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Why Establish This Page?

This page, established on February 10, 2008, aims to provide a reliable, readable documentation for building a stable s60webkit.

Most of the content is based on the [original wiki site](#) which has been however out-dated for some time. To encourage more Forum Nokia developers to join in and maintain the documents, we decided to move the page into Forum Nokia's wiki so that one need not register another new account to be an editor of the page. In other words, if you have a Nokia Forum account, you already can join in maintaining this wiki!

Wiki Maintenance - the TODO List

- to clarify the latest stable revision
- to clarify the correct building procedure from the source
- more later...
- ...
- ...
- ...

Build the Source: The Main Steps

1. Firstly, you'll need to [configure your computer](#).
2. Then [checkout and build the source](#). You can also [browse the latest source](#) through the web. **Note: according to the information, 21772 is the latest stable revision."**
3. When you're up and running, [check out S60Reindeer Reindeer](#), a completely open browser that sits on top of S60WebKit

Configure Your Computer

To work with S60WebKit, you'll need to install a couple of tools:

The S60 3rd Edition SDK

Download and install the S60 3rd Edition SDK from [Forum Nokia](#). Choose "3rd Edition (262 MB)" from the listbox on the right of the page and click on the "Download" button.

Note: The S60 3rd Edition Feature Pack 1 is currently incompatible with the S60WebKit codebase. Please ensure you select "3rd Edition (262 MB)" and not "3rd Edition, FP 1 (355 MB)" from the listbox.

Note: Some users have reported that the installation software hangs on XP service pack 2. This is a known incompatibility between the OS version level and the SDK's installation package. A quick workaround is available [here](#).

Note: Run *regedit* and make sure you have a registry entry in HKEY_LOCAL_MACHINE\SOFTWARE\Symbian\Series 60\3rd Ed. SDK for Symbian OS with a key: TargetDir = drive:\path_to_symbian\S60_3rd_MR_2\

Note: For recent revisions (tested with 23884) you will need the following additional libs and headers:

browserlauncher.h from FP1 beta plugin

e32hashtable.h from UIQ3 epoc32/include dir

aiwdialdata.lib from FP1 beta plugin (referenced in webkit.mmp)

xmlengine.dll is supplied in the source tree at S60Internals\target\RVCT\S60LibsRVCT.zip

A Subversion client

Latest Stable Release is 21772 according to the information.--[Kennykaiyinyu](#) 11:59, 10 February 2008 (EET)

You'll need a [Subversion client](#) to checkout and update the source.

If you prefer a graphical interface, there are quite a few to choose from. One candidate is [TortoiseSVN](#). However, there are a couple of Subversion related tools which assume the Subversion command line interface is in your PATH, so you may wish to install both.

Carbide C++ Express

(This cannot be downloaded anymore. Is Carbide 1.2 acceptable? --[Kennykaiyinyu](#) 11:59, 10 February 2008 (EET))

[Carbide.c++ Express version 1.0](#) is a free IDE for mobile application development.

We use the compilers and debugger that ships with the IDE to build and work with S60WebKit. For further information about Carbide and IDE's to use with S60WebKit, see the [\[wiki:S60IDE IDE\]](#) page.

ActiveState Perl v5.6.1

Install ActiveState Perl v5.6.1 from [here](#).

Once you've installed these tools, you're ready to [\[wiki:S60CheckoutAndBuild check out and build\]](#) S60WebKit.

Check out and Build the Source

Getting the Source

Checkout a copy of S60WebKit from the WebKit Subversion repository:

```
cd <SDK installation path>
svn checkout svn://anonsvn.opensource.apple.com/svn/webkit/S60/trunk S60
```

Please note: By default, the SDK installation path is

```
C:\Symbian\9.1\S60_3rd
```

Setting up the Source

build.bat

1. For Carbide 1.2, modify the default Carbide path in **build.bat** to:

```
$cbdhome = "$ENV{ProgramFiles}\\Nokia\\Carbide.c++ v1.2" unless -d $cbdhome;
```

2. Also comment out the following line otherwise you will get "mwldsym2.exe: Undefined symbol: '__CxxFrameHandler'" when building for the emulator:

```
delete $ENV{'MWSYM2LIBRARIES'};
```

3. You will see the required registry key also in build.bat:

```
my $sdkhome = $Registry->{ "HKEY_LOCAL_MACHINE/SOFTWARE/Symbian/Series 60/3rd Ed. SDK for
```

Building the Source

- Compile S60WebKit by changing directory to the top of the source tree and running the **build** script, for example:

```
cd <SDK installation path>\S60
build
```

Please note that on rare occasions, when compiling for the very first time you may encounter the following error:

```
No rule to make target \EPOC32\INCLUDE\WebKitIcons_sdk.mbg
```

This error only occurs once and can safely be ignored: running a target build via **build -t** (which has an execution time of a couple of seconds) will return no errors. See [bug 9289](#) for further information.

