



NEW FS Score

Software Presentation and Training

Agenda

-  1. Welcome and Introduction (Scope, Technology, Requirements, Team)
-  2. Presentation of the NEW FS Score (Architecture, Installation, Setup, UI)
-  3. Live Demonstration of Key Features
-  4. Hands-on Exercises
-  5. Q&A Session



Welcome and Introduction

The reasons Why we have this Presentation

- ❖ ISUScoreFS started its development 15 years ago with C++ , not using any high-level framework for GUI and other components.
- ❖ The new software should use a toolchain which reduces the introduction for other ST developers to support the product.
- ❖ The support efforts were quite high and only a single developer could support the product.
- ❖ Some requests could not be implemented anymore
 - For instance (Insert Elements, Fast Forward)
- ❖ Improving the Video Quality to at least 1080p50

Scope

- ⚡ Renewal of all ISUScoreFS components: Expert, Judge and Cutter applications
- ⚡ Implementation of all existing features of ISUScoreFS.
- ⚡ Communication Redesign so that the Expert is no longer the OVR communication proxy
- ⚡ Split between GUI/Scoring & video components (modularization)
- ⚡ Interface to FSK Manager will be redesigned for individual judge connections

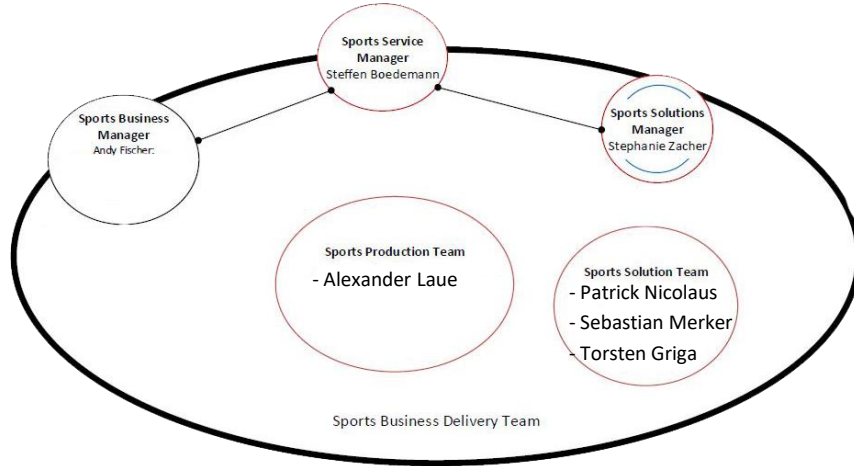
Technology

-  .NET C# for webserver
-  HTML5 - Frontend based on modern web technologies
-  webRTC Live Feed
-  Kestrel-Webserver in ASP.NET Core
-  Visual Studio 2021 and Visual Studio Code
-  „GO“ GO is an open-source programming language supported by Google and the RTSPtoWeb server is implemented with GO

Recommended Requirements

- ❖ Windows 10 Pro / Windows 11 Pro for FS Manager recommended with i7 CPU and **8-16 GB RAM**. **512 GB Storage**
- ❖ Windows 10 / Windows 11 for NEW FS Score Webserver recommended with i7 CPU core and **16 GB RAM**. **1TB Storage** (internal or external)
- ❖ Judging Devices – any device which allows to open a Chrome based Web browser can be used. Browser should be able to show RTSP Streams. Tested with Windows and Android. MAC OS and IOS are not fully functional because some Browser can not handle RTSP Stream
- ❖ 1 GBIT Network
- ❖ Streaming Device needed. Terradek 605, PRISM or Kiloview S4, E1, E2, E3 are tested

The Team behind NEW FS Score



Sports Services Manager – Steffen Bödemann
Product Owner and Head of Project

Sports Business Manager – Andy Fischer
In charge of all business related Topics

Sports Solution Manager – Stefanie Zacher
Head of the Development Team

- Torsten Griga (Architecture)
- Patrick Nicolaus Webserver and FS Manager
- Sebastian Merker Frontend

