erl2pdf: Literal Erlang Programming

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```
-module(erl2pdf).

-export([file/1, file/2]).
```

1 Introduction

This module converts an Erlang source file to pdf. It uses latex as an intermedidate format, and removes the temporary files afterwards.

The idea of 'literal Erlang programming' is that the source and comments should read as a good paper. Unlike XML markup, Latex markup is also fairly unobtrusive when reading the source directly.

```
file(F) ->
    file(F, []).

file(F, Opts) ->
    case file:read_file(F) of
        {ok, Bin} ->
            Tmp_dir = tmp_dir(),
            Res =
                try
                    Latex_options = proplists:get_value(latex, Opts, []),
                    case erl2latex:file(
                           F, [{outdir, Tmp_dir} | Latex_options]) of
                        {ok, Latex} ->
                            make_pdf(Latex, Tmp_dir, Opts);
```

```
                    Err ->
                        Err
                end
            catch
                error:R ->
                    {error, R}
            after
                case proplists:get_value(keep_temp,Opts,false) of
                    true ->
                        io:fwrite("Intermediate files in ~s~n", [Tmp_dir]);
                    false ->
                        remove_dir(Tmp_dir)
                end
            end,
        Res;
    Open_err ->
        Open_err
end.
```

2 Calling pdflatex

We step into the temporary directory, and call pdflatex, which outputs a huge amount of diagnostics. It also sets an exit code on error, but for various reasons, exit codes are difficult to catch using os:cmd/1. We try to detect errors when moving the generated pdf to its intended location; if this fails, we assume that pdflatex failed and print the result from the os:cmd() call. Ok, so this is a dirty hack. See it as an opportunity to improve the code.

```
make_pdf(Latex, TmpDir, Opts) ->
    Cmd = ["cd ", TmpDir, "; echo \"in ${PWD}\"; ls; ",
           "pdflatex ", filename:basename(Latex)],

    OutDir = proplists:get_value(outdir,Opts,"."),

    Res = os:cmd(Cmd),

    case check_res(Res) of
        ok ->
            PdfFile = pdf_file(Latex),
            case file:rename(PdfFile,
                             filename:join(OutDir,
                                           filename:basename(PdfFile))) of
                ok ->
                    ok;
                {error,_} ->
                    io:fwrite("~s~n", [Res]),
                    error
            end;
        {error,Err} ->
            io:fwrite("~s~n", [Err]),
            error
    end.

check_res(Res) ->
    Lines = string:tokens(Res,"\n"),
```

```
    case lists:dropwhile(fun("!" ++ _) ->
                                 false;
                            (_) ->
                                 true
                         end, Lines) of
        [] ->
            ok;
        [L|Ls] ->
            {error, lists:concat([L|[[$\n|Lx] || Lx <- Ls]])}
    end.
```

3 Helper Functions

The pdf file name differs from the latex file name only in the extension.

```
pdf_file(Latex) ->
    "xet." ++ Rev = lists:reverse(Latex),
    lists:reverse("fdp." ++ Rev).
```

Generate a temporary directory.

```
tmp_dir() ->
    {A,B,C} = erlang:now(),
    D = lists:flatten([?MODULE_STRING,
                       ["." ++ integer_to_list(I) || I <- [A,B,C]]]),
    ok = filelib:ensure_dir(D),
    ok = file:make_dir(D),
    D.
```

Remove the temporary directory

```
remove_dir(D) ->
    remove_files(D),
    ok = file:del_dir(D).

remove_files(D) ->
    {ok,Fs} = file:list_dir(D),
    [ok = file:delete(filename:join(D,F)) || F <- Fs].
```