Once you've clean compiled, the next step is to [check out Reindeer](#) in the emulator, or you could debug and by following the debugging instructions on the [Appendix: IDEs for S60WebKit](#) page.

So what does the build script do?

Here's a quick overview of what build.bat does:

- Unless already done so, it will create the subst drive to <SDK path> for you
- Sets up your environment so that the Carbide and GCCE compiler suites are used by the SDK build system
- Extracts each of the zipfiles under <working copy>\S60Internals*. These are mostly extracted to \epoc32
- Synchronises the layout test (rsync type operation) in your working copy to \epoc32\wincsw\c\LayoutTests
- Does a number of 'abld' commands, depending on what options you passed to the script
- The output from the 'abld' command is redirected to both STDOUT and <working copy>\build.log. This is scanned for errors and a summary is output to the screen

Build options

The build script supports a number of options. Here's the full usage statement:

```
build.bat      [OPTS] [COMPONENT]
  -n          Do not include clean in compile
  -f          run freeze phase and exit
  -g          GCCE compiler for hardware build
  -w          Code Warrior compiler for emulator build
  -t          Target build
  -d          Turn on debugging, forces udeb flavour
  -e          Export generated environment and exit
  -r          Remove S60Internal dependencies and exit
  -s X       Map drive to this letter. Defaults to x
  -h          View this message
```

Build Examples

To compile all components for winscw:

```
build -w
```

To compile all components for GCCE:

```
build -g
```

To do a 'target', or incremental, build:

```
build -t
```

To do build webcore, but don't execute the clean phase:

```
build -n webcore
```

To fully rebuild the memory manager:

```
build memman
```

Options can be bundled. For example, a GCCE target compile with debugging turned on (this forces udeb) for webkit:

```
build -gtd webkit
```

Check Out Reindeer the Web Browser

Reindeer is the first and only open source browser for mobile platforms. You will find it in the *Installat*. folder in the menu grid (click the phone emulator menu button on the left to see the menu grid). It's a fully functioning mobile browser.

You can view the Reindeer source here [here](#).

It's well worth noting that Reindeer is licensed under the liberal BSD license, and contributions that enhance Reindeer are almost always committed into the codebase. So in many ways, the direction Reindeer goes in is entirely community driven. We welcome you to checkout, build and play around with the Reindeer and S60WebKit source.

You may find it convenient to move Reindeer to the top-level menu: in the *Installat.* menu, select *Reindeer*, then click **Options>Move to folder** and select *Menu* as the destination. Go *Back* then use **Options>Move** to place the icon in the middle of the 2nd row, so it will be your default.

(Appendix) IDEs for S60WebKit

This appendix contains information and recommendations about which IDE to use when developing on S60WebKit.

As mentioned in the [wiki:S60ConfigureComputer environment setup instructions], the recommended version of the Carbide.c++ IDE is **version 1.0**. (*This IDE cannot be downloaded anymore. Kenny Yu.*)

Why?

Carbide.c++ version 1 is the primary recommendation because it's free software (in practice, quite a number of different IDEs are used).

Limitations

Carbide.c++ version 1.0 does have some limitations, especially with importing a large code base such as S60WebKit into an 'IDE project'. When using version 1.0, people tend to edit the source in their favorite editor and then compile/run the emulator with the [wiki:S60CheckoutAndBuild provided scripts]. Carbide version 1.0 can still be used for debugging (see below).

