DroidXTK

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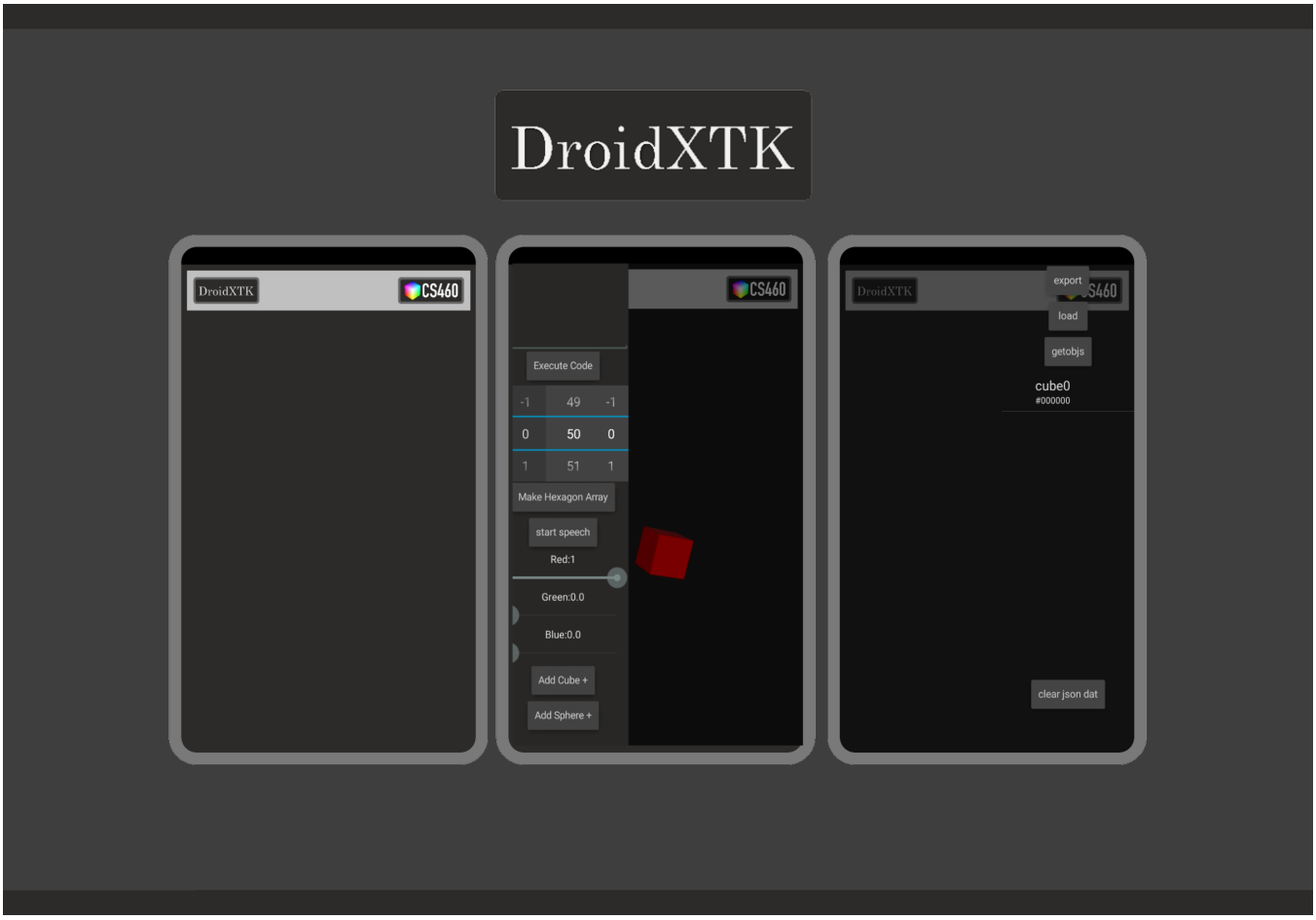

Figure 1: Create objects, use voice-recognition, and even debug code with the built in web console.

ABSTRACT

DroidXTK is an Android application and framework, of which provides a bridge (in JavaScript) to all the Android API's, for use with the XTK framework. The Android app is built using the JavaScript platform Droidscript. Some API "features" implemented include: Button/Slider input, Voice Recognition, Sensor i/o, and many more potential possibilities. The main concept will be to create generalized methods, of which can be used (as is) or easily be extended to provide new functionality in the future.

KEYWORDS

WebGL, Visualization, Android, JavaScript, XTK, Framework, Droidscript, Developer,API's, Voice-Recognition, Accessibility

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1 INTRODUCTION

TODO: Add your introduction: include why this project is important and what your contribution is.

2 RELATED WORK

Here you can cite existing related work like XTK [2] or Three.js [1].

3 METHOD

Describe your project in detail.

