```
function [session,c3d_config] = read_c3d_session(c3d_config)
%
% PROTOTYPE
% session = read_c3d_session(session)
%
% session = read_c3d_session(fullpath,itf)
% EXAMPLE
% session = read_c3d_session('C:\working_dir\')
% session = read_c3d_trial('C:\working_dir\',itf)
%
% Read all c3d trial in working_dir path
% INPUT
% fullpath : is the fullpath of c3d file
% OPTIONAL
% itf: server object created using c3dserver or btkEmulateC3Dserver()
%
% OUTPUT
% session is the session structure (see manual ) a collection of c3d
% structure and some more info
%
%
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% if nargin < 1 || nargin > 3
%     help read_c3d_session
%     error('c3dToolbox:WrongNumberInput','Function require 1 or 2 input -> full p
% end
%
% if not(ischar(varargin{1}))
%     error('c3dToolbox:WrongTypeInput','Pathname must be a char array\n')
```

```
% end
%
% if not(exist(varargin{1},'dir') )
%     error('c3dToolbox:FileNotFound','Check input path, directory was not found\n
% end
%
% if nargin == 2
%     % verifico se c3d server è coerente
%     if not(xor(isa(varargin{2},'COM.C3DServer_C3D') ,isstruct(varargin{2})))
%         error('c3dToolbox:C3Dserverfail','C3D server not valid object\n')
%     end
%     itf = varargin{2};
% end
%
% if nargin == 1
%     % Retrive PC and MATLAB info to properly setup the C3D COM Object.
%     [os_ver, os_bit, matlab_ver, matlab_bit, matlab_tlbx] = get_pc_settings();
%     if strcmp(os_ver, 'Win') && strcmp(os_bit, '32')
%         clc
%         disp('c3dserver loaded')
%         itf = c3dserver;
%     else
%         itf = btkEmulateC3Dserver();
%         disp('btkEmulate loaded')
%     end
% end

session_path            = c3d_config.path.session;
itf                     = c3d_config.itf;
file_list               = dir(session_path);
fprintf('Processing folder: %s\n', session_path);

% Eseguo ciclo sull'intera lunghezza di file_list, solo alcuni saranno c3d
trial = 0;
clc
fprintf('Building struct\n',trial)
for file_id = 1:length(file_list )
    [PATHSTR,NAME,EXT] = fileparts(file_list(file_id).name);
    % Se l'estensione è C3D
    if strcmp(EXT,'.c3d')
        trial = trial + 1;
        % Estraggo dal file_name qualsiasi cosa sia un numero uso la
        % variabile NAME che non contiene l'estensione
        [session{trial},c3d_config] = read_c3d_trial(fullfile(session_path,file_li
        fprintf('.%04d',trial)
        if rem(trial,10)==0
            fprintf('\n');
        end
        session{trial}.info.trial_id       = str2num(NAME((double(NAME) >= 48) & (
        session{trial}.info.nSamples = session{trial}.info.HEADER.nEndFrame-sessio
        fRate = session{trial}.info.HEADER.fRate;
        if session{trial}.info.HEADER.nPoints > 0
            session{trial}.info.Tmax = session{trial}.info.nSamples/fRate;
            session{trial}.info.time = linspace(0,session{trial}.info.Tmax,session
```

```
        end
        if session{trial}.info.HEADER.nAnalog > 0 % Esistono canali analogici
            aRate = session{trial}.info.ANALOG.RATE{:};
            session{trial}.info.time_analog = linspace(0,session{trial}.info.Tmax,
        end


    end
end
c3d_config.Max_trial = trial;
fprintf('\nc3d_config updated\n')
```

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