONMENT
CORRECTNESS
ERRORS 1
LOGS
Apptim v0.9.2

Test Environment

OnePlus AC2001

Android version:	12
Manufacturer:	OnePlus
Model:	AC2001
CPU Architecture:	arm64-v8a
Number of cores:	8
RAM:	7.76GB

App Information

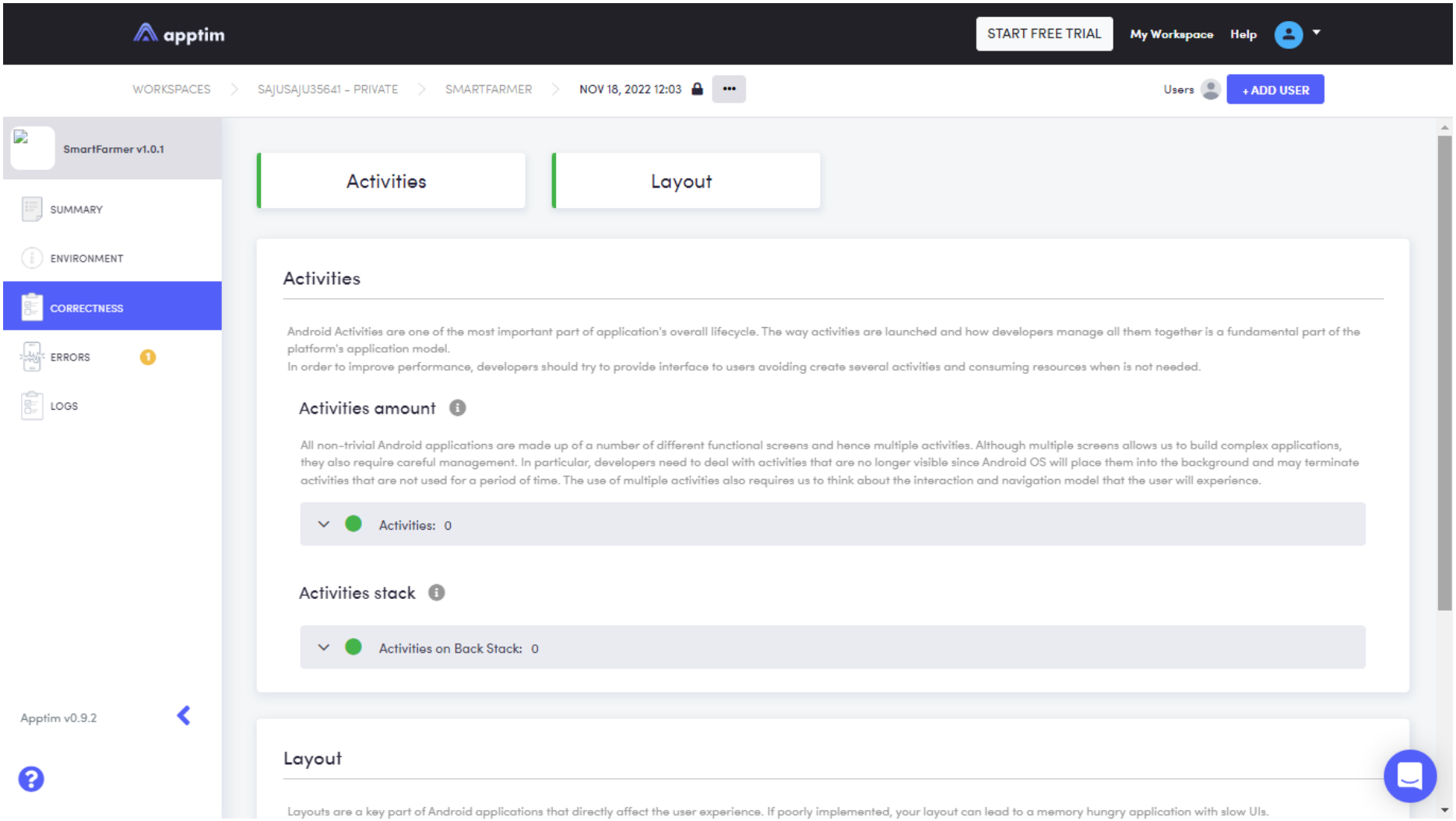
Default Label:	SmartFarmer
Version Code:	1
Version Name:	1.0.1
Package:	com.shandude.smartfarmer
Launch Activity:	host.exp.exponent.MainActivity
Use large heap:	false
Debuggable:	false

