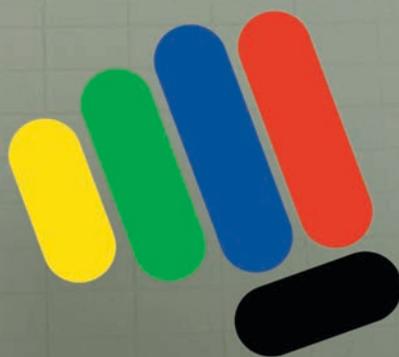


DIGITISING

THE COLOURED BELT GRADING

A WEB EXAMINER APP

Kane Raukura VI Degree



INTERNATIONAL TAEKWON-DO FEDERATION

DIGITISING

THE COLOURED BELT GRADING

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INTRODUCTION

As a Regional Examiner for the International Taekwon-Do Foundation of New Zealand, I have taken a strong interest in testing students to a high standard and ensuring that I adequately observe each gradee while they have their moment on the Dojang floor.

A major restriction to the examination procedure is the need to drop your eyes to write and take note of the students performance. To help remedy this situation, I investigated the use of a web based application to digitise the grading and allow the Examiner to quickly make notes while also keeping their eyes turned to the students more often.



I submit this work as my official project and contribution towards 7th Degree Black Belt.

I hope it is found both useful and interesting.

Kane Raukura VI Degree

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OUR NEW ZEALAND GRADING SYLLABUS



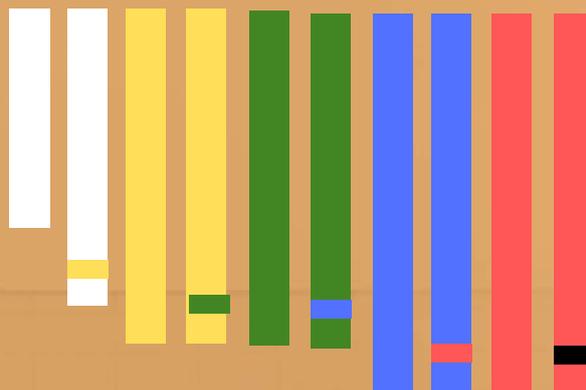
Under the guidance of the ITKD Technical Advisory Group and Master Paul McPhail (Technical Advisor), New Zealand is blessed with a comprehensive and rigorous testing syllabus from 10th through to 1st Gup. Students receive copies of the various syllabus handbooks as seen above depending on the structure of their school, age and Instructors wishes. New Zealand also has a dedicated and fixed self-defense syllabus that is reflected throughout each grade level.

The general arrangement of the syllabus material is as follows:

CONTENT

- Stances
- Defensive Techniques
- Offensive Techniques
- Fundamental Exercises
- Theory
- Pattern
- Sparring
- Self-Defense
- Destruction

PRACTICED BY



As work proceeded on the development of a web based application, this material guided the construction of 'designed for purpose' testing pages for use by the Examiner. New Zealand's Regional Examiners are also regularly appraised, taught the correct methods of observation and are aware of our National standards. This learning was also directly considered in the development of the web based app.

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OUR NEW ZEALAND GRADING SYLLABUS METHOD OF EXAMINATION

Senior Dan Members (4th Degree and above) and holders of an ITF International Instructors Certificate may apply to be Regional Examiners through the ITKD Technical Advisory Group and Master Paul McPhail (Technical Advisor). This is a comprehensive program, which under Master McPhail's direction, helps us to establish a National benchmark of performance and expected minimum level of technical ability across all grades and ages of our membership. New Zealand's gradings are some of the most demanding internationally and we are very proud of this high standard.

Regional Examiners look comprehensively at the key syllabus areas as mentioned on the previous page. When marking in New Zealand we use the following scoring as a guide for each area being examined and also as the final score for the students test.

