smartPredict –
Development Insights and Study Results of Aon's Gamified Assessment Series

GBA Workshop, Minneapolis, August 2019

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Aon's Assessment Solutions

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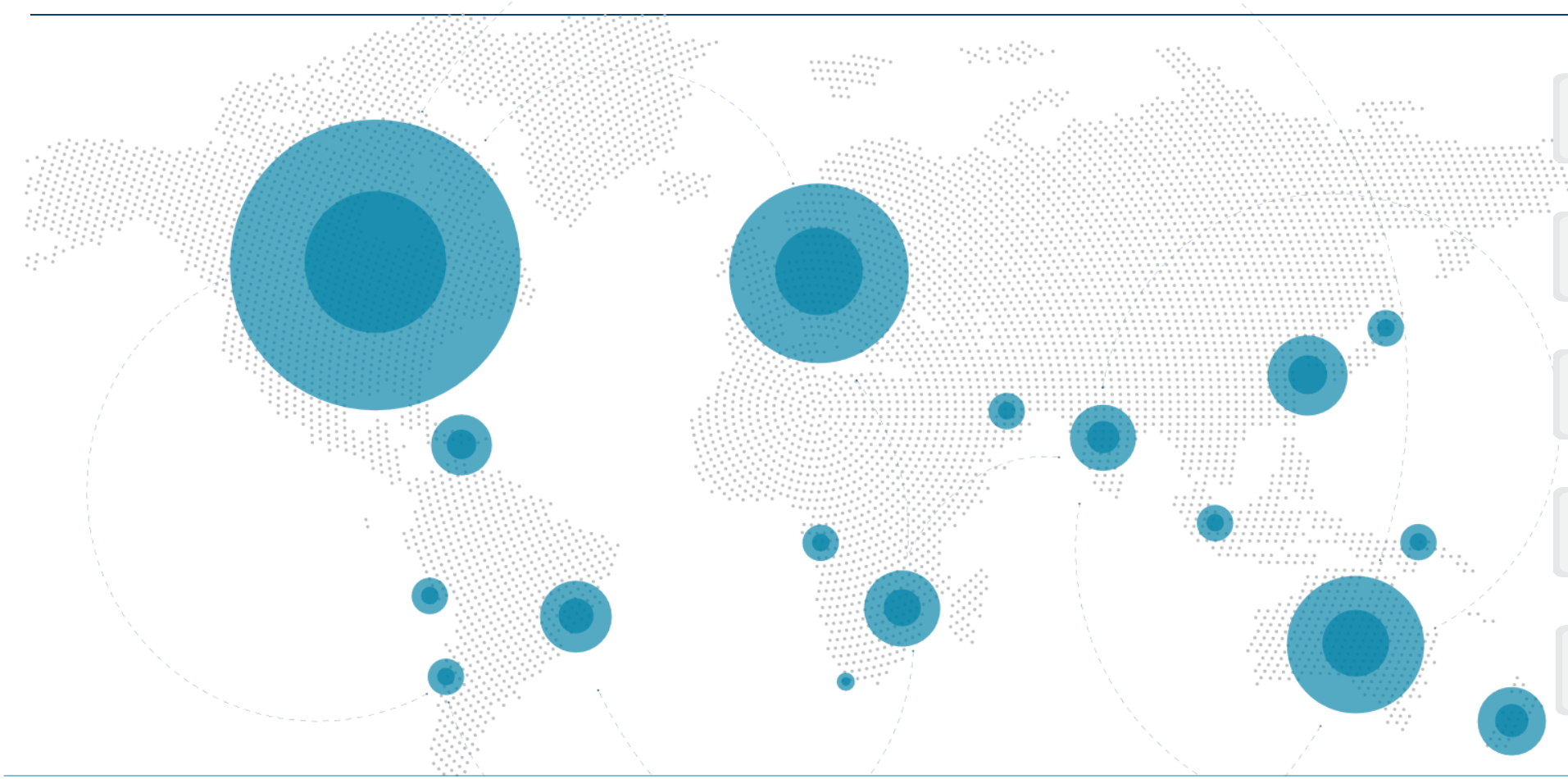
Your Global Assessment Partner