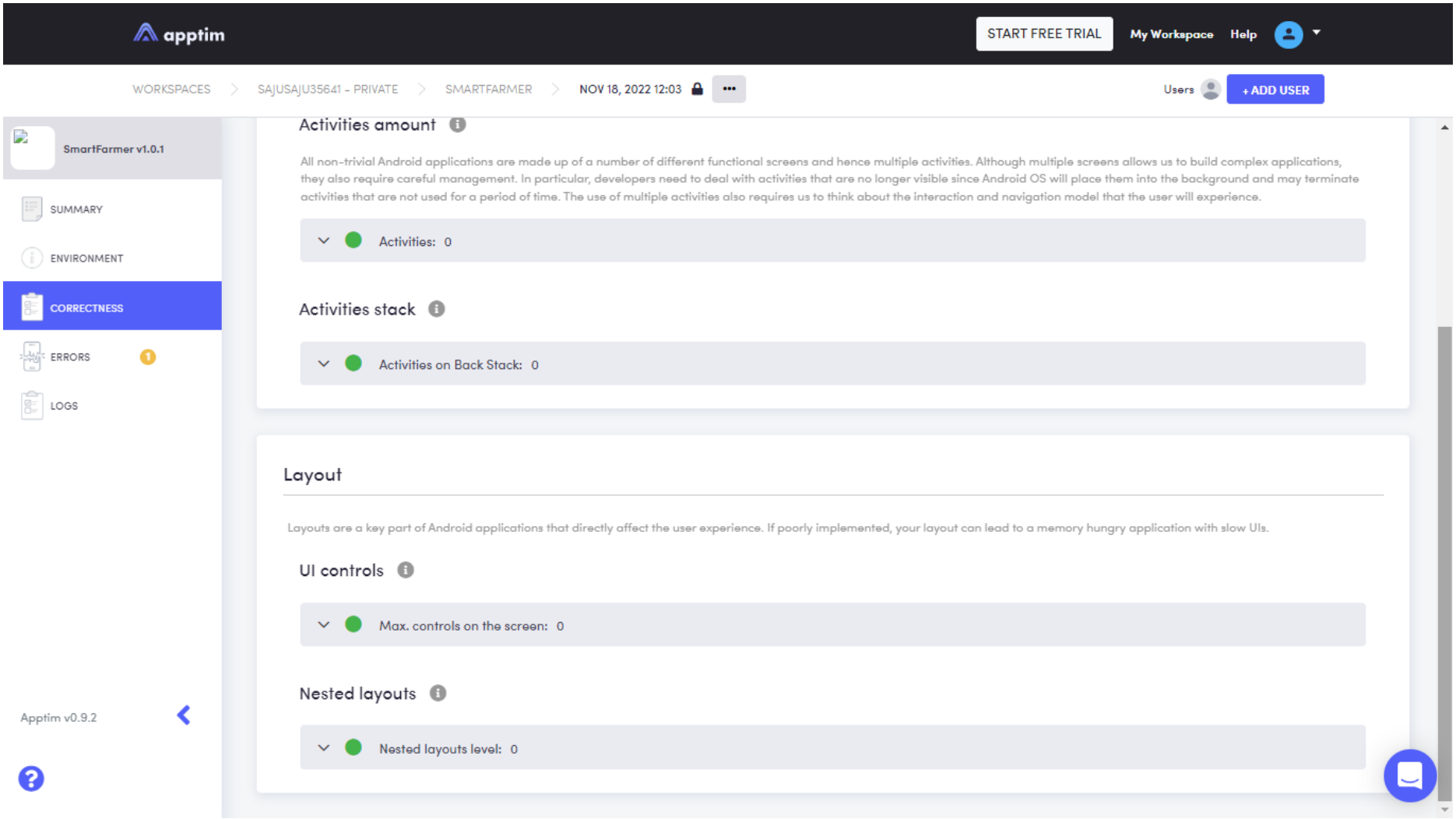
Screen Information

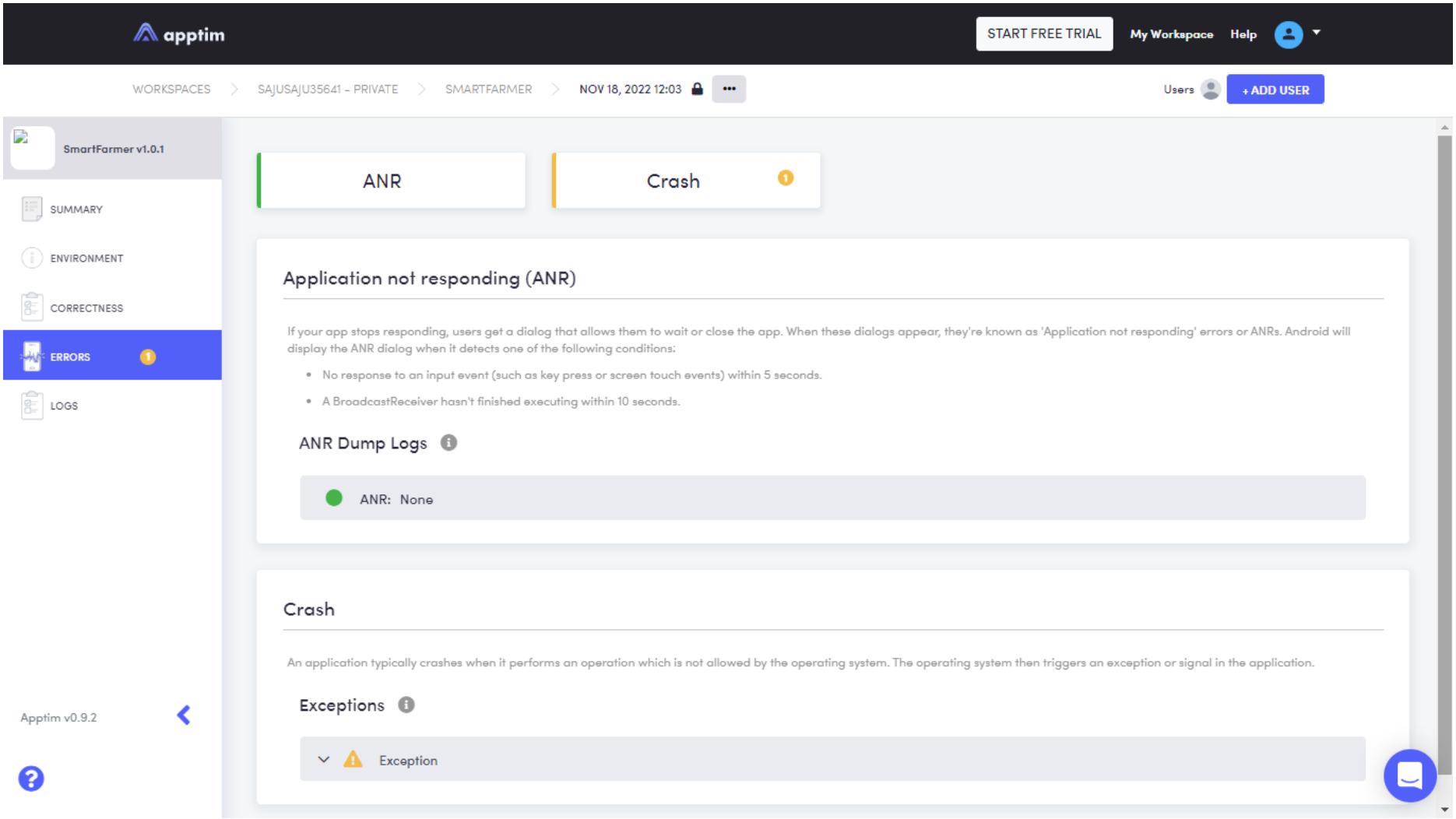
Screen orientation:	port
Screen resolution:	1080x2400
Layout size:	Normal
Display density:	450dpi (450?)
LOpenGL ES:	3.2

App Compatibility

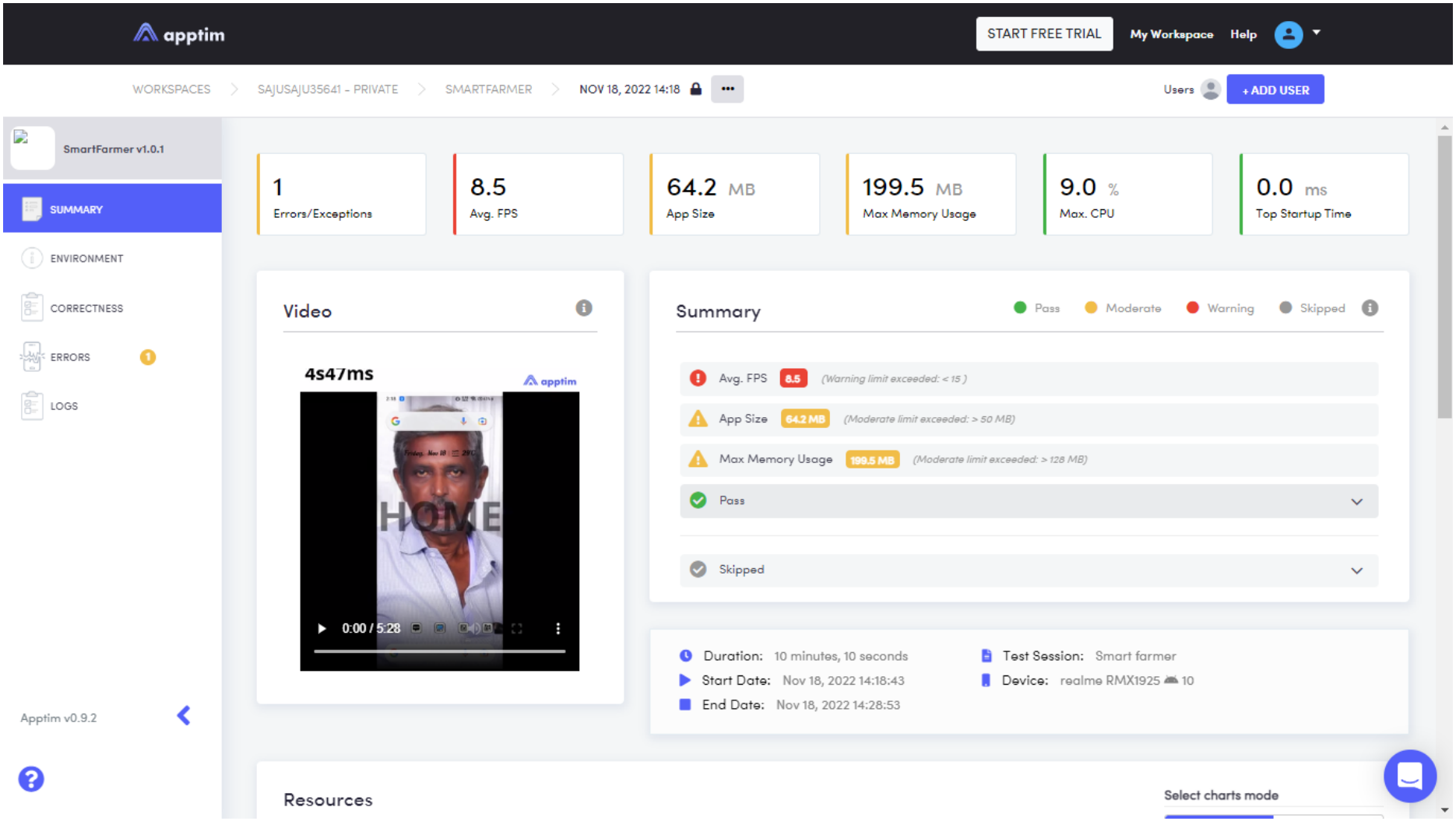
Min API Level:	21
Target API Level:	31
Max API Level:	Undefined
Native CPU architectures:	No
Screens:	small normal large xlarge
Support Any Density:	true
Densities:	120 160 240 320 480 640 65534
Locale:	--_-- af am ar as az be bg bg-BG bn bs ca ca-ES cs cs-CZ da de de-DE el el-GR en en-AU en-