F	Fail
P-	Pass minus
P	Pass
P+	Pass plus
A	A Pass
A+	A plus pass (exceptional)

These scoring criteria are standardised across our NZ Regional Examiners and have been fully retained within the WEB EXAMINER APP.



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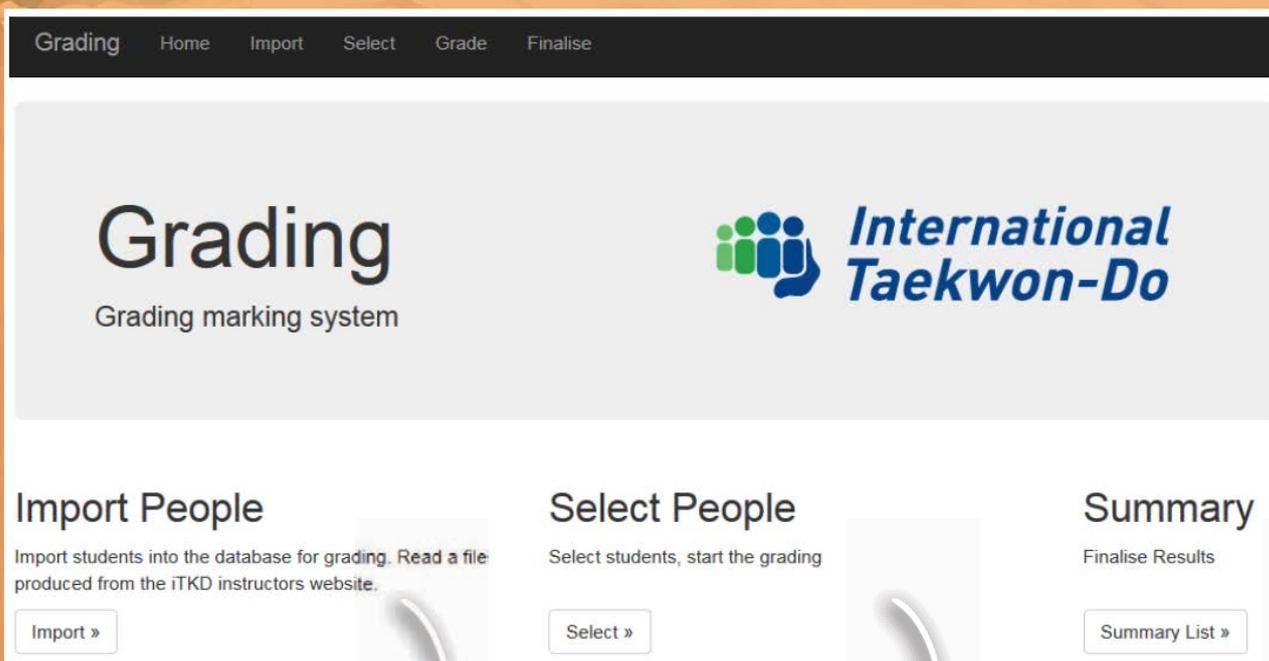
THE ONLINE SYSTEM PAGE 1

The Online System was written in HTML5 allowing use on any device connected to the internet. This enables the Examiner to be flexible in the device they use and can therefore be of their own choice. A touch screen device is preferable though and an Apple iPad or Surface Pro would be the ideal.

When developing the WEB EXAMINER APP, the NZ National database administrator was able to create a link where uploaded names for individual club based gradings could be directly imported into the online system. This saves a great deal of time and the headache of needing to re-enter names from one database to another.

The FOUR key areas when utilising the system are:

IMPORT / SELECT / GRADE / FINALISE



Direct import of student information from the ITKD National Database. These students are entered to grade by their own branch Instructor

Students can be individually selected by age, gup level, across levels or by partner as suggested by the Examiner or Instructor.