Sports Production Manager – Alexander Laue

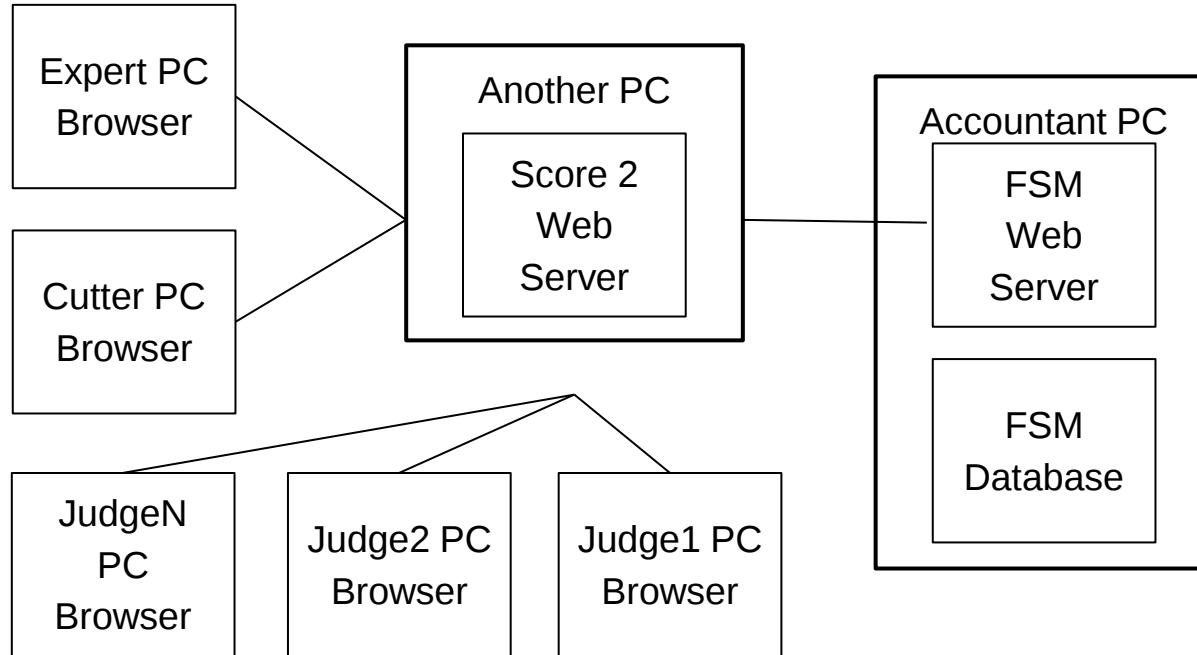
- Communication to ISU
- In Charge of Implementation of NEW FS Score (Service Events)



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Presentation of the NEW FS Score

Architecture



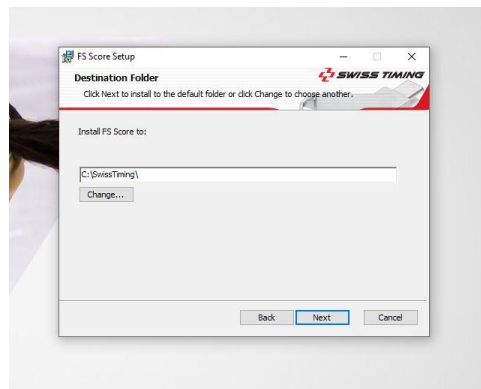
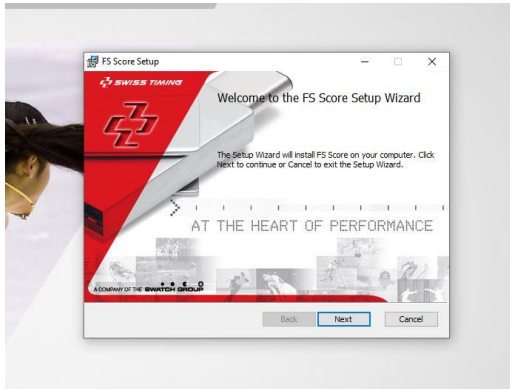
By changing the NEW FS Score to Web Server, it relieves all the Expert, Cutter and Judges to become a client only. This means that PC requirements are greatly reduced.

Architecture

- ❖ FS Manager and NEW FS Score can run on the same Device
- ❖ FS Manager and FSM are now using web technologies
- ❖ FS Manager becomes the central and is managing the Information for the Score.