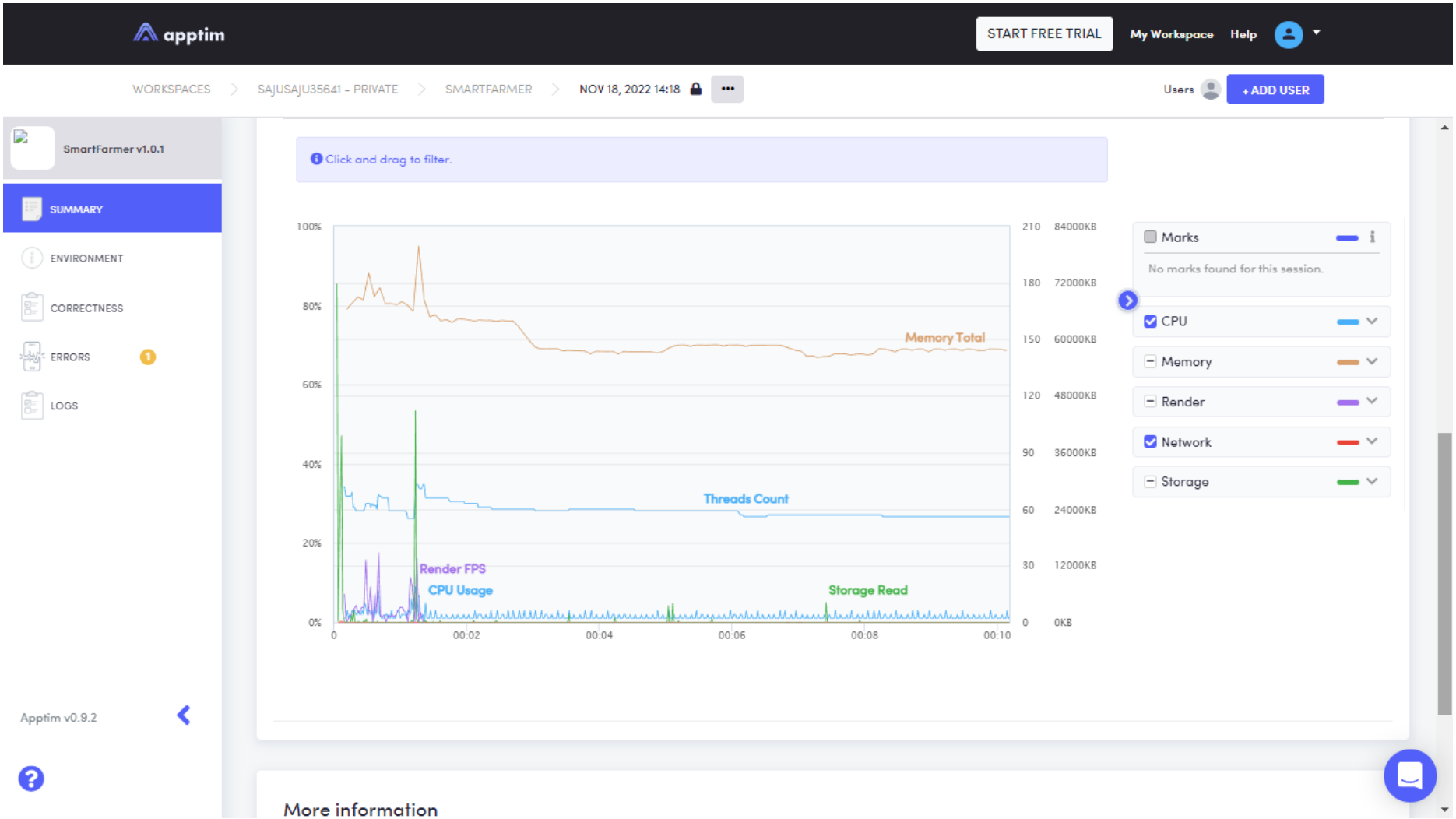

apptim
START FREE TRIAL
My Workspace
Help
WORKSPACES
SAJUSAJU35641 - PRIVATE
SMARTFARMER
NOV 18, 2022 12:03
Users
+ ADD USER
SmartFarmer v1.0.1
SUMMARY
ENVIRONMENT
CORRECTNESS
ERRORS
1
LOGS
Apptim v0.9.2
Activities
Layout
Activities
Android Activities are one of the most important part of application's overall lifecycle. The way activities are launched and how developers manage all them together is a fundamental part of the platform's application model.
In order to improve performance, developers should try to provide interface to users avoiding create several activities and consuming resources when is not needed.
Activities amount
All non-trivial Android applications are made up of a number of different functional screens and hence multiple activities. Although multiple screens allows us to build complex applications, they also require careful management. In particular, developers need to deal with activities that are no longer visible since Android OS will place them into the background and may terminate activities that are not used for a period of time. The use of multiple activities also requires us to think about the interaction and navigation model that the user will experience.
Activities: 0
Activities stack
Activities on Back Stack: 0
Layout
Layouts are a key part of Android applications that directly affect the user experience. If poorly implemented, your layout can lead to a memory hungry application with slow UIs.