Carbide.c++ version 1.2

See Marcus Groeber's comments regarding Carbide.c++ version 1.2 and S60WebKit:

```
What did actually work for me is build WebKit with Carbide.c++ 1.2 (due
to the massively improved ability to import complex bld.inf files into
the IDE, and then defer the building to the usual command line tools).
//
You won't be able to use the build.bat script that comes with WebKit, so
you will need to set up a permanent "subst" of X: to the EPOCROOT of
your 3rd Edition SDK by hand (note that "3rd Edition MR" will not work,
unfortunately!), and create an additional SDK descriptor for devices.exe
that refers to your X: drive as the EPOCROOT:
//
```

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```
Device: S60_3rd_X:com.nokia.s60
Root is X:\
Tools path is X:\
//
It may still be necessary to run the original build script at least once
to copy the necessary support files in the right location, but after
this, I was able to rebuild and debug Reindeer from inside Carbide.c++
//
[Added after original post:]
You will also need to overwrite variant.cfg in your 3.0 SDK with the copy
included with the browser source (in S60\S60Internals\S60Variant.zip). The
reason is that build.bat also replaces variant.cfg in the SDK while building,
and then reverts back again after it exits. This temporarily makes available
a few specific macros that control the exact build environment that is expected.
//
So even if you have run build.bat once (which you must), you will also need to
extract S60Variant.zip before using the IDE.
```

Thanks Marcus!

Debugging with Carbide.c++ Version 1.0

It is recommended that you get acquainted with Carbide.c++ version 1.0 functionality by following the tutorial withing Carbide with a sample Hello World Project before attempting to debug the S60WebKit code.

To set breakpoints in S60WebKit code for debugging with Carbide:

- Build reindeer via the provided build scripts
- Start Carbide.C++ Express
- Select Menu Item: File->Import...
- Highlight "Symbian OS Executable" and click Next
- In Select Executable: field, enter "X:\Epoc32\release\wincsw\udeb\!WebUi.exe" and click Next
 - ◆ Confirm "New Project Name:" is "Debug !WebUi.exe" and is selected,
 - ◆ Box "Create a Launch Configuration:" is checked and set to "Symbian OS Emulation", and
 - ◆ "Name:" is "Debug !WebUi.exe"

Click Finish.

- ◆ In new "Debug" window, enter the following for "Emulator or host application:" field:

```
X:\Epoc32\release\wincsw\udeb\epoc.exe
```

Click Apply and then Debug

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This should allow you to set breakpoints and debug the sources that make up the !WebUi.exe binary only. To debug other DLLs/binaries that make up the Browser, do the following:

- Return to the non-debug view of Carbide.
- Under the C/C++ Project tab, highlight and right click on {{{Debug !WebUi.exe}}} and select {{{Import...}}}
- Highlight {{{Symbian OS Executable}}} and click Next
- In Select Executable: field, enter {{{X:\Epoc32\release\winscw\udeb\!MemMan.dll}}} and click Next

Note: this example is loading !MemMan.dll but you can also select any other browser based binary file

Select radio button "Existing Project:", click Search and select "Debug !WebUi.exe" ; Uncheck the box "Create a Launch Configuration:" and click Finish

- You can now start a debug session and set breakpoints in both !WebUi.exe and !MemMan.dll based source files.

To add additional S60WebKit browser binaries for debugging, just repeat the steps above.

Licensing

The MemoryManager, S60WebKit and Reindeer components are covered by the Nokia BSD license. The WebCore and JavaScriptCore components are covered by the GNU Lesser General Public License (LGPL). The Netscape Plug-in API is a ported version of the open source plug-in interface from Netscape Communications Corporation, which is covered by the Netscape Public License v1.1.

Contacting Us

Want to get in touch? Your ideas, questions and feedback are appreciated!

We use a lot of the same [communication channels](#) as the rest of the WebKit project:

We keep a close eye on the WebKit mailing list, webkit-dev@opendarwin.org. You can sign up for the list [here](#)

You'll find quite a few of the S60WebKit contributors active in channel #webkit on the FreeNode IRC network (irc.freenode.net)

You can also get in touch with us directly through S60WebKit@nokia.com

Solutions to some errors you might face while compiling S60Webkit

Error Case: 1 elf2e32 : Error: E1036: Symbol _ZTV15CSimpleNotifier Missing from ELF File :
..\EPOC32\BUILD\S60\MEMMAN\GCCE\UREL\MemMan_sdk.dll

Solution in file D:\Symbian\9.2\S60_3rd_FP1_3\S60\MemoryManager\EABI\MemMan_sdkU.DEF Change
_ZTV15CSimpleNotifier @ 27 NONAME ; DATA To _ZTV15CSimpleNotifier @ 27 ABSENT ; DATA

Error Case: 2 JavaScriptCore//bindings/HashFunctions.h:35: error: `int64_t' does not name a type

Solution in file D:\Symbian\9.2\S60_3rd_FP1_3\Epoc32\include\oem\javascriptcore\stdint.h Add following
lines typedef long long int64_t; typedef unsigned long long uint64_t;

typedef unsigned long uintptr_t; typedef unsigned long intptr_t;

Before