- Assessment & Selection
- Leadership & Development
- Culture & Engagement
- Workforce & Org Design
- Rewards

40+ Years of Experience

30M Assessments per year

120 Countries

40 Languages

2,000 Global Talent colleagues

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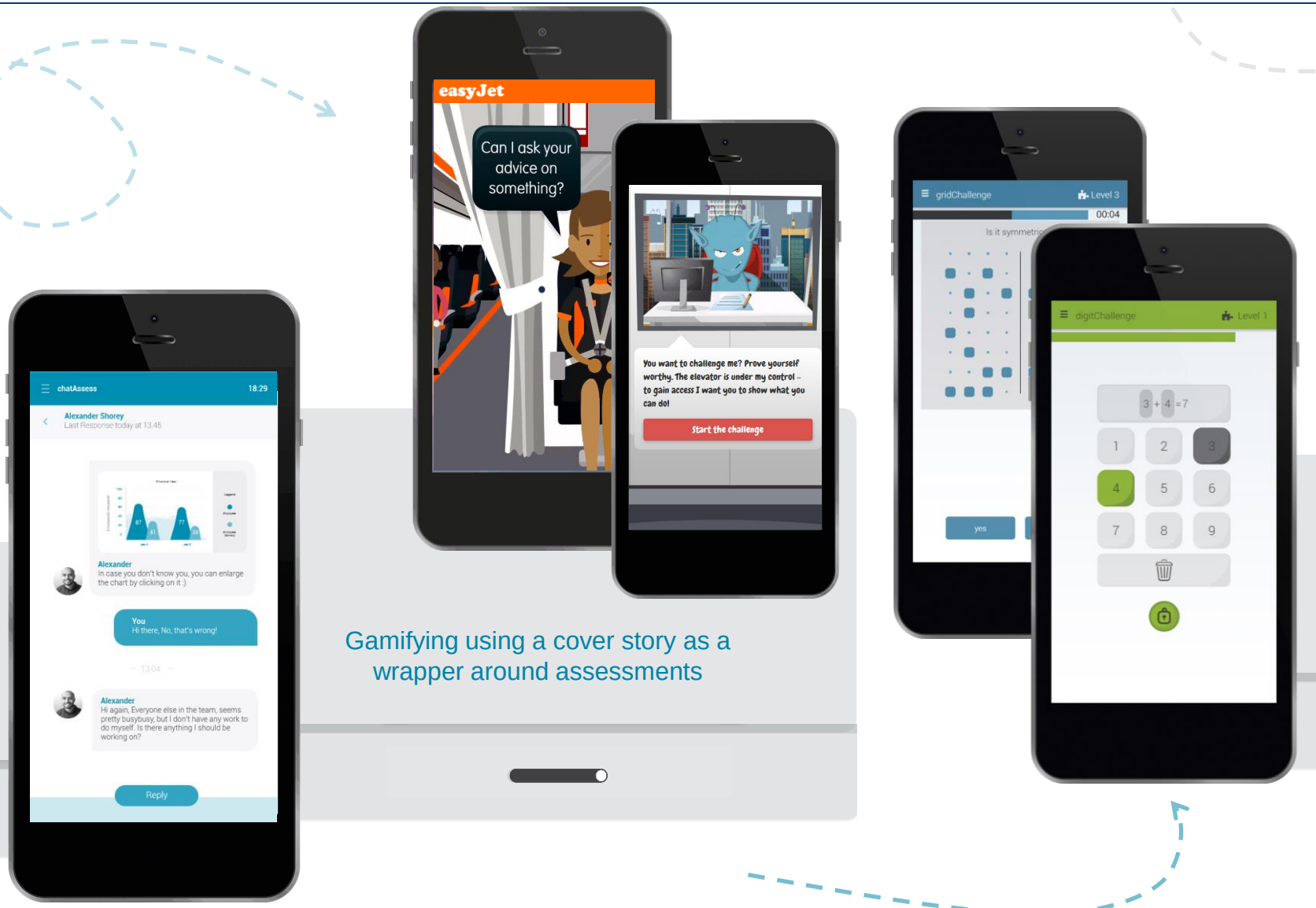
Gamification in Assessments – where we started