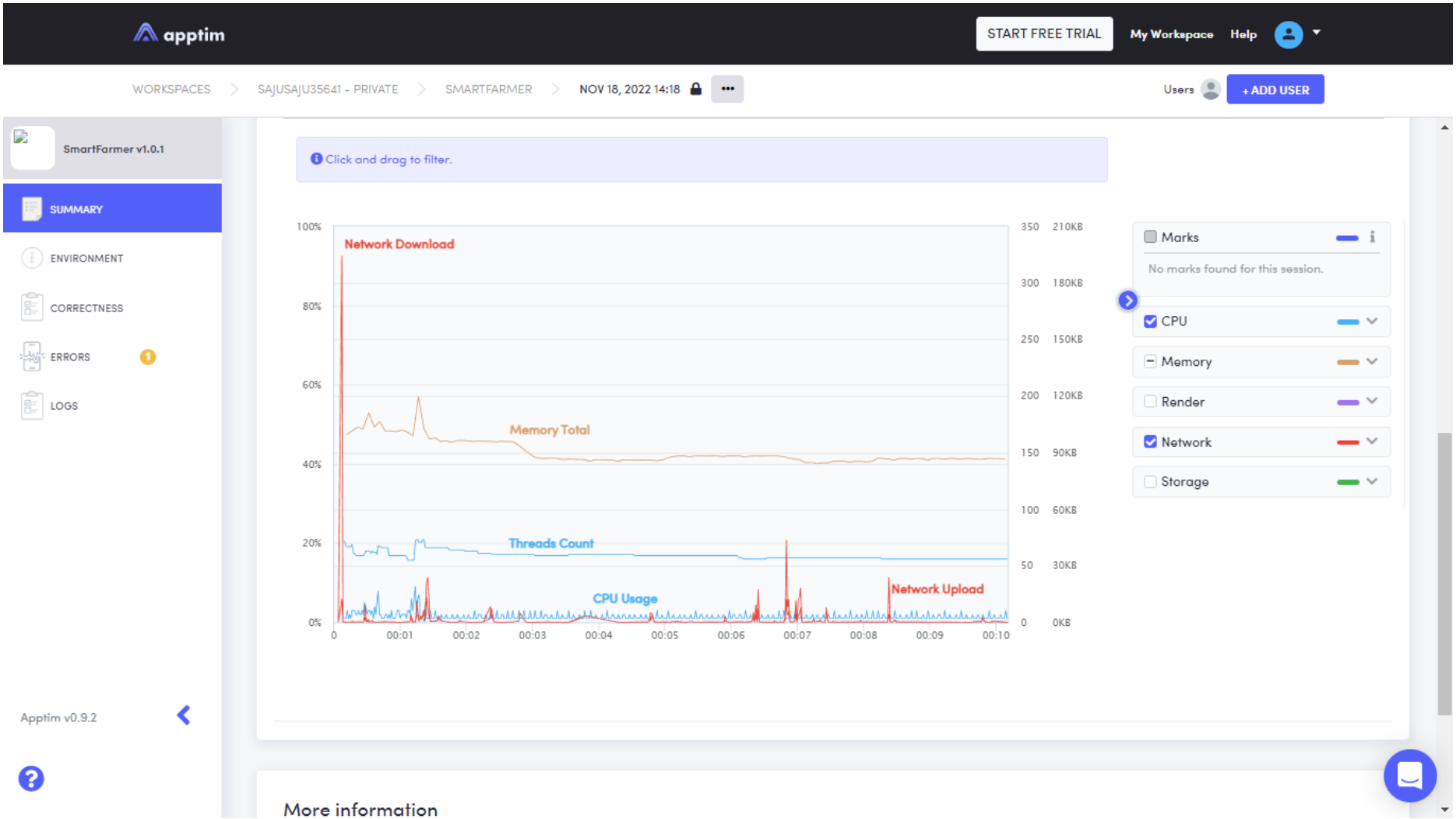

apptim
START FREE TRIAL
My Workspace
Help
WORKSPACES
SAJUSAJU35641 - PRIVATE
SMARTFARMER
NOV 18, 2022 12:03
Users
+ ADD USER
SmartFarmer v1.0.1
SUMMARY
ENVIRONMENT
CORRECTNESS
ERRORS
1
LOGS
Apptim v0.9.2
Activities amount
All non-trivial Android applications are made up of a number of different functional screens and hence multiple activities. Although multiple screens allows us to build complex applications, they also require careful management. In particular, developers need to deal with activities that are no longer visible since Android OS will place them into the background and may terminate activities that are not used for a period of time. The use of multiple activities also requires us to think about the interaction and navigation model that the user will experience.
Activities: 0
Activities stack
Activities on Back Stack: 0
Layout
Layouts are a key part of Android applications that directly affect the user experience. If poorly implemented, your layout can lead to a memory hungry application with slow UIs.
UI controls
Max. controls on the screen: 0
Nested layouts
Nested layouts level: 0


apptim
START FREE TRIAL
My Workspace
Help
WORKSPACES
SAJUSAJU35641 - PRIVATE
SMARTFARMER
NOV 18, 2022 12:03
Users
+ ADD USER
SmartFarmer v1.0.1
SUMMARY
ENVIRONMENT
CORRECTNESS
ERRORS
1
LOGS
Apptim v0.9.2
ANR
Crash
1
Application not responding (ANR)
If your app stops responding, users get a dialog that allows them to wait or close the app. When these dialogs appear, they're known as 'Application not responding' errors or ANRs. Android will display the ANR dialog when it detects one of the following conditions:
No response to an input event (such as key press or screen touch events) within 5 seconds.
A BroadcastReceiver hasn't finished executing within 10 seconds.
ANR Dump Logs
ANR: None
Crash
An application typically crashes when it performs an operation which is not allowed by the operating system. The operating system then triggers an exception or signal in the application.
Exceptions