3.1 Implementation

Scripting Engine:

The DroidScript App contains a scripting engine which allows anyone with a bit of JavaScript knowledge to easily write Apps for their mobile phone or tablet. You can write very simple Apps with just a few buttons, or more complex ones which include dynamic graphical interfaces such as the DroidScript application itself, which is written using the very same engine.

As well as creating graphical interfaces, you have access to Sensors like the Accelerometer, Compass, Light meter or other device components like Wifi, Bluetooth, Camera, GPS, SD Card, SMS, Emails, Internet and more. We're always adding new functionality to the engine, so if you want something added just let us know via email or leave a comment on the forum.

Source: www.androidscript.org

App Object:

The **app** object is the main driving force behind Droidscript and its easy-to-use JavaScript app development framework. Some of the categories of what the app object extends to include:

- Application Control
- Application Information
- Bluetooth
- Components
- Controls
- Cross-Application
- Database
- Debugging
- Device Control
- Device Information
- Dialogs
- Files
- Graphics
- Layouts
- Messaging
- Network
- Sounds
- UI Control
- User Information

Source:www.androidscript.org

A "Nested Bridge"

$$\boxed{Droidscript} \longrightarrow \boxed{Java}\, boxed Java \longrightarrow \boxed{AndroidAPI's}$$

Executes JavaScript code on live HTML/JavaScript, in an Android webview container. XTK code bridge created in JavaScript to using Droidscript framework to develop methods.

Android Controls

```
//controls to initialize methods
//buttons
bexec = app.CreateButton("load");
btnClearJsonData = app.CreateButton("clear json dat");
btnCube = app.CreateButton("Add Cube +");
btnDebug = app.CreateButton("Execute Code");
btnobjlst = app.CreateButton("getobjs");a
btnspch = app.CreateButton("start speech");
btnSphere = app.CreateButton("Add Sphere +");
btnwpcg = app.CreateButton("export");
createHexagon = app.CreateButton("Make Hexagon Array");

//data entry fields to store values to apply to XTK objects
//text/textedit controls
edt = app.CreateTextEdit("", drawerWidth, 0.18, "nospell,mono");
labelBlue = app.CreateText("Blue:0.0");
labelGreen = app.CreateText("Green:0.0");
labelRed = app.CreateText("Red:0.0");

//layouts to hold the prior objects
layDebug = app.CreateLayout("linear", "VTop,fillxy");
   layDebug.AddChild(btnCube);
   layDebug.AddChild(btnDebug);
   layDebug.AddChild(btnspch);
   layDebug.AddChild(btnSphere);
   layDebug.AddChild(createHexagon);
   layDebug.AddChild(edt);
   layDebug.AddChild(layRGB);
   layDebug.AddChild(layXYZPos);
layObjDebug = app.CreateLayout("linear", "VTop");
   layObjDebug.AddChild(bexec);
   layObjDebug.AddChild(btnClearJsonData);
   layObjDebug.AddChild(btnobjlst);
   layObjDebug.AddChild(btnwpcg);
   layObjDebug.AddChild(objlist);
layRGB = app.CreateLayout("linear", "Vertical");
   layRGB.AddChild(labelBlue);
   layRGB.AddChild(labelGreen);
   layRGB.AddChild(labelRed);
   layRGB.AddChild(skbBlue);
   layRGB.AddChild(skbGreen);
   layRGB.AddChild(skbRed);
layXYZPos = app.CreateLayout("linear", "Horizontal,VCenter");
   layXYZPos.AddChild(txtXPos);
   layXYZPos.AddChild(txtYPos);
   layXYZPos.AddChild(txtZPos);
//lists
objlist = app.CreateList(",", 0.45, 0.63);
```

```
//seekbars
skbBlue = app.CreateSeekBar(drawerWidth, -1);
skbGreen = app.CreateSeekBar(drawerWidth, -1);
skbRed = app.CreateSeekBar(drawerWidth, -1);
speech = app.CreateSpeechRec();
```

3.2 Milestones

How did you structure the development?

3.2.1 Milestone 1. An example could be: The team brainstormed different designs by using a whiteboard.

3.2.2 Milestone 2. An example could be: The team chose the following design...

3.2.3 Milestone 3. Add as many milestones as you like.

3.3 Challenges

Describe the challenges you faced.

- Challenge 1: Some tricky business..
- Challenge 2: Some other obstacle..

4 RESULTS

Describe your final result. And, of course, add some images, like image 2. You can refer to the images in the text which is a nice feature of latex.

Figure 2: An example image.

5 CONCLUSIONS

Describe your final conclusions in 1-2 paragraphs. Please double-check that you removed all instructions of this template in all sections - including this one. Good luck!

Your references are loaded in BibTex from references.bib!

REFERENCES

[1] Ricardo Cabello et al. 2010. Three.js. *URL: https://github. com/mrdoob/three.js* (2010).

[2] Daniel Haehn, Nicolas Rannou, Banu Ahtam, P. Ellen Grant, and Rudolph Pienaar. 2012. Neuroimaging in the Browser using the X Toolkit. *Frontiers in Neuroinformatics* (2012).