Gamifying though interaction

Gamifying using a cover story as a wrapper around assessments

Gamifying by changing the appearance of the assessment

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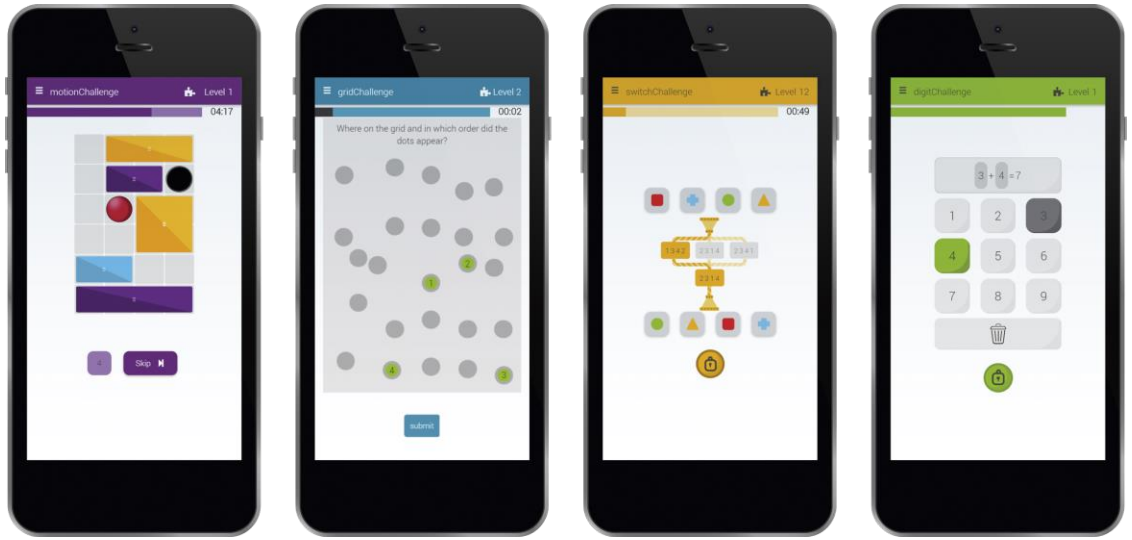
smartPredict – Our **Gamified Cognitive Suite**

Gamified approach to assessing cognitive capabilities

Choose among four challenges in the suite:

- **motionChallenge**: Complex planning capability
- **gridChallenge**: Working memory
- **switchChallenge**: Deductive logical reasoning
- **digitChallenge**: Basic numerical comprehension



Overall Impression of the Company
91% better than or equal to traditional assessment

Perception of Fairness
88% better than or equal to traditional assessment

Holds Attention
96% of users are motivated to do well
93% better than or equal to traditional assessment

Engages Participants
94% better than or equal to traditional assessment

Predicts Performance
88% better than or equal to traditional assessment
2x as likely to be above average in customer interaction ratings and1.5x in critical thinking performance

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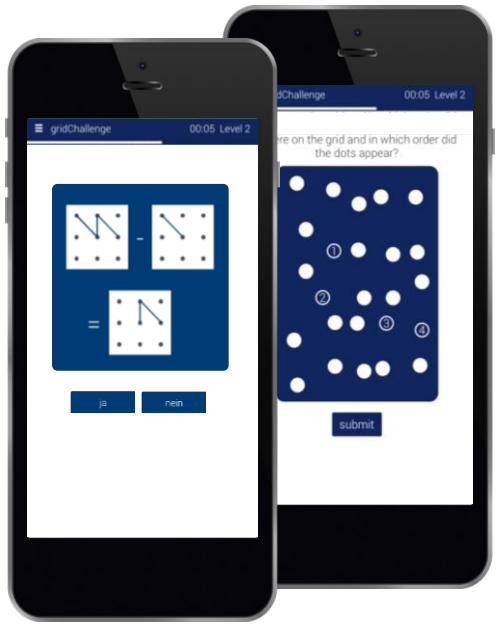
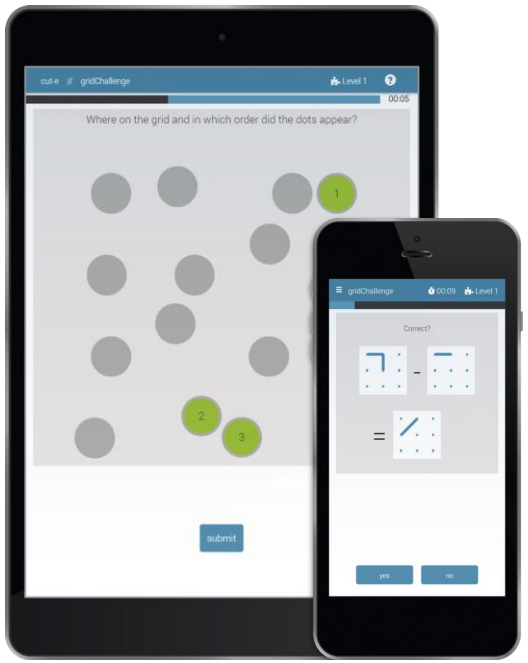
Continuous development of smartPredict