Exception

MOBILE 3


apptim
START FREE TRIAL
My Workspace
Help
WORKSPACES
SAJUSAJU35641 - PRIVATE
SMARTFARMER
NOV 18, 2022 14:18
Users
+ ADD USER
SmartFarmer v1.0.1
SUMMARY
ENVIRONMENT
CORRECTNESS
ERRORS
LOGS
Apptim v0.9.2
1
Errors/Exceptions
8.5
Avg. FPS
64.2 MB
App Size
199.5 MB
Max Memory Usage
9.0 %
Max. CPU
0.0 ms
Top Startup Time
Video
4s47ms
0:00 / 5:28
Summary
Pass
Moderate
Warning
Skipped
Avg. FPS 8.5 (Warning limit exceeded: < 15)
App Size 64.2 MB (Moderate limit exceeded: > 50 MB)
Max Memory Usage 199.5 MB (Moderate limit exceeded: > 128 MB)
Pass
Skipped
Duration: 10 minutes, 10 seconds
Start Date: Nov 18, 2022 14:18:43
End Date: Nov 18, 2022 14:28:53
Test Session: Smart farmer
Device: realme RMX1925 10
Resources
Select charts mode


apptim
START FREE TRIAL
My Workspace
Help
WORKSPACES
SAJUSAJU35641 - PRIVATE
SMARTFARMER
NOV 18, 2022 14:18
Users
+ ADD USER
SmartFarmer v1.0.1
SUMMARY
ENVIRONMENT
CORRECTNESS
ERRORS
1
LOGS
Apptim v0.9.2
Click and drag to filter.
100%
80%
60%
40%
20%
0%
210 84000KB
180 72000KB
150 60000KB
120 48000KB
90 36000KB
60 24000KB
30 12000KB
0 0KB
Memory Total
Threads Count
Render FPS
CPU Usage
Storage Read
0
00:02
00:04
00:06
00:08
00:10
Marks
No marks found for this session.
CPU
Memory
Render
Network
Storage
More information


apptim
START FREE TRIAL
My Workspace
Help
WORKSPACES
SAJUSAJU35641 - PRIVATE
SMARTFARMER
NOV 18, 2022 14:18
Users
+ ADD USER
SmartFarmer v1.0.1
SUMMARY
ENVIRONMENT
CORRECTNESS
ERRORS
LOGS
Apptim v0.9.2
Click and drag to filter.
Network Download
Memory Total
Threads Count
CPU Usage
Network Upload
100%
80%
60%
40%
20%
0%
350 210KB
300 180KB
250 150KB
200 120KB
150 90KB
100 60KB
50 30KB
0 0KB
0
00:01
00:02
00:03
00:04
00:05
00:06
00:07
00:08
00:09
00:10
Marks
No marks found for this session.
CPU
Memory
Render
Network
Storage
More information

SmartFarmer v1.0.1
SUMMARY
ENVIRONMENT
CORRECTNESS
ERRORS 1
LOGS
Apptim v0.9.2

Test Environment

realme RMX1925

Android version:	10
Manufacturer:	realme
Model:	RMX1925
CPU Architecture:	arm64-v8a
Number of cores:	8
RAM:	3.82GB