```
1. endif // __GCCE__
```

Also make the same change in D:\Symbian\9.2\S60_3rd_FP1_3\S60\JavaScriptCore\kjs\stdint.h

Error Case: 3 elf2e32 : Error: E1036: Symbol
_ZN3KJS5ValueC1EPNS_8ValueImpE,_ZN3KJS5ValueC1ERKS0_,_ZN3KJS5ValueC2EPNS_8ValueImpE,_ZN3K
ERKS0_,_ZN3KJS5ValueD1Ev,_ZN3KJS5ValueD2Ev,_ZN3KJS5ValueaSERKS0_ Missing from ELF File :
..\EPOC32\BUILD\S60\JAVASCRIPTCORE\GCCE\REL\JavaScriptCore_sdk.DLL. Solution, Mark them as
ABSENT in D:\Symbian\9.2\S60_3rd_FP1_3\S60\JavaScriptCore\group\EABI\JavaScriptCore_gcceU.def
And D:\Symbian\9.2\S60_3rd_FP1_3\S60\JavaScriptCore\group\BMARM\JavaScriptCoreU.def

Error Case: 4 elf2e32 : Error: E1036: Symbol _ZTI15CSimpleNotifier,_ZTV15CSimpleNotifier Missing
from ELF File : ..\EPOC32\BUILD\S60\MEMMAN\GCCE\UREL\MemMan_sdk.dll. Solution, Mark them as
ABSENT in D:\Symbian\9.2\S60_3rd_FP1_3\S60\MemoryManager\EABI\MemMan_gcceU.DEF And
D:\Symbian\9.2\S60_3rd_FP1_3\S60\MemoryManager\EABI\MemMan_sdkU.DEF

Error Case: 5

```
make -r -f "\EPOC32\BUILD\S60\GCCE.make" TARGET CFG=UREL VERBOSE=-s
```

```
..\EPOC32\RELEASE\ARMV5\UREL\KHTML.lib(kjs_binding.o): In function  
`KJS::ScriptInterpreter::createLanguageInstanceForValue(KJS::ExecState*,  
KJS::Bindings::Instance::BindingLanguage, KJS::Object const&, KJS::Bindings::RootObject const*,  
KJS::Bindings::RootObject const*)': Kjs_binding.cpp:(.text+0x1884): undefined reference to  
`KJS::Interpreter::createLanguageInstanceForValue(KJS::ExecState*, KJS::Bin  
dings::Instance::BindingLanguage, KJS::Object const&, KJS::Bindings::RootObject const*,  
KJS::Bindings::RootObject const*)' ..\EPOC32\RELEASE\ARMV5\UREL\KHTML.lib(kjs_dom.o): In
```

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```
function `KJS::getRuntimeObject(KJS::ExecState*, DOM::Node const&): Kjs_dom.cpp:(.text+0xd48c):
undefined reference to `KJS::RuntimeObjectImp::RuntimeObjectImp(KJS::Bindings::Instance*, bool)'
Kjs_dom.cpp:(.text+0xd530): undefined reference to
`KJS::RuntimeObjectImp::RuntimeObjectImp(KJS::Bindings::Instance*, bool)' Kjs_dom.cpp:(.text+0xd5d4):
undefined reference to `KJS::RuntimeObjectImp::RuntimeObjectImp(KJS::Bindings::Instance*, bool)'
..\EPOC32\RELEASE\ARMV5\UREL\KHTML.lib(kjs_events.o): In function
`KJS::gcUnprotect(KJS::ValueImp*):
Kjs_events.cpp:(.text._ZN3KJS11gcUnprotectEPNS_8ValueImpE[_ZN3KJS11gcUnprotectEPNS_8ValueImpE]+0x18):
undefined reference to `KJS:
```

```
ProtectedValues::decreaseProtectCount(KJS::ValueImp*)'
```

```
..\EPOC32\RELEASE\ARMV5\UREL\KHTML.lib(kjs_events.o): In function
`KJS::gcProtect(KJS::ValueImp*):
Kjs_events.cpp:(.text._ZN3KJS9gcProtectEPNS_8ValueImpE[_ZN3KJS9gcProtectEPNS_8ValueImpE]+0x18):
undefined reference to `KJS::ProtectedValues::increaseProtectCount(KJS::ValueImp*)'
..\EPOC32\RELEASE\ARMV5\UREL\KWQ.lib(KWQKHTMLPart.o): In function
`KWQKHTMLPart::bindingRootObject(): Kwqhtmlpart.cpp:(.text+0x450c): undefined reference to
`KJS::Bindings::RootObject::setInterpreter(KJS::Interpreter*)'
..\EPOC32\RELEASE\ARMV5\UREL\KWQ.lib(KWQKHTMLPart.o): In function
`KWQKHTMLPart::cleanupPluginRootObjects(): Kwqhtmlpart.cpp:(.text+0x7e38): undefined reference to
`KJS::Bindings::RootObject::removeAllNativeReferences()'
..\EPOC32\RELEASE\ARMV5\UREL\KWQ.lib(KWQKHTMLPart.o): In function
`KWQKHTMLPart::getObjectInstanceForView(MWebCoreWidget*): Kwqhtmlpart.cpp:(.text+0xb29c):
undefined reference to `KJS::Bindings::Instance::createBindingForLanguageInstance(KJS::Bindings::
Instance::BindingLanguage, void*, KJS::Bindings::RootObject const*)'
..\EPOC32\RELEASE\ARMV5\UREL\KWQ.lib(KWQKHTMLPart.o): In function
`KWQKHTMLPart::windowScriptNPObject(): Kwqhtmlpart.cpp:(.text+0xb314): undefined reference to
`_NPN_CreateScriptObject'
```