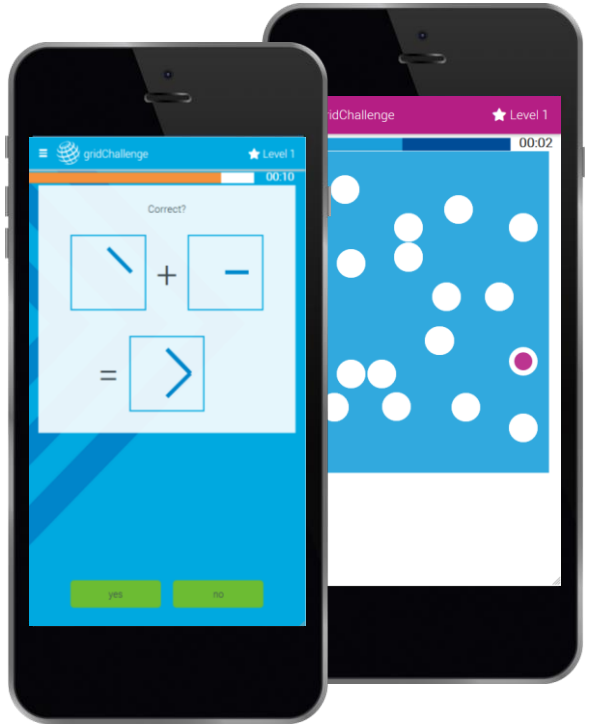
G.A.M.E.