App Information

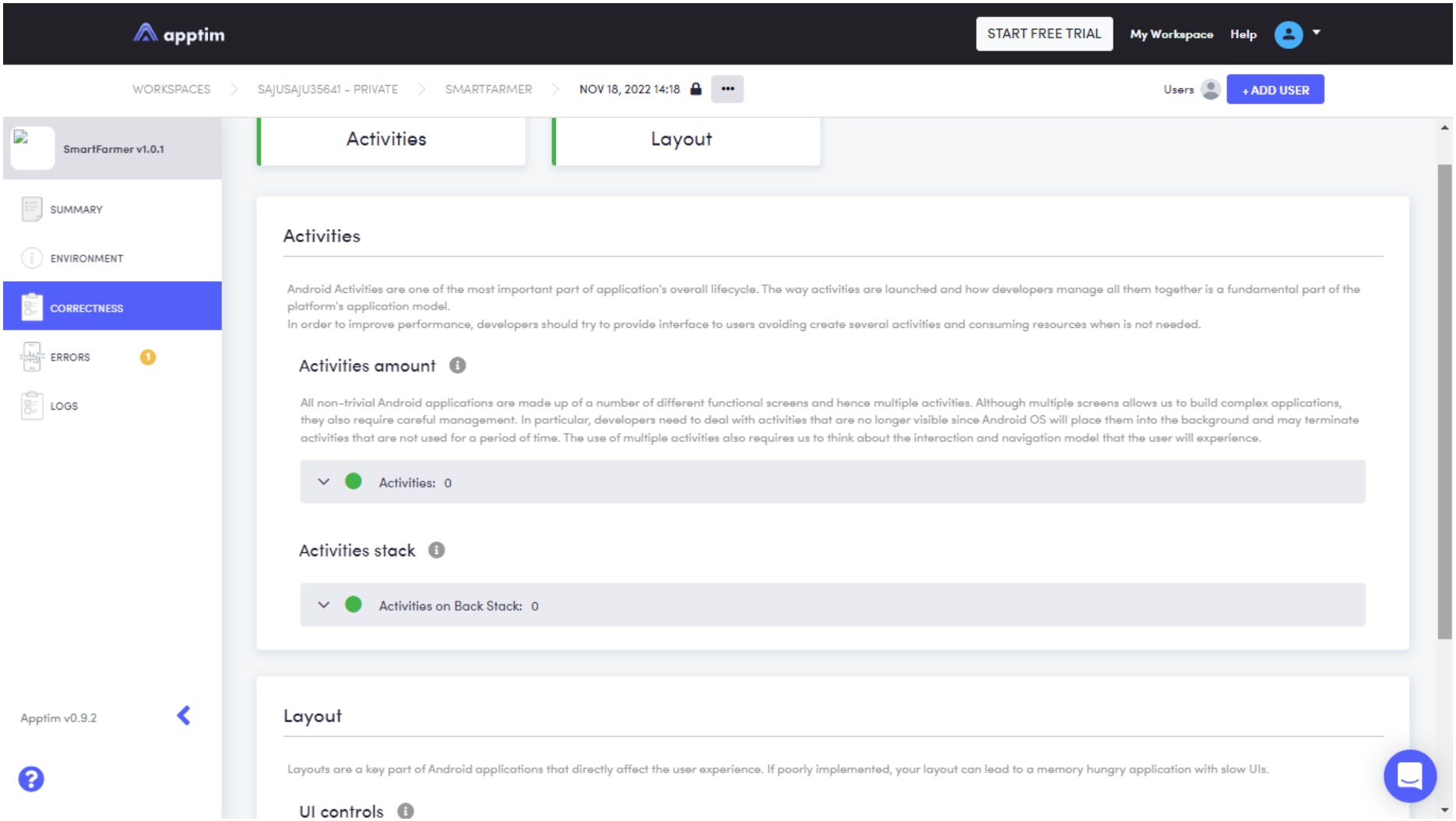
Default Label:	SmartFarmer
Version Code:	1
Version Name:	1.0.1
Package:	com.shandude.smartfarmer
Launch Activity:	host.exp.exponent.MainActivity
Use large heap:	false
Debuggable:	false