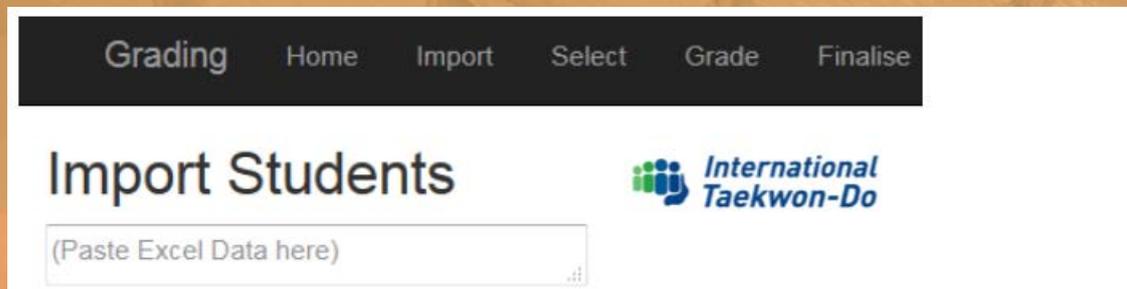
A complete student grading summary is collated for each student with comments for each grading area stacked for immediate comment and feedback.

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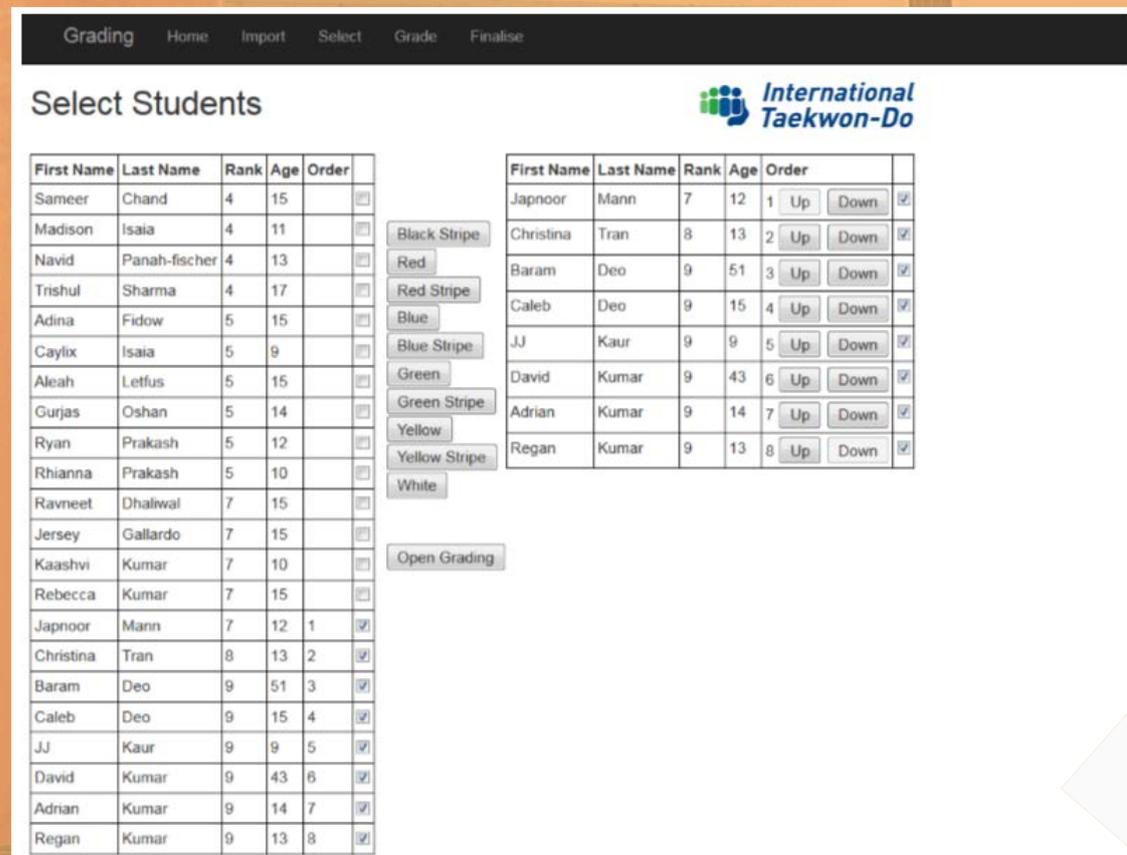
THE ONLINE SYSTEM PAGE 2