gridChallenge V1



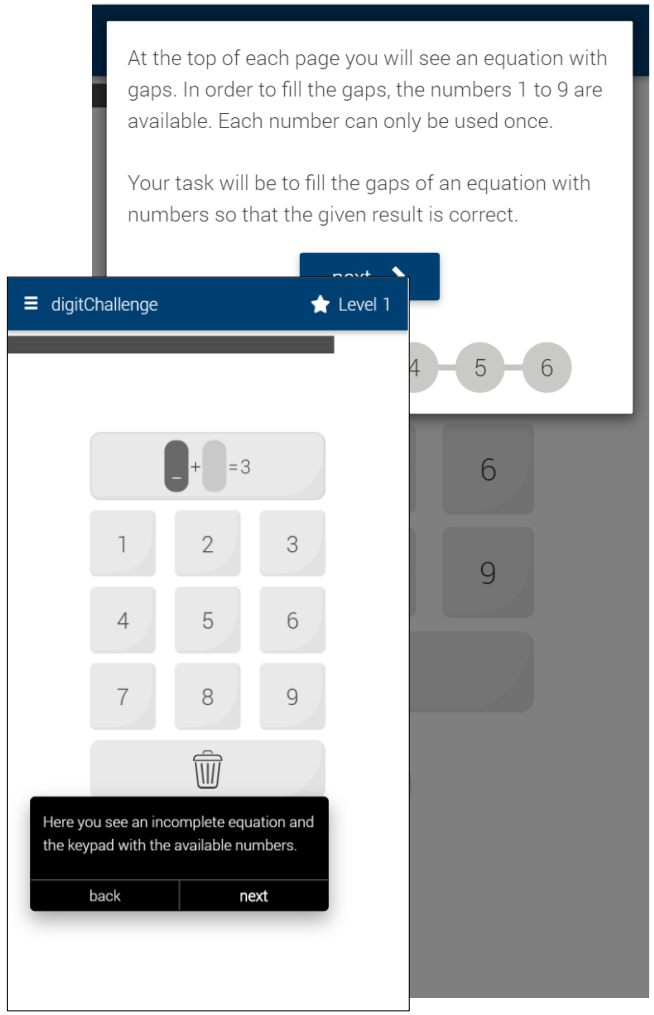
gridChallenge V2



gridChallenge V3

Instruction Update

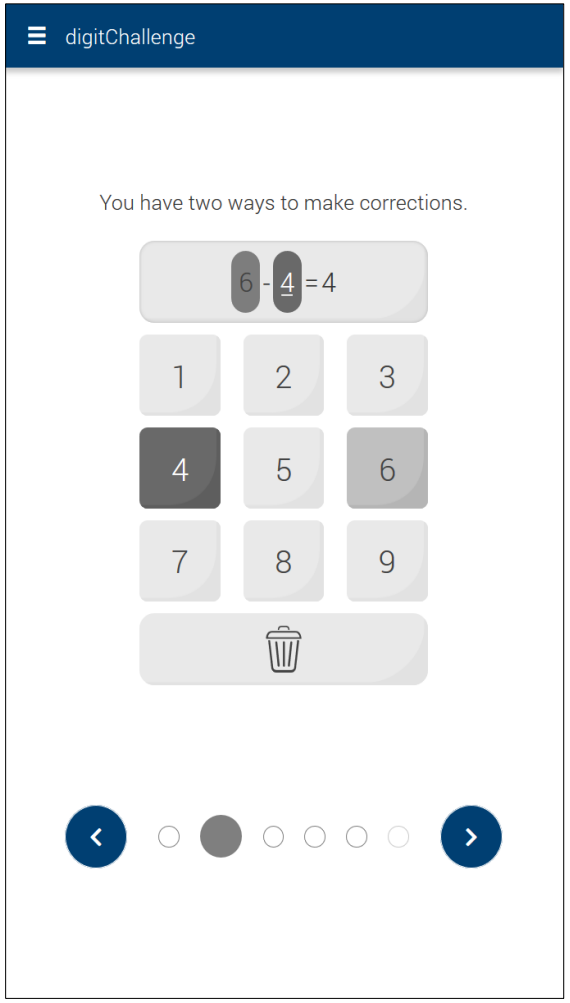
BEFORE



Instructions before:

- Long texts with very detailed descriptions
- Focused on explaining every detail of the test
- Required the candidate to interact with the assessment during the instructions

AFTER



New tutorial:

- Less text
- Animations explain how to complete the assessment
- Compact and enganging
- Straight forward and clean user interface
- Easy to understand

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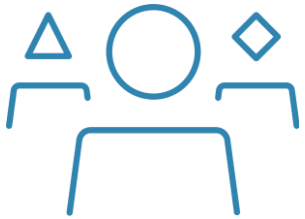
Continuous development means **continuous research**

Applicant Reactions

- Original vs. Gamified Versions
- Desktop vs. Mobile
- New vs. Old Instructions
- Branding vs. Standard

Equivalency

- Desktop vs. Mobile
- Original vs. Gamified Versions



Adverse Impact

- Age
- Gender
- Ethnicity

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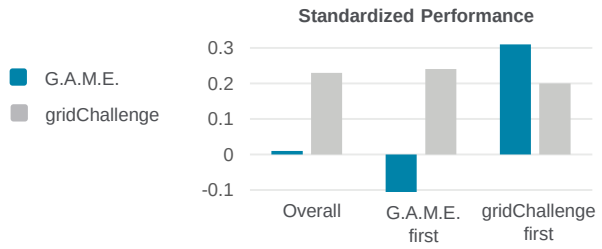
Equivalence Study G.A.M.E./gridChallenge

Performance Equivalence

An **equivalence study** was conducted between May 2019 and June 2019 to determine the equivalence of performance between the G.A.M.E. and gridChallenge assessments provided by an MTurk sample. A total of 306 participants provided complete and usable data for both assessments (68%).