Installation

-  1. aspnetcore-runtime-6.0.28-win-x64.exe
-  2. dotnet-runtime-6.0.28-win-x64.exe
-  3. FSManagerFederation_Setup.X.X.X.msi
-  4. FsScore_X.X.XXXXXX.X.msi



Installation and Setup of NEW FS Score

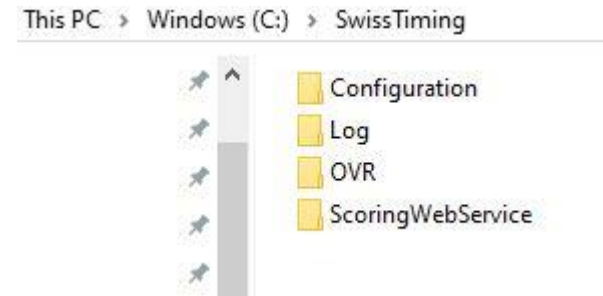
❖ Follow the prompts to complete the installation

❖ 3 folder will be created C:\SwissTiming\ScoringWebService\



❖ Open the folder C:\SwissTiming\ScoringWebService and start the SwissTiming.FigureSkating.Scoring.WebService.exe

❖ A new folder “Configuration” will be created



Installation and Setup of NEW FS Score

 Now we need to setup the right configurations

- Connection between FS Manager and NEW FS Score
- Connection between Streaming Device and Scoring Application
- Setup of Export Path for Video
- Setup of the Location of ffmpeg

C:\SwissTiming\Configuration\SwissTiming.FigureSkating.Scoring.
WebService\ENVIRONMENT\PRODUCTION.Profile.xml



DEFAULT.Profile.xml
XML File
4.79 KB



mgConfig.bat
Windows Batch File
864 bytes



PRODUCTION.Profile.xml
XML File
4.78 KB

Installation and Setup of NEW FS Score

```

1 <?xml version="1.0" encoding="utf-8"?>
2 <!--Parser Metadata:406cf98a5757b9c7237e79af4e703e85;2024-06-17T21:42:59.9350000+02:00;9d3c68bd-98b8-4305-8e1a-258e52f0518a;-->
3 <!--With great power comes great responsibility: manual changes made to this file may break the entire configuration, so make
4 sure this remains valid xml and only change values and comments (not the list of items or their names themselves).-->
5 <configurationProfile xmlns:i="http://www.w3.org/2001/XMLSchema-instance" xmlns="http://www.swisstiming.com/STDR/Base/Configuration/ConfigurationProfile.xsd">
6   <applicationName>SwissTiming.FigureSkating.Scoring.WebService</applicationName>
7   <description i:nil="true" />
8   <schemaName>ENVIRONMENT</schemaName>
9   <settingItems>
10     <settingItem>
11       <comment>video working folder</comment>
12       <name>workingPath</name>
13       <value>public\Video</value>
14     </settingItem>
15     <settingItem>
16       <comment>scoring webapp folder</comment>
17       <name>filePath</name>
18       <value>public</value>
19     </settingItem>
20     <settingItem>
21       <comment>ffmpeg binary folder</comment>
22       <name>binPath</name>
23       <value>C:\SwissTiming\ScoringWebService</value>
24     </settingItem>
25     <settingItem>
26       <comment>RTSP stream URL</comment>
27       <name>streamUrl</name>
28       <value>rtsp://10.1.0.88:555/ch01</value>
29     </settingItem>
30     <settingItem>
31       <comment>path for storage of recording state</comment>
32       <name>recordingStatePersistPath</name>
33       <value>data/recordingState.json</value>
34     </settingItem>
35     <settingItem>
36       <comment>path for storage of judging state</comment>
37       <name>judgingStatePersistPath</name>
38       <value>data/judgingState.json</value>
39     </settingItem>
40     <settingItem>
41       <comment>path for initial recording state - without OVR</comment>
42       <name>recordingStateInitPath</name>
43       <value>data/recordingState.standalone.json</value>
44     </settingItem>
45     <settingItem>
46       <comment>path for initial judging state - without OVR</comment>
47       <name>judgingStateInitPath</name>
48       <value>data/judgingState.standalone.json</value>
49     </settingItem>
50     <settingItem>
51       <comment>forcing FFMPEG to use TCP connection</comment>
52       <name>forceTCP</name>
53       <value>false</value>
54     </settingItem>