Method of IMPORT - Student information from the ITKD National Database



The National Database of ITKD has the ability to generate a Microsoft Excel .CSV file with the required student data. A simple 'copy and paste' of this file into the online system is all that is needed to import the information needed.

Method of SELECTION - Students can be selected to grade based on grade, individually or as selected pairs or groups.



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THE ONLINE SYSTEM PAGE 3

Method of GRADING

The most important part of this WEB EXAMINER APP and online system is the ability to select custom keyboards that allow the quick notation of all grading related notes.

Each custom keyboard is designed to match the core areas of grading assessment and the current syllabus of ITKD New Zealand.

These being: Basic Hand / Foot Techniques, Patterns, Step, Sparring, Self Defense, Breaking and Theory.

Each custom keyboard has been trialed, tested and adjusted as necessary. They are still a work in progress, as each new grading raises a new possibility or highlights an omission that should be added.

Key Highlights of the GRADE page online are:

- Selected students are displayed along the top bar (up to 12 simultaneously are possible)
- Students can be selected as a group or individually when marking particular areas.
- Custom keyboards are selected with a single click and the screen shifts automatically between one area and the next.
- Single clicks or screen taps highlight the required examiner comment which then accumulate in the order of the click or tap. These comments are then sent to that students box for the area that is being examined.
- All student comments stack and allow the examiner to make a quick call when reviewing and assigning a grade for that area.
- Additional comments can be made and then sent on to the individual or as a note to the entire group selected.
- A general grade for the area can be assigned when the examiner is done testing. This is then stacked at the end of the grading column on the right hand side and is then sent to the FINALISE page.
- The addition of new combinations and buttons is possible or easily undertaken and is only limited by the imagination of the Examiner. Creation of these extra functions is a simple addition to the code within the site.

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THE COLOURED BELT GRADING A WEB EXAMINER APP

THE ONLINE SYSTEM PAGE 5

GRADING PAGE - Example Two

Selected student

Selected Grading Area - Theory

Note: Nine possible theory questions listed but this is fully adjustable and not all may be utilised.

Grading Home Impo Select Grade Finalise

Japnoor Mann Christina Tran Baram Deo Caleb Deo JJ Kaur David Kumar Adrian Kumar Regan Kumar

Select Select Unselect Select Select Select Select Select

Select All

Basics Kicks Patterns Step Spar Defence Break Theory

Theory

Theory 1 Theory 2 Theory 3 Theory 4 Theory 5 Theory 6 Theory 7 Theory 8 Theory 9

Good Fair Poor

GENERAL

F P A P- P+ A+

Comments: Additional Comments

Send to this person

Send to everyone

Comment transfer buttons

Custom keyboard for adjustable for theory styled questions.

The final results column for tested areas clearly indicates that this is a weaker student. With 'F' - fail grades and a 'P minus' grade. This is an indication of a failed test for this student.