Results indicate a **strong relationship**. While there is no commonly agreed upon standard of equivalence, a correlation of r = .71 generates fairly strong **evidence of equivalence**.



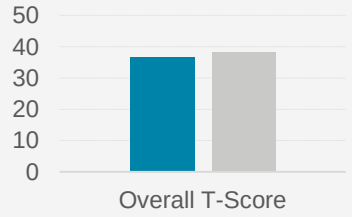
	r	p
Overall	0.71	0.000
Condition 1	0.74	0.000
Condition 2	0.69	0.000

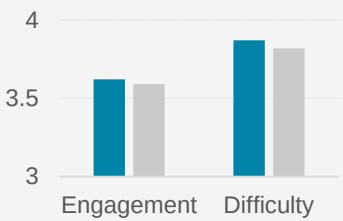
Results prove that G.A.M.E. and gridChallenge **measure the same construct**.

gridChallenge and G.A.M.E. have a different look and feel but capture similar information. Therefore, it is fair to assume that the technical documentation that has been done for G.A.M.E. can be applied to gridChallenge, and vice versa.

Research Study Adverse Impact and Mobile/Desktop Equivalence

Administered to N = 350 participants recruited from Amazon's Mechanical Turk



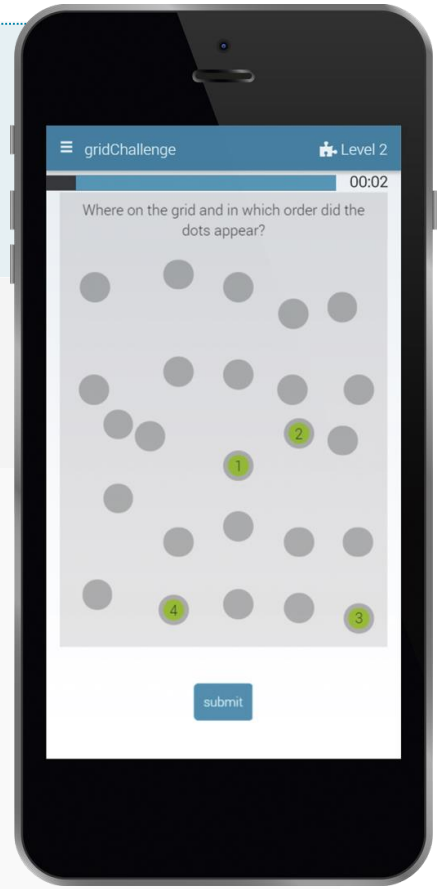


Mobile completions Desktop completions

gridChallenge showed no differences in **performance** for mobile and desktop completions (Cohen's d = -.12).

When asked for **applicant reactions**, no differences where found between mobile and desktop completions for 12 areas in total.

Adverse Impact Area	Cohen's d
Gender *(male-female)*	-.05
Age *(under 40-40 and older)*	-.02
Ethnicity *(White-Asian-Black-Hispanic-two or more)*	-.35 to -.48