```

- Path for recording packages – needed for Videoreplay
- Path where ffmpeg is located
- IP Address of Streaming Device

Installation and Setup of NEW FS Score

```
PRODUCTION.Profile.xml
55 <settingItem>
56   <comment>forcing FFMPEG to use -min_port 15947 -max_port 15950</comment>
57   <name>forceMinMaxPort</name>
58   <value>true</value>
59 </settingItem>
60 <settingItem>
61   <comment>for tests and trainings without OVR</comment>
62   <name>standaloneMode</name>
63   <value>false</value>
64 </settingItem>
65 <settingItem>
66   <comment>TS size in seconds</comment>
67   <name>hlsTime</name>
68   <value>1</value>
69 </settingItem>
70 <settingItem>
71   <comment>false only for FSK tests</comment>
72   <name>forceMulticast</name>
73   <value>false</value>
74 </settingItem>
75 <settingItem>
76   <comment>path for element group data</comment>
77   <name>fskConfigFolder</name>
78   <value>data</value>
79 </settingItem>
80 <settingItem>
81   <comment>webrtc stream URL</comment>
82   <name>streamUrlWebRtc</name>
83   <value>http://localhost:8083/stream/demo1/channel/0/webrtc</value>
84 </settingItem>
85 <settingItem>
86   <comment>Backup FSM IP</comment>
87   <name>FsmAddressB</name>
88   <value></value>
89 </settingItem>
90 <settingItem>
91   <comment>Backup FSM port</comment>
92   <name>FsmPortB</name>
93   <value></value>
94 </settingItem>
95 <settingItem>
96   <comment>Address of other webserver</comment>
97   <name>ScoringUrlOther</name>
98   <value></value>
99 </settingItem>
100 <settingItem>
101   <comment>Main or Backup</comment>
102   <name>serverName</name>
103   <value>Main</value>
104 </settingItem>
105 <settingItem>
106   <comment>Root Path or MP4</comment>
107   <name>exportPath</name>
108   <value>export</value>
109 </settingItem>
```

- Should be true if RTSP Stream is used
- False by default true = without FS Manager
- False by default because Multicast is not supported, only 2 Stream are needed
- Main or Backup in case the feature NEW FS Score Backup is enabled and depends which Laptop it will be.
- Export Path for the Mp4 files

Installation and Setup of NEW FS Score

```
PRODUCTION.Profile.xml
110 <settingItem>
111   <comment>Export at FirstScore Trigger</comment>
112   <name>autoExport</name>
113   <value>true</value>
114 </settingItem>
115 <settingItem>
116   <comment>Video Codec</comment>
117   <name>exportVCodec</name>
118   <value>h264</value>
119 </settingItem>
120 <settingItem>
121   <comment>Export Video Rate</comment>
122   <name>exportVRate</name>
123   <value></value>
124 </settingItem>
125 <settingItem>
126   <comment>Export Audio Codec</comment>
127   <name>exportACodec</name>
128   <value>aac</value>
129 </settingItem>
130 <settingItem>
131   <comment>FSM IP A</comment>
132   <name>FsmAddress</name>
133   <value>localhost</value>
134 </settingItem>
135 <settingItem>
136   <comment>FSM Port A</comment>
137   <name>FsmPort</name>
138   <value>8080</value>
139 </settingItem>
140 </settingItems>
141 <version>1.1</version>
142 </configurationProfile>
```

- Automatic export of MP4 files enabled with true

- IP Address of FS Manager if located on another PC

- Port of FS Manager if located on another PC

Installation and Setup of NEW FS Score

C:\SwissTiming\ScoringWebService\public\config.json

```
1 {  
2   "server": {  
3     "debug": false,  
4     "http_debug": false,  
5     "http_demo": false,  
6     "http_dir": "",  
7     "http_login": "",  
8     "http_password": "",  
9     "http_port": ":8083",  
10    "https": false,  
11    "https_auto_tls": false,  
12    "https_auto_tls_name": "",  
13    "https_cert": "",  
14    "https_key": "",  
15    "https_port": "",  
16    "ice_credential": "",  
17    "ice_servers": [],  
18    "ice_username": "",  
19    "log_level": "info",  
20    "rtsp_port": ":5541",  
21    "token": {  
22      "backend": "",  
23      "enable": false  
24    },  
25    "webrtc_port_max": 0,  
26    "webrtc_port_min": 0  
27  },  
28  "streams": {  
29    "fsk": {  
30      "name": "fsk stream",  
31      "channels": {  
32        "0": {  
33          "name": "ice rink",  
34          "url": "rtsp://10.1.0.88:555/ch01",  
35          "on_demand": false,  
36          "debug": false,  
37          "audio": false  
38        }  
39      }  
40    }  
41  }  
42 }
```