Category	Item	Grade
Thy	WH [Red]	
	Theory 1 Fair	
	Theory 2 Good	
	Theory 3	
	Theory 3 Poor	
Des	Theory 4 Poor	F
	Theory 5 Poor	
Def	WH [Red]	F
Spar		
Sip	Power Poor	
	Application Poor	
	Fair Eyes	
	Flying Poor	F
	Timing Poor	
Per	WH Power [Red]	
	Work Rate Fair	
	WH Stance [Red]	
	WH Low Snap kick Fair	
	WH Accuracy	
	WH Accuracy	F
	WH Accuracy	
DASH	WH [Red]	
	WH [Red]	
	WH [Red]	
	Lacking pattern knowledge	
DASH	High Chamber Applctn Unsr	
	Rising Pun	
	Basic tech off	P-
DASH	Pivot Poor	
	Heights Poor	
DASH		

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THE COLOURED BELT GRADING A WEB EXAMINER APP

THE ONLINE SYSTEM PAGE 6

Method of FINALISING the grading

Once all areas to be tested are completed, the Examiner can move onto the FINALISE page of the application to assign the final grade for each student. The system transfers the result for each graded area to this page. As it is in a coloured coded format, it is immediately apparent to the Examiner what the final grade should be. This is, of course, holistic through, and the Examiner still has the discretion to adjust as necessary with advice and discussion with the students Instructor.

First Name	Last Name	Rank	Age	Hands/feet	Kicks	Patterns	Step	Sparring	Theory	Overall
Sameer	Chand	4	15	P	P	P	P-	P	P-	F P- P P+ A
Madison	Isaia	4	11	P	P	P		P	P	F P- P P+ A
Navid	Panah-fischer	4	13	P	P	P	P	P	P	F P- P P+ A
Trishul	Sharma	4	17	P	P	P+	P	P	P	F P- P P+ A
Adina	Fidow	5	15			P	P	P		F P- P P+ A
Caylix	Isaia	5	9	P	P	P	P	P		F P- P P+ A
Aleah	Letfus	5	15	P	P	P	P	P		F P- P P+ A
Gurjas	Oshan	5	14							F P- P P+ A
Rhianna	Prakash	5	10	P	P	P	P	P		F P- P P+ A
Ryan	Prakash	5	12	P	P	P	P	P		F P- P P+ A
Ravneet	Dhaliwal	7	15	P	P	P				F P- P P+ A
Jersey	Gallardo	7	15	P	P	P-	P			F P- P P+ A
Kaashvi	Kumar	7	10	P	P	P				F P- P P+ A
Rebecca	Kumar	7	15	P	P	P				F P- P P+ A
Japnoor	Mann	7	12	P	P-	P	P+			F P- P P+ A
Christina	Tran	8	13	P	P	P				F P- P P+ A
Baram	Deo	9	51	P-	P	F	F		F	F P- P P+ A
Caleb	Deo	9	15	P-	P	P-				F P- P P+ A
JJ	Kaur	9	9			P				F P- P P+ A
Adrian	Kumar	9	14	A	A	A	P			F P- P P+ A
David	Kumar	9	43	A	A	A	P			F P- P P+ A
Regan	Kumar	9	13	A	A	A	P			F P- P P+ A

Overall score column

The Examiner on reviewing all individual area scores, comments for each area and in discussion with the students Instructor, makes a judgement and assigns the final grade for the students testing.

Overall score selection is also colour coded

Each area tested, with the its appropriately assigned grade, can be viewed in order of testing and with the result both written and colour coded for ease of reference.

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THE COLOURED BELT GRADING A WEB EXAMINER APP

THE ONLINE SYSTEM PAGE 7

NEXT STEPS FOR THE APP

PROVIDING APPROPRIATE, TIMELY AND MEANINGFUL STUDENT FEEDBACK

After examining for many years, quickly hand writing my own notes on examination sheets and attempting to distill key points while listening to other examiners in regards to my own students, it is clear, that a lot of what is seen during a grading is not fully transferred to the student. With the Web Examiner App, which stacks comments for each area tested, the ability to transfer this data directly back to the student is now possible.

Grading Home Import Select Grade Finalise

STUDENT RESULT AND COMMENTARY

Grading #: 1348 Date: 6.12.2019
Membership #: 12376

Dear Student, please find your final result and commentary for the grading listed shown below. Take this opportunity to review, learn and reflect on your ongoing development.