Solution I added following lines to

```
D:\Symbian\9.2\S60_3rd_FP1_3\S60\JavaScriptCore\group\EABI\JavaScriptCore_gcceU.def And to
D:\Symbian\9.2\S60_3rd_FP1_3\S60\JavaScriptCore\group\BMARM\JavaScriptCoreU.def
```

```
_ZN3KJS11Interpreter30createLanguageInstanceForValueEPNS_9ExecStateENS_8Bindings8Instance15BindingLang
@ 389 NONAME _ZN3KJS16RuntimeObjectImpC1EPNS_8Bindings8InstanceEb @ 390 NONAME
_ZN3KJS16RuntimeObjectImpC2EPNS_8Bindings8InstanceEb @ 391 NONAME
_ZTIN3KJS16RuntimeObjectImpE @ 392 NONAME ; #<TI># _ZTVN3KJS16RuntimeObjectImpE @ 393
NONAME ; #<VT># _ZN3KJS15ProtectedValues20decreaseProtectCountEPNS_8ValueImpE @ 394
NONAME _ZN3KJS15ProtectedValues20increaseProtectCountEPNS_8ValueImpE @ 395 NONAME
_ZN3KJS8Bindings10RootObject14setInterpreterEPNS_11InterpreterE @ 396 NONAME
_ZN3KJS8Bindings10RootObject25removeAllNativeReferencesEv @ 397 NONAME
_ZN3KJS8Bindings8Instance32createBindingForLanguageInstanceENS1_15BindingLanguageEPvPKNS0_10RootOb
@ 398 NONAME _NPN_CreateScriptObject @ 399 NONAME
```

Also Recompile JavascriptCore completely use build -g JavascriptCore

Error Case: 6

```
make -r -f "\EPOC32\BUILD\S60\GCCE.make" TARGET CFG=UREL VERBOSE=-s
```

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In file included from WEBKIT//BrowserControl/inc/BrCtlInterface.h:51,

```
from WEBKIT//BrowserCore/FormControls/src/Fcontrolfileinputskin.cpp:49:
```

../EPOC32/include/eikmenup.h: In member function `TBool CEikMenuItem::IsScaleableText(const TDesC&) const': ../EPOC32/include/eikmenup.h:242: warning: enumeral mismatch in conditional expression: `TFalse' vs `TTrue' In file included from

WEBKIT//BrowserCore/FormControls/src/Fcontrolfileinputskin.cpp:50:

../EPOC32/include/oem/commoncontentpolicy.h:197:3: warning: "/" within comment In file included from WEBKIT//BrowserCore/FormControls/src/Fcontrolfileinputskin.cpp:60:

WEBCORE//bridge/WebCoreFormEvent.h:51:32: warning: no newline at end of file In file included from WEBCORE//bridge/WebCoreWidget.h:35,

```
from WEBCORE//bridge/WebCoreGraphicsContext.h:35,
```

```
from WEBKIT//BrowserCore/FormControls/Inc/FControlFileInputSkin.h:53,
```

```
from WEBKIT//BrowserCore/FormControls/src/Fcontrolfileinputskin.cpp:61:
```