- IP address Streaming Device

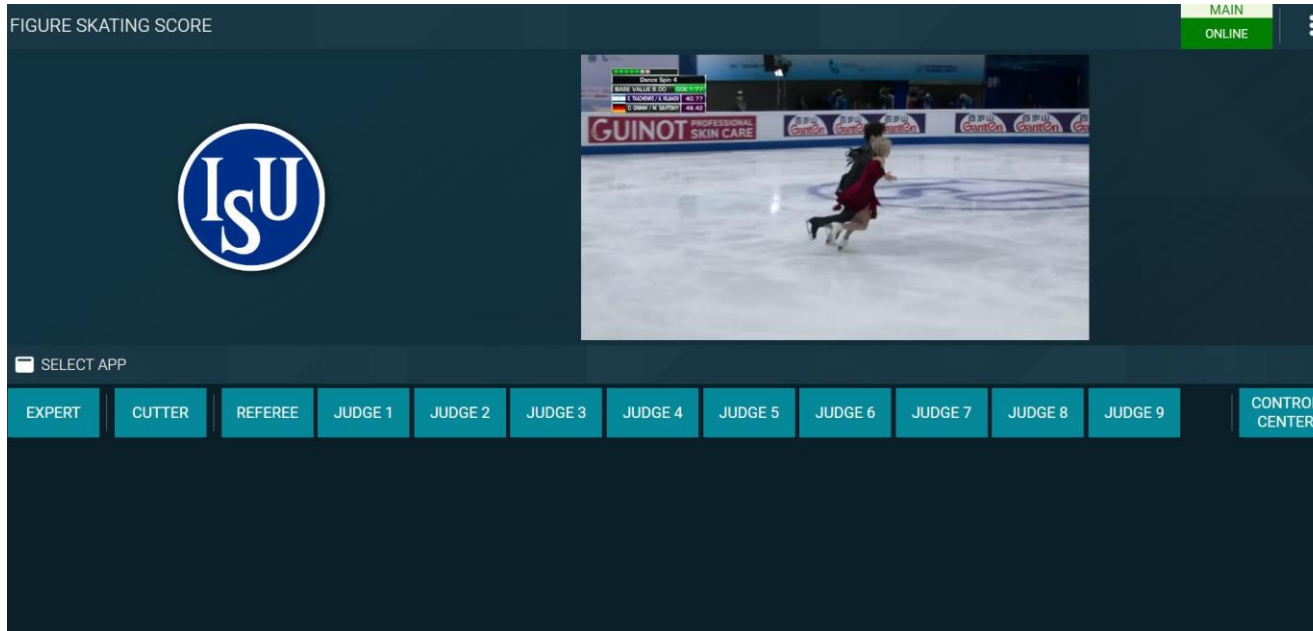
View of NEW FS Score

Start webserver – C:\SwissTiming\ScoringWebService\SwissTiming.FigureSkating.Scoring.WebService.exe