First Name	Last Name	Rank	Age	Hands/feet	Kicks	Patterns	Step	Sparring	Theory	Overall
Sameer	Chand	4	15	P	P	P	P	P	P	F P P P+ A

Examiner Additional Comments to everyone in this gup group:

Stances and weight distribution an issue. Leaning forward when in attack, especially walking stance punches.

More dynamic range of techniques and better footwork required in sparring

Theory 1 Good
Theory 2 Good
Theory 3 Fair
Theory 4 Poor
Good Theory 5
Theory 6 Poor

work rate good
good tech range
stamina good

Application Fair
Distance Poor
Timing Good Fair
Flying Eyes down

JG Power
Excitation
JG Technique
U-shape Block
JG Stances Fair

Foot Shape Good
Crossing High
Good Applictn
Heights Good
Chamber

Poor Pwrt JG
Stances Fair

Good Applictn
Fair Angle
Heights Good
Stile Good
Turning Fair
Fair Chamber

Student result and commentary page

This page could be transferrable to either an individual club website or made available through the ITKD National Database and with each students individual membership log-in or with a link emailed directly to the student.

Any Examiner comments that refer to the entire Gup group that was being tested is also shown here.

Individual area scores and commentary from the GRADE page.

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IN SUMMARY

PLUS THOUGHTS AND IDEAS MOVING FORWARD

The purpose behind developing this online tool for Examiners was to make the recording of meaningful grading / testing data much easier. The creation of 'keyboards' that reflect each particular area of the syllabus has made this possible. As I continue through the development phase of this project, there are many things that work well and will be worth retaining in the final product. But, there are also teething issues and other obvious improvements that might be made. These issues have often been discovered through each subsequent trail of the app.

POSITIVES

- Speed of data entry greatly increased
- Examiners eyes are on each student for a longer period of time
- Purpose built and adjustable keyboards allow a variety of comments to be made about key techniques in each testable area
- Comments stack in each area
- Each area can be individually graded and grades are automatically colour coded
- Additional comments for the student or entire gup group can be easily added
- The FINALISE page makes decision making around an overall grade quick and painless
- The idea of exporting a 'Student Result and Commentary' page is now possible and will aid in providing appropriate student feedback and in enhancing each individual students development

NEGATIVES

- Difficulty choosing the correct layout and combination of buttons for each purpose built keyboard. Development of an interface for Examiners is necessary so they can customise as they wish
- Access to a suitable device might be an initial hindrance for adopting the new app
- Access to a WiFi connection / speed of WiFi connection

Moving forward, this Web Examiner App will be shared with other Regional Examiners throughout New Zealand and with the ITKD Technical Committee for feedback, further adaptation, refinement and development.

I hope it will be a true asset and resource in the years ahead.

DIGITISING

THE COLOURED BELT GRADING A WEB EXAMINER APP

REFERENCES AND ACKNOWLEDGMENTS

REFERENCES

- International Taekwon-Do Foundation of New Zealand (ITKD) - www.itkd.co.nz.
- ITKD Syllabus Handbooks - Master Paul McPhail and Master Mark Banicevich.
- Regional Examiner Training material and personal notes from these courses.
- The Condensed Encyclopedia of Taekwon-Do - General Choi Hong Hi

ACKNOWLEDGMENTS

My sincere acknowledgments are made to the following people:

- Master Paul McPhail for providing a clear and concise New Zealand syllabus that guided and assisted in the creation of this Web Examiner App. Also for his support and guidance of Regional Examiners across the country.
- Mr Phillip Moore, my student and member of Dragon's Spirit Papatoetoe. Web designer and coder extraordinaire, whose assistance and skills in programming made the practical side of this project possible. My ideas would not have risen from paper to the screen if it were not for Mr Moore - my very real gratitude.
- Mrs Meredith Raukura, my wife, for patience, understanding and true support for countless hours away from home.