WEBCORE//bridge/WebCorePalette.h:63:23: warning: no newline at end of file In file included from WEBKIT//BrowserCore/FormControls/Inc/FControlFileInputSkin.h:53,

```
from WEBKIT//BrowserCore/FormControls/src/Fcontrolfileinputskin.cpp:61:
```

WEBCORE//bridge/WebCoreGraphicsContext.h:159:7: warning: no newline at end of file In file included from WEBCORE//bridge/WebCoreFormControls.h:38,

```
from WEBCORE//bridge/WebCoreFormControlFactory.h:34,
```

```
from WEBKIT//BrowserCore/FormControls/Inc/FControlFileInputSkin.h:55,
```

```
from WEBKIT//BrowserCore/FormControls/src/Fcontrolfileinputskin.cpp:61:
```

WEBCORE//bridge/WebCoreFormEvent.h:51:32: warning: no newline at end of file In file included from WEBCORE//bridge/WebCoreBridge.h:36,

```
from WEBKIT//BrowserCore/FormControls/src/Fcontrolfileinputskin.cpp:62:
```

WEBCORE//bridge/WebCoreKeyValuePair.h:61:15: warning: no newline at end of file In file included from WEBCORE//bridge/WebCoreImageCarrier.h:9,

```
from WEBCORE//bridge/WebCoreBridge.h:37,
```

```
from WEBKIT//BrowserCore/FormControls/src/Fcontrolfileinputskin.cpp:62:
```

WEBCORE//bridge/WebCoreImageRenderer.h:93:15: warning: no newline at end of file In file included from WEBCORE//bridge/WebCoreBridge.h:37,

```
from WEBKIT//BrowserCore/FormControls/src/Fcontrolfileinputskin.cpp:62:
```

WEBCORE//bridge/WebCoreImageCarrier.h:43:13: warning: no newline at end of file In file included from WEBCORE//bridge/WebCoreBridge.h:38,

```
from WEBKIT//BrowserCore/FormControls/src/Fcontrolfileinputskin.cpp:62:
```

WEBCORE//bridge/WebCoreFormData.h:59:27: warning: no newline at end of file In file included from memorymanager/inc/oomdefs.h:48,

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```
from WEBCORE//bridge/WebCoreBridge.h:40,  
from WEBKIT\\BrowserCore\\FormControls\\src\\Fcontrolfileinputskin.cpp:62:
```

memorymanager//inc/ObjectBase.h:117:7: warning: no newline at end of file In file included from
WEBKIT//BrowserCore//Renderers//inc/ImageRendererFactory.h:48,

```
from WEBKIT//BrowserView//inc/WebKitView.h:60,  
from WEBKIT\\BrowserCore\\FormControls\\src\\Fcontrolfileinputskin.cpp:63:
```

WEBCORE//bridge/WebCoreImageRendererFactory.h:91:15: warning: no newline at end of file In file
included from WEBKIT//BrowserView//inc/WebKitLoader.h:52,