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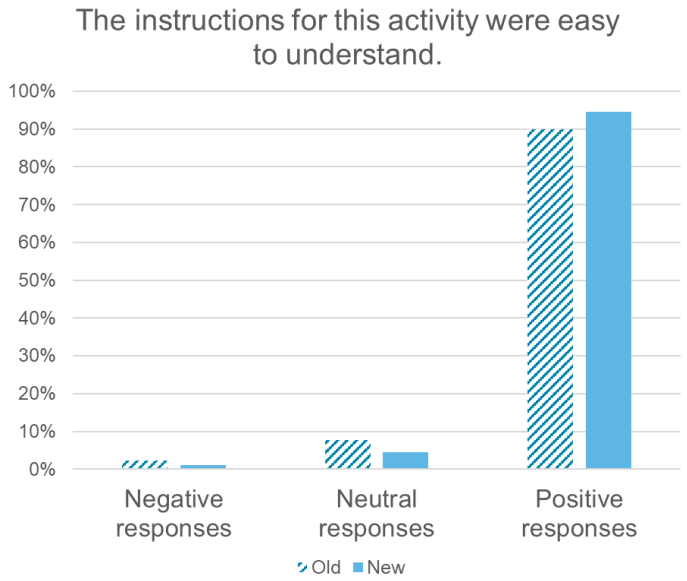
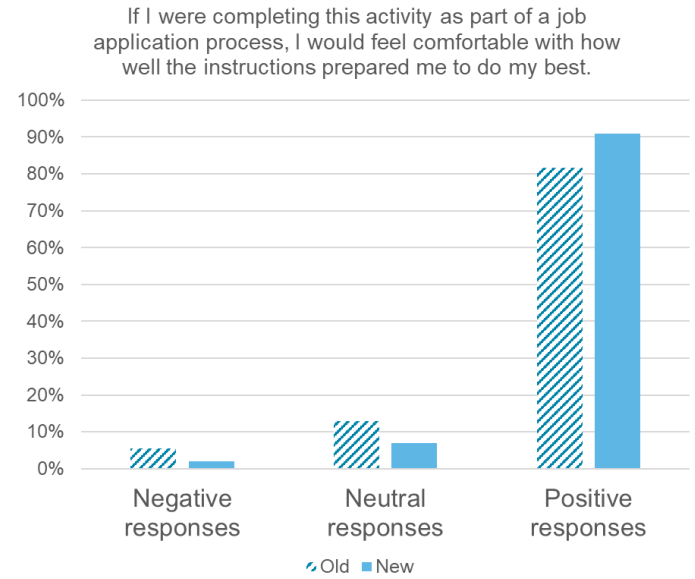
User acceptance study results





Overall Applicant Reactions: the reactions are positive to a larger extent than the previous study on the old instructions

Adverse Impact Analyses: No evidence of adverse impact for age or race/ethnic subgroups; preliminary evidence indicates **potential** for adverse impact for gender

Study Design

A total of 211 participants completed digitChallenge with new instructions an applicant reactions questionnaire directly afterwards.

The results were compared to a previous study (smartPredict Applicant Reactions Results, July 2018).

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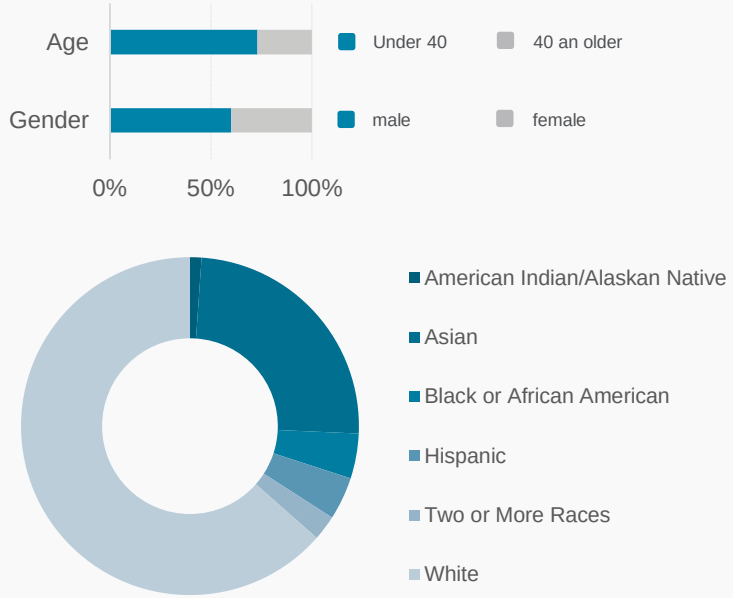
Applicants Reactions Desktop vs. Mobile

Administered to N = 374 participants recruited from Amazon's Mechanical Turk



Reaction Area	T-values per Assessment: motionChallenge	gridChallenge	switchChallenge	digitChallenge
Engagement	**-2.188; p <.05**	-.279; p = .78	-.866; p = .39	-.351; p = .73
Opportunity to Perform	-.693; p = .49	1.638; p = .10	.973; p = .33	1.038; p = .30
Fairness	-1.213; p = .23	.122; p = .90	-.326; p = .74	-.061; p = .95
Face Validity	-.254; p = .80	-.307; p = .76	.073; p = .94	.679; p = .50
Effort	**-2.133; p <.05**	-.610; p = .54	-.227; p = .82	-1.130; p = .26
Ability to Improve	**-2.622; p <.01**	-1.249; p = .21	**-2.111; p <.05**	-.394; p = .69