Start video server - C:\SwissTiming\ScoringWebService\public\RTSPtoWeb.exe

Open a browser and enter the IP 127.0.0.1:6098

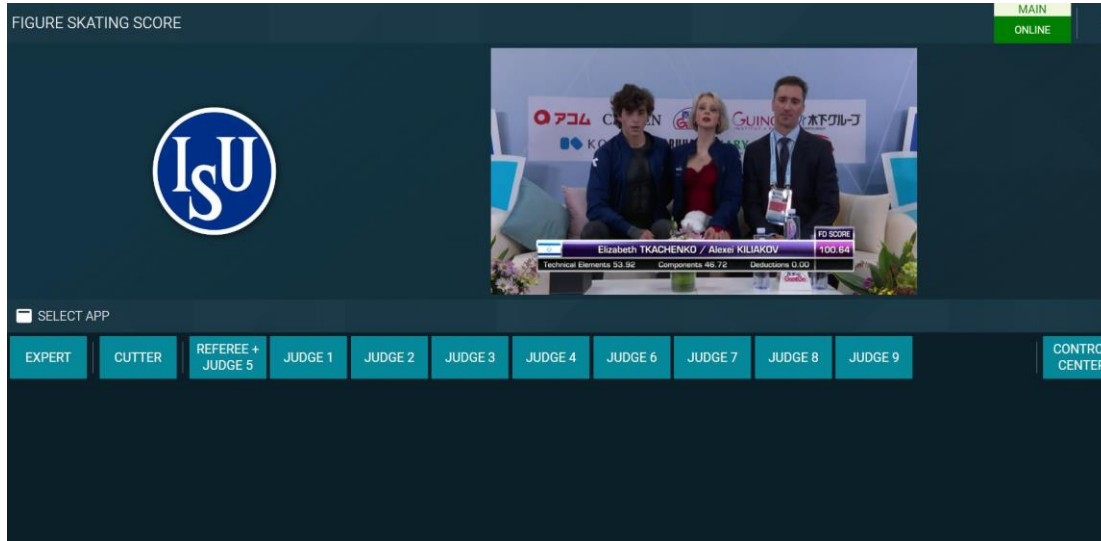
Landing Page – Selection of the role



View of NEW FS Score

Landing Page – Overview Roles

Roles have to be defined in FS Manager



View of NEW FS Score

Goal

Common functionalities of the current FSScore must become available again in the NEW FSScore to maintain basics of the well-developed operational process for all clients.

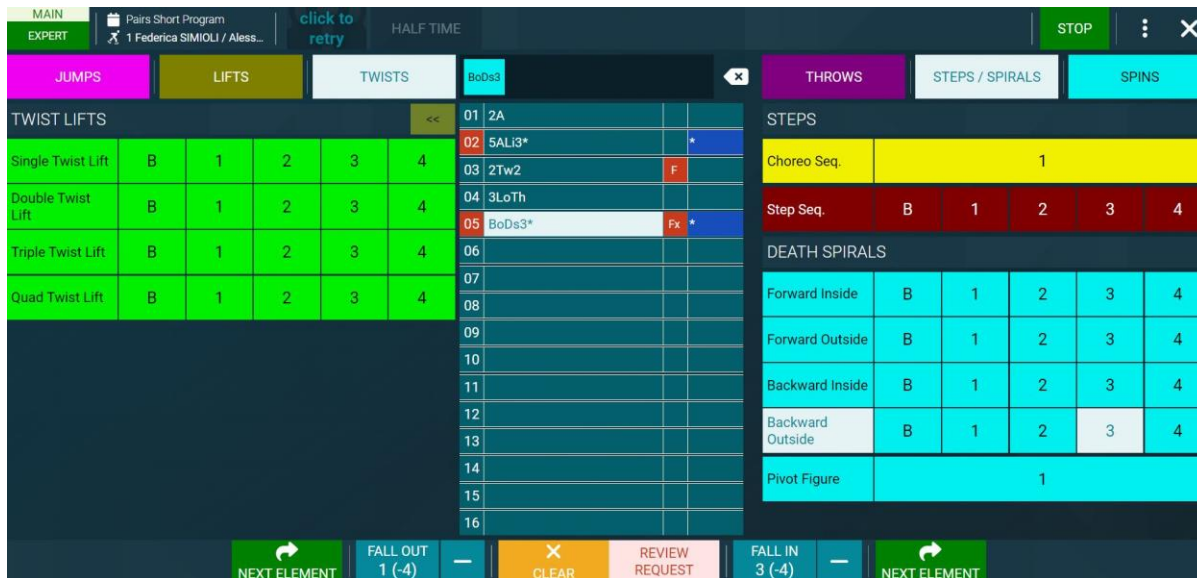


The screenshot displays the NEW FS Score software interface. The top bar includes a 'MAIN' tab, a program name 'Junior Women Short Progra...', a 'click to retry' button, and a 'HALF TIME' indicator. The interface is divided into several sections:

- JUMPS:** A table with columns for jump types and their scores (1-4). The jumps listed are Axel, Toeloop, Loop, Flip, Lutz, Salchow, and Euler. The Euler jump has a score of 1.
- SEQ (Sequence):** A section for sequences, currently showing 'Step Seq.' with a score of B and 'Choreo Seq.' with a score of 1.
- SPIN:** A section for spins, currently showing 'Sit Spin' with a score of F, 'Layback Spin' with a score of F, 'Upright Spin' with a score of F, 'Camel Spin' with a score of F, and 'Combo Spin' with a score of F.
- SEQUENCES:** A section for sequences, currently showing 'Step Seq.' with a score of B and 'Choreo Seq.' with a score of 1.

The bottom bar contains navigation buttons: 'NEXT ELEMENT', 'FALL OUT 0 (0)', 'CLEAR', 'REVIEW REQUEST', 'FALL IN 0 (0)', and 'NEXT ELEMENT'.

View of NEW FS Score



MAIN
EXPERT

Pairs Short Program
1 Federica SIMIOLI / Aless...

click to retry

HALF TIME

STOP

JUMPS LIFTS TWISTS THROWS STEPS / SPIRALS SPINS

TWIST LIFTS

	B	1	2	3	4
Single Twist Lift	B	1	2	3	4
Double Twist Lift	B	1	2	3	4
Triple Twist Lift	B	1	2	3	4
Quad Twist Lift	B	1	2	3	4

01 2A
02 5ALi3*
03 2Tw2
04 3LoTh
05 BoDs3*
06
07
08
09
10
11
12
13
14
15
16

THROWS

STEPS

Choreo Seq. 1

Step Seq. B 1 2 3 4

DEATH SPIRALS

	B	1	2	3	4
Forward Inside	B	1	2	3	4
Forward Outside	B	1	2	3	4
Backward Inside	B	1	2	3	4
Backward Outside	B	1	2	3	4
Pivot Figure	1				

NEXT ELEMENT FALL OUT 1 (-4) CLEAR REVIEW REQUEST FALL IN 3 (-4) NEXT ELEMENT

- ❖ Extra Columns for Falls and signs on the element
- ❖ Elements within the element box can be changed separately
- ❖ Entered elements are highlighted for faster changes

View of NEW FS Score

MAIN EXPERT 1 Hanna JAKUCS / Alessio ... click to retry STOP

COMBO Extra Element SPINS/LIFTS CHOREO/TWIZZLES PATTERN

STEPS							CHOREO					
Diagonal Step Woman	B	1	2	3	4	01	DistW3+DisM2					
Diagonal Step Man	B	1	2	3	4	02	StalJ2					
Midline Step Woman	B	1	2	3	4	03						
Midline Step Man	B	1	2	3	4	04						
Circular Step Woman	B	1	2	3	4	05						
Circular Step Man	B	1	2	3	4	06						
Serpentine Step Woman	B	1	2	3	4	07						
Serpentine Step Man	B	1	2	3	4	08						
One Foot Turns Seq. Woman	B	1	2	3	4	09						
One Foot Turns Seq. Man	B	1	2	3	4	10						
						11						
						12						
						13						
						14						
						15						
						16						

CHOREO

Choreo Assist. Jump	1
Choreo Hydroblading	1
Choreo Lift	1
Choreo Rhythm Seq.	1
Choreo Sliding	1
Choreo Spin	1
Choreo Step Seq.	1
Choreo Twizzles	1