```
from WEBKIT//BrowserView//inc/WebKitBridge.h:50,  
from WEBKIT\\BrowserCore\\FormControls\\src\\Fcontrolfileinputskin.cpp:65:
```

WEBCORE//bridge/WebCoreFormData.h:59:27: warning: no newline at end of file In file included from
WEBKIT\\BrowserCore\\FormControls\\src\\Fcontrolfileinputskin.cpp:66:
WEBKIT//BrowserView//inc/WidgetExtension.h:48:24: e32hashtab.h: No such file or directory
WEBKIT//BrowserView//inc/WidgetExtension.h:50:32: WidgetEngineBridge.h: No such file or directory In
file included from WEBKIT\\BrowserCore\\FormControls\\src\\Fcontrolfileinputskin.cpp:66:
WEBKIT//BrowserView//inc/WidgetExtension.h: At global scope:
WEBKIT//BrowserView//inc/WidgetExtension.h:78: error: expected class-name before ',' token
WEBKIT//BrowserView//inc/WidgetExtension.h:259: error: `WidgetEventHandler' has not been declared
WEBKIT//BrowserView//inc/WidgetExtension.h:259: error: ISO C++ forbids declaration of
`aOnSelectCallback' with no type WEBKIT//BrowserView//inc/WidgetExtension.h:267: error: ISO C++
forbids declaration of `WidgetEventHandler' with no type
WEBKIT//BrowserView//inc/WidgetExtension.h:267: error: expected `;' before '*' token
WEBKIT//BrowserView//inc/WidgetExtension.h:275: error: `WidgetEventHandler' has not been declared
WEBKIT//BrowserView//inc/WidgetExtension.h:275: error: ISO C++ forbids declaration of `aMenuCallback'
with no type WEBKIT//BrowserView//inc/WidgetExtension.h:283: error: ISO C++ forbids declaration of
`WidgetEventHandler' with no type WEBKIT//BrowserView//inc/WidgetExtension.h:283: error: expected `;'
before '*' token WEBKIT//BrowserView//inc/WidgetExtension.h:291: error: `WidgetEventHandler' has not
been declared WEBKIT//BrowserView//inc/WidgetExtension.h:291: error: ISO C++ forbids declaration of
`aMenuCallback' with no type WEBKIT//BrowserView//inc/WidgetExtension.h:299: error: ISO C++ forbids
declaration of `WidgetEventHandler' with no type WEBKIT//BrowserView//inc/WidgetExtension.h:299:
error: expected `;' before '*' token WEBKIT//BrowserView//inc/WidgetExtension.h:330: error:
`WidgetEventHandler' has not been declared WEBKIT//BrowserView//inc/WidgetExtension.h:330: error:
ISO C++ forbids declaration of `aCallback' with no type
WEBKIT//BrowserView//inc/WidgetExtension.h:338: error: `WidgetEventHandler' has not been declared
WEBKIT//BrowserView//inc/WidgetExtension.h:338: error: ISO C++ forbids declaration of `aCallback' with
no type WEBKIT//BrowserView//inc/WidgetExtension.h:346: error: `WidgetEventHandler' has not been
declared WEBKIT//BrowserView//inc/WidgetExtension.h:346: error: ISO C++ forbids declaration of
`aCallback' with no type WEBKIT//BrowserView//inc/WidgetExtension.h:354: error: `WidgetEventHandler'
has not been declared WEBKIT//BrowserView//inc/WidgetExtension.h:354: error: ISO C++ forbids
declaration of `aCallback' with no type WEBKIT//BrowserView//inc/WidgetExtension.h:414: error: ISO C++
forbids declaration of `MWidgetEngineBridge' with no type
WEBKIT//BrowserView//inc/WidgetExtension.h:414: error: expected `;' before '&' token
WEBKIT//BrowserView//inc/WidgetExtension.h:422: error: expected `;' before "MWidgetCallback"
WEBKIT//BrowserView//inc/WidgetExtension.h:542: error: ISO C++ forbids declaration of
`MWidgetEngineBridge' with no type WEBKIT//BrowserView//inc/WidgetExtension.h:542: error: expected
`; ' before '*' token WEBKIT//BrowserView//inc/WidgetExtension.h:546: error: ISO C++ forbids declaration
of `WidgetEventHandler' with no type WEBKIT//BrowserView//inc/WidgetExtension.h:546: error: expected

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```
`;' before '*' token WEBKIT//BrowserView//inc/WidgetExtension.h:547: error: ISO C++ forbids declaration of `WidgetEventHandler' with no type WEBKIT//BrowserView//inc/WidgetExtension.h:547: error: expected `;' before '*' token WEBKIT//BrowserView//inc/WidgetExtension.h:685: error: ISO C++ forbids declaration of `WidgetEventHandler' with no type WEBKIT//BrowserView//inc/WidgetExtension.h:685: error: expected `;' before '*' token WEBKIT//BrowserView//inc/WidgetExtension.h:693: error: expected `;' before "void" WEBKIT//BrowserView//inc/WidgetExtension.h:755: error: `WidgetEventHandler' has not been declared WEBKIT//BrowserView//inc/WidgetExtension.h:755: error: ISO C++ forbids declaration of `aCallback' with no type WEBKIT//BrowserView//inc/WidgetExtension.h:772: error: ISO C++ forbids declaration of `WidgetEventHandler' with no type WEBKIT//BrowserView//inc/WidgetExtension.h:772: error: expected `;' before '*' token WEBKIT//BrowserView//inc/WidgetExtension.h: In member function `void CMenuItem::SetCallback(int*): WEBKIT//BrowserView//inc/WidgetExtension.h:755: error: `iCallback' undeclared (first use this function) WEBKIT//BrowserView//inc/WidgetExtension.h:755: error: (Each undeclared identifier is reported only once for each function it appears in.) make[1]: *** [..\EPOC32\BUILD\S60\BROWSECORE\GCCE\UREL\FControlFileInputSkin.o] Error 1 make: *** [TARGETBROWSECORE] Error 2 make -s -r -f "\EPOC32\BUILD\S60\MEMMAN\GCCE\MEMMAN.GCCE" UREL make -s -r -f "\EPOC32\BUILD\S60\HISTORYPROVIDER\GCCE\HISTORYPROVIDER.GCCE" UREL make -s -r -f "\EPOC32\BUILD\S60\PCRE\GCCE\PCRE.GCCE" UREL make -s -r -f "\EPOC32\BUILD\S60\JAVASCRIPTCORE\GCCE\JAVASCRIPTCORE.GCCE" UREL make -s -r -f "\EPOC32\BUILD\S60\KHTML\GCCE\KHTML.GCCE" UREL make -s -r -f "\EPOC32\BUILD\S60\KWQ\GCCE\KWQ.GCCE" UREL make -s -r -f "\EPOC32\BUILD\S60\WEBCORE\GCCE\WEBCORE.GCCE" UREL WARNING: Not attempting to create any import libraries. When exports are frozen in "\S60\WEBCORE\EABI\WebCore_sdkU.DEF", regenerate Makefile. make -s -C \S60\WEBKIT\group -f "ICONS.MK" TO_ROOT=..\..\ EPOCBLD=..\..\EPOC32\BUILD\S60\ICONS\GCCE TO_BLDINF=..\..\S60 PLATFORM=GCCE CFG=UREL BLD make -s -C \S60\WEBKIT\group -f "VERSION.MK" TO_ROOT=..\..\ EPOCBLD=..\..\EPOC32\BUILD\S60\VERSION\GCCE TO_BLDINF=..\..\S60 PLATFORM=GCCE CFG=UREL BLD make -s -r -f "\EPOC32\BUILD\S60\RESLOADER\GCCE\RESLOADER.GCCE" UREL make -s -r -f "\EPOC32\BUILD\S60\BROWSECORE\GCCE\BROWSECORE.GCCE" UREL Fcontrolfileinputskin.cpp Processing Reindeer.pkg... Signature ignored,this option is deprecated...
```