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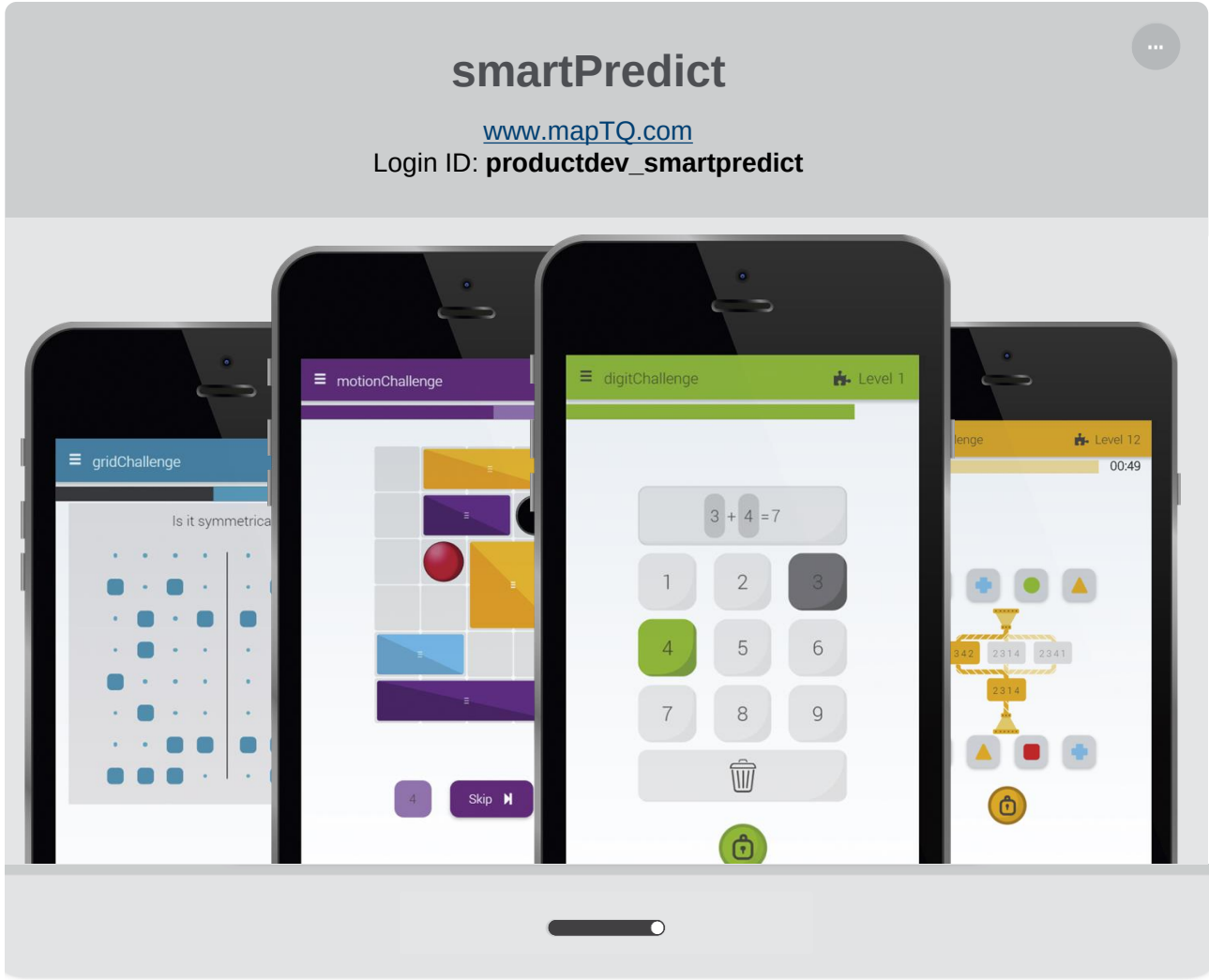
Logins

Try it yourself!

- Use the link and enter the Login ID.
- Feel free to enter a pseudonym for name and e-mail address when asked for it.



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Thank you very much.

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