TWIZZLES - RYTHMN DANCE

Seq. Twizzles Woman	B	1	2	3	4
Seq. Twizzles Man	B	1	2	3	4

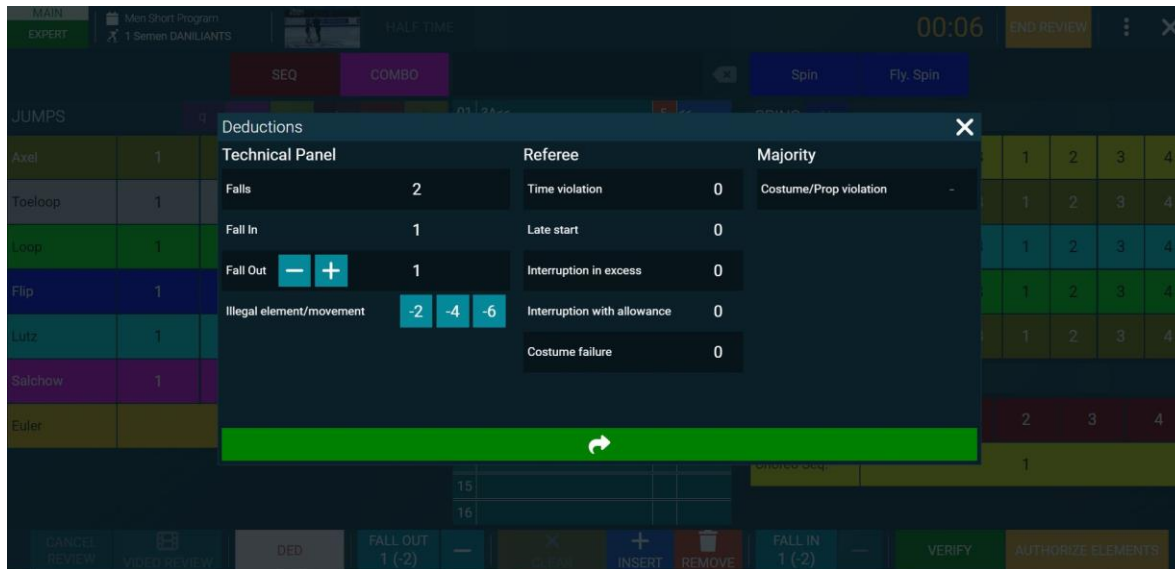
NEXT ELEMENT FALL OUT 0 (0) CLEAR REVIEW REQUEST FALL IN 0 (0) NEXT ELEMENT

 Only Segment related information is shown on the Scoring

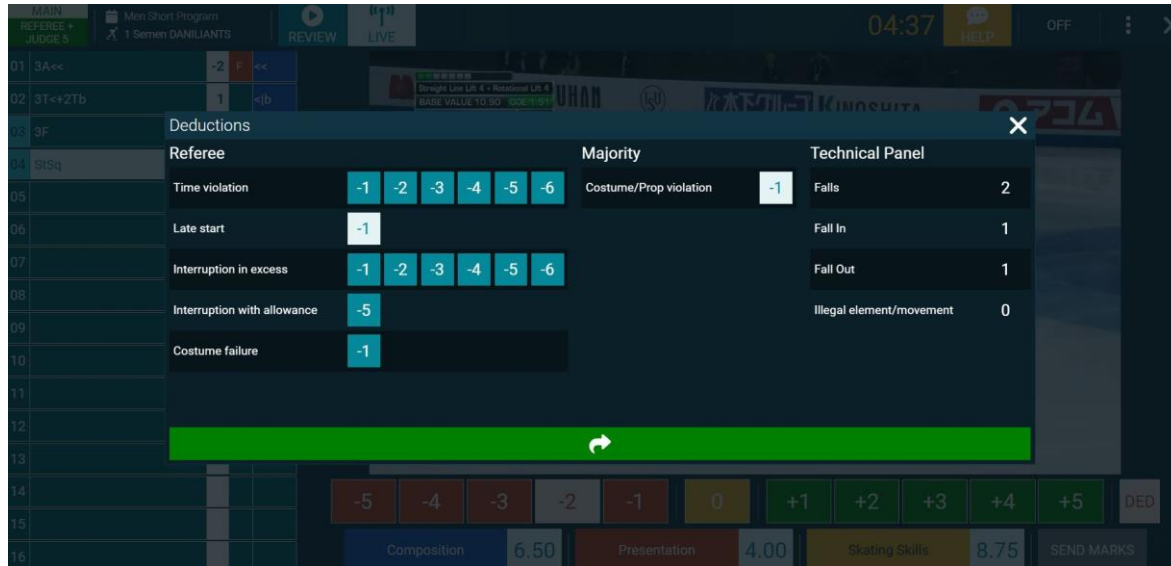
 Website is resizable to optimize the User Experience

View of NEW FS Score

 Deduction Screen has to be completely re-designed
Technical Panel



Referee



View of NEW FS Score

Judges