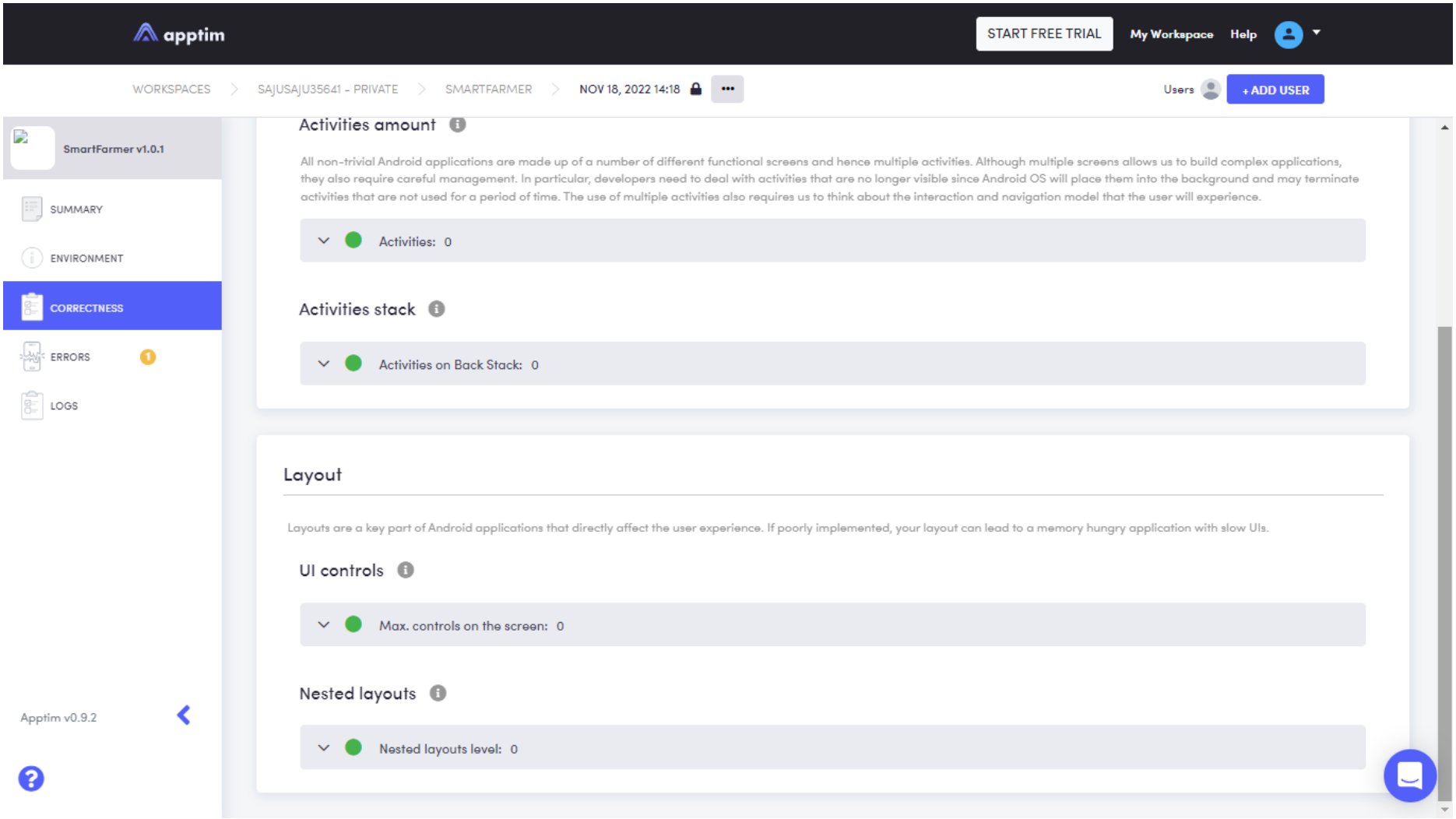
Screen Information

Screen orientation:	port
Screen resolution:	720x1600
Layout size:	Normal
Display density:	320dpi (xhdpi)
LOpenGL ES:	3.2

App Compatibility

Min API Level:	21
Target API Level:	31
Max API Level:	Undefined
Native CPU architectures:	No
Screens:	small normal large xlarge
Support Any Density:	true


apptim
START FREE TRIAL
My Workspace
Help
WORKSPACES
SAJUSAJU35641 - PRIVATE
SMARTFARMER
NOV 18, 2022 14:18
Users
+ ADD USER
SmartFarmer v1.0.1
SUMMARY
ENVIRONMENT
CORRECTNESS
ERRORS
1
LOGS
Apptim v0.9.2
Activities
Layout
Activities
Android Activities are one of the most important part of application's overall lifecycle. The way activities are launched and how developers manage all them together is a fundamental part of the platform's application model.
In order to improve performance, developers should try to provide interface to users avoiding create several activities and consuming resources when is not needed.
Activities amount
All non-trivial Android applications are made up of a number of different functional screens and hence multiple activities. Although multiple screens allows us to build complex applications, they also require careful management. In particular, developers need to deal with activities that are no longer visible since Android OS will place them into the background and may terminate activities that are not used for a period of time. The use of multiple activities also requires us to think about the interaction and navigation model that the user will experience.
Activities: 0
Activities stack
Activities on Back Stack: 0
Layout
Layouts are a key part of Android applications that directly affect the user experience. If poorly implemented, your layout can lead to a memory hungry application with slow UIs.
UI controls


apptim
START FREE TRIAL
My Workspace
Help
WORKSPACES
SAJUSAJU35641 - PRIVATE
SMARTFARMER
NOV 18, 2022 14:18
Users
+ ADD USER
SmartFarmer v1.0.1
SUMMARY
ENVIRONMENT
CORRECTNESS
ERRORS
1
LOGS
Apptim v0.9.2
Activities amount
All non-trivial Android applications are made up of a number of different functional screens and hence multiple activities. Although multiple screens allows us to build complex applications, they also require careful management. In particular, developers need to deal with activities that are no longer visible since Android OS will place them into the background and may terminate activities that are not used for a period of time. The use of multiple activities also requires us to think about the interaction and navigation model that the user will experience.
Activities: 0
Activities stack
Activities on Back Stack: 0
Layout
Layouts are a key part of Android applications that directly affect the user experience. If poorly implemented, your layout can lead to a memory hungry application with slow UIs.
UI controls
Max. controls on the screen: 0
Nested layouts
Nested layouts level: 0