Error : Cannot find file : \epoc32\release\gcce\urel\WebUi.exe

Reindeer.pkg(24) : error: file I/O fault. Sign Reindeer.sis... file I/O fault, cannot open Reindeer.sis. Delete intermediate files...

Solution Add ";" to namespace KJS {

```
class WidgetEventHandler;

}
```

Error Case: 7\EPOC32\RELEASE\ARMV5\UREL\MobiWebCore_sdk.lib(WebCoreBridge.o): In function `CWebCoreBridge::ConstructL()': Webcorebridge.cpp:(.text+0x3c4): undefined reference to `khtml::Cache::setSize(int)'

Solution:

```
Add";" to
namespace khtml
```

Building_S60Webkit

{ xxx } Error: ..\..\..\EPOC32\RELEASE\ARMV5\UREL\MobiWebCore_sdk.lib(WebCoreBridge.o): In function `CWebCoreBridge::URLWithRelativeString(TDesC16 const&): Webcorebridge.cpp:(.text+0x1378): undefined reference to `DOM::DOMString::DOMString(QString const&)' Solution:

```
Add ";" to
namespace khtml {
    class Length;
```

```
}
```

in dom_string.h file

Error: ..\..\..\EPOC32\RELEASE\ARMV5\UREL\MobiWebCore_sdk.lib(WebCoreBridge.o): In function `CWebCoreBridge::LoadFocusedImage(TPoint): Webcorebridge.cpp:(.text+0x714c): undefined reference to `khtml::Loader::load(khtml::DocLoader*, khtml::CachedObject*, bool)' Solution:

```
Add ";" to
namespace KIO {
    class Job;
    class TransferJob;
```

```
}
```

loader.h in khtml/misc

Error Case: 8 WebCore_sdk.dso not found

Solution: freeze exports by build -nfg and rebuild webcore completely as build -g webcore

you may face xxx.dso files not found error many time follow the same steps for individual libs or else follow Error Case: 1 if still compiler complains about missing .dso

Error Case: 9 \aiwdialdata.dso: No such file: No such file or directory

Solution: modify webkit.mmp file as given below `#ifndef __BROWSER_SDK LIBRARY aiwdialdata.lib`
`